

CRITERION 1	Vision, Mission and Program Educational Objectives	50
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1. VISION, MISSION AND PROGRAM EDUCATIONAL OBJECTIVES (50)

1.1. State the Vision and Mission of the Department and Institution (5)

Vision of the institution:

Geethanjali visualizes dissemination of knowledge and skills to students, who would eventually contribute to well-being of the people of the nation and global community.

Mission of the institution:

- 1) To impart adequate fundamental knowledge in all basic sciences and engineering, technical and Inter-personal skills to students.
- 2) To bring out creativity in students that would promote innovation, research and entrepreneurship.
- 3) To preserve and promote cultural heritage, humanistic and spiritual values promoting peace and harmony in society.

Vision of the Department:

The Civil Engineering Department is committed to excellence, quality, and sustained growth while offering our students an outstanding and rigorous education in an environment that supports intellectual growth while meeting 21st century demands.

Mission of the Department:

M1	To provide high-quality educational experience for students in the field of Civil Engineering with strong emphasis on professional ethics, social and environmental responsibilities.
M2	To provide infrastructure and facilities to meet the latest technological requirements.
M3	To provide research opportunities for faculty and students.
M4	To have a continuous interaction with Industry with an emphasis on R and D.
M5	To produce engineers capable of critical thinking, devoted to lifelong learning, and highly sought after by employers.

Consistency of Institute and Department Vision Statements:

Institute Vision	Department Vision
Dissemination of knowledge and skills to students.	Committed to excellence, quality, and sustained growth in Civil Engineering.
Well being of the people of the Nation and Global community.	Education in an environment that supports intellectual growth.

Consistency of Institute and Department Mission Statements:

Institute mission	Department Mission
Impart adequate fundamental knowledge	To provide high-quality educational experience for students in the field of Civil Engineering
Bring out creativity and innovation in students	To provide research opportunities and continuous interaction with Industry and R and D.
Promote humanistic and spiritual values for societal harmony	To promote critical thinking with an emphasis on professional ethics, social and environmental responsibilities.

1.2. State the Program Educational Objectives (PEOs) (5)

Program Educational Objectives (PEOs) are broad statements that describe the career and professional accomplishments that the program is preparing the graduates to achieve within three to five years of graduation. The PEOs for B. Tech Civil Engineering program are:

PEO 1: Graduates will be technically adept in mathematical, scientific, and engineering fundamentals to pursue their chosen profession or pursue advanced studies with a commitment to lifelong learning for professional development.

PEO 2: Graduates will be able to apply problem-solving skills to various engineering problems that involve management of medium-sized projects to large-scale projects using modern equipment or systems, and work on multidisciplinary projects in multicultural environment demonstrating interpersonal skills.

PEO 3: Graduates will exhibit creativity, innovation, and professional ethics with leadership qualities towards societal development.

1.3. Indicate where the Vision, Mission and PEOs are published and disseminated among stakeholders (15)

(Describe where (websites, curricula, posters etc.) the Vision, Mission and PEOs are published and detail the process which ensures awareness among internal and external stakeholders with effective process implementation)

(Internal stakeholders may include Management, Governing Board Members, faculty, Support staff, students etc. and external stakeholders may include employers, industry, alumni, funding agencies, etc.)

The Vision, Mission and PEOs are published in

- College website (www.geethanjaliinstitutions.com(http://www.geethanjaliinstitutions.com)) under the Department of Civil Engineering.
- Syllabus book of B. Tech Civil Engineering program.
- All Course files and Lab manuals
- Department News Letter
- CE department (HOD cabin)
- Faculty Room
- Department Laboratories (Ex: Computer lab, Surveying and Geo-matics lab)
- Department Notice Boards
- Department staircase (between first floor and second floor)
- Department corridors (near Engineering Geology lab)

Vision and Mission are disseminated to all the stakeholders of the program through faculty meetings, student awareness workshops, student induction programs, alumni meetings, governing body meetings, interactions with recruiters, professional bodies and parents.

- Program coordinator will have discussions with faculty related to PEOs and their linkage to the professional competence of the students, before commencement of semester. They further discuss the same with their respective students in the class rooms.
- Student awareness programs on the significance of PEOs and their contribution to the proficiency of the graduates are conducted once a year.
- Alumni survey is conducted once a year. Before conducting the survey alumni are briefed with regard to the role being played by alumni in defining the PEOs and their relevance to the overall growth of the professional graduate.
- Recruiters are informed about the importance of PEOs from industry's point of view. They are requested to give their opinion through a questionnaire which is further used in defining/redefining the PEOs.
- Members of the professional bodies are invited to the campus for various guest lectures to update the students with regard to the technological developments in industry/R&D establishments. Members of professional bodies are provided with a questionnaire seeking their response and suggestions if any on the PEOs.
- Parents are informed about the significance of PEOs and their relevance in improving quality of students of B.Tech. Program during parent teacher meeting. Parents are invited to provide their

feedback/opinions/suggestions on PEOs.

Location of display boards of **Vision, Mission and PEOs** in the CE department



CE HOD cabin



Entrance of CE department



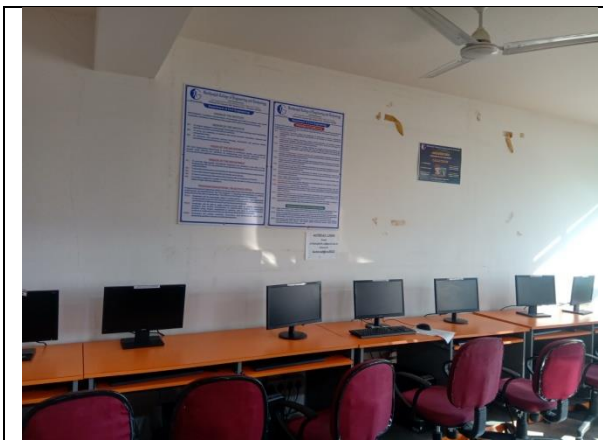
Faculty cabin in department



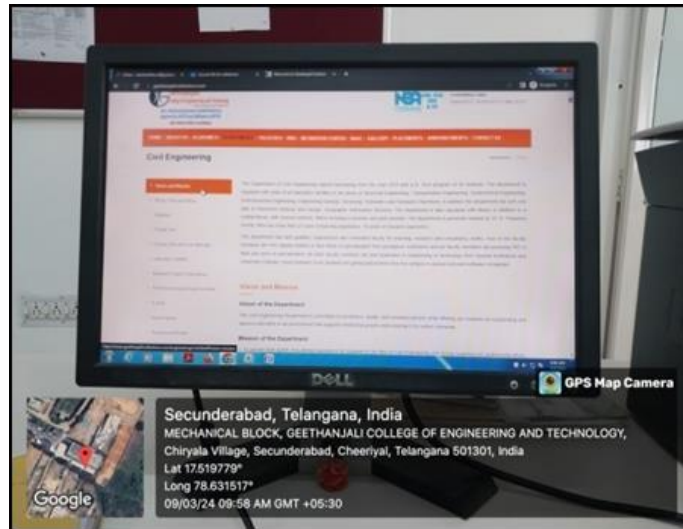
Surveying and Geomatics laboratory



Department Corridor



CE Computer lab



Departmental website

1.4. State the process for defining the Vision and Mission of the Department, and PEOs of the program (15)

(Articulate the process for defining the Vision and Mission of the department and PEOs of the program)

Vision and Mission of the Department are defined through a consultation process involving the stakeholders of the Department as shown in Figure 1.1. In defining the Vision and Mission of the Department, the following steps were followed:

Step 1: Vision and Mission of the Institute are taken as the basis to interact with various stakeholders.

Step 2: Views are collected by the Program Coordinator from stakeholders of the Department such as faculty, Industry, Management, Parents, Alumni, Professional Bodies and governing body members.

Step 3: The views collected by the Program Coordinator are reviewed by the Program Assessment Committee to arrive at the Vision and Mission of the Department after verifying its consistency with Institute Vision and Mission.

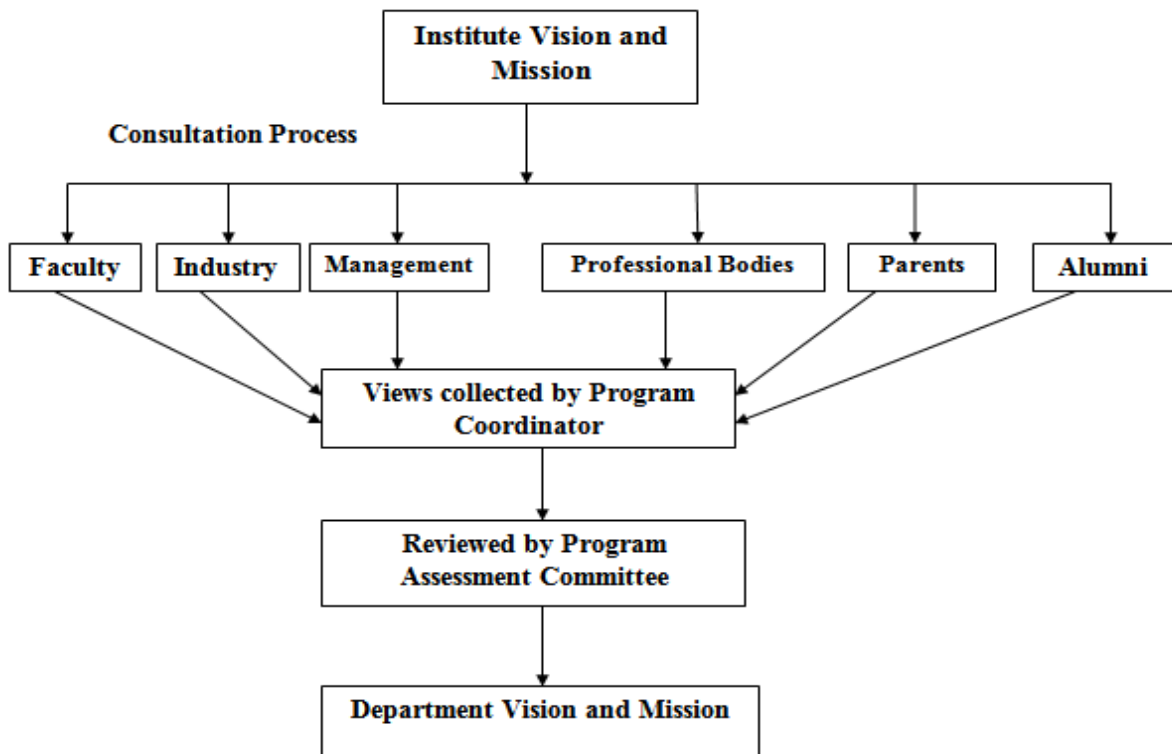


Figure 1.1: Process for defining Vision and Mission of the Department

➤ **The PEOs are established through the following process:**

Program Educational Objectives (PEOs) are designed keeping in mind the characteristics of a Professional Engineer. A professional engineer must have the following traits, consisting codes of ethics, attributes valued by employers, and core competencies valued by professional bodies. Synthesis of these traits produces a set of ten holistic behaviours of an engineer, which are further categorized into the following groups.

- Technical roles include the roles of analyst, problem solver, designer, and researcher.
- Interpersonal roles include communicator, collaborator, and leader.
- Professional roles include being a self-grower, achiever, and practitioner.
- Improve the quality, effectiveness, efficiency and relevance of engineering courses offered by Engineering Colleges.
- Identify changes in technical manpower, job profiles for selecting program offerings and modifying the existing programs.

The Program Educational Objectives are established through a consultation process involving the core constituents such as **Professional Bodies, Alumni, Industry, Faculty, Parents and Recruiters**.

The PEOs are established through the following steps:

Step 1: Vision and Mission of the Department are taken as a basis.

Step 2: Program Coordinator consulted the key constituents and collected their views and submitted the same to the Program Assessment Committee.

Step 3: Program Assessment Committee analyzed and summarized the collected views and established the PEOs

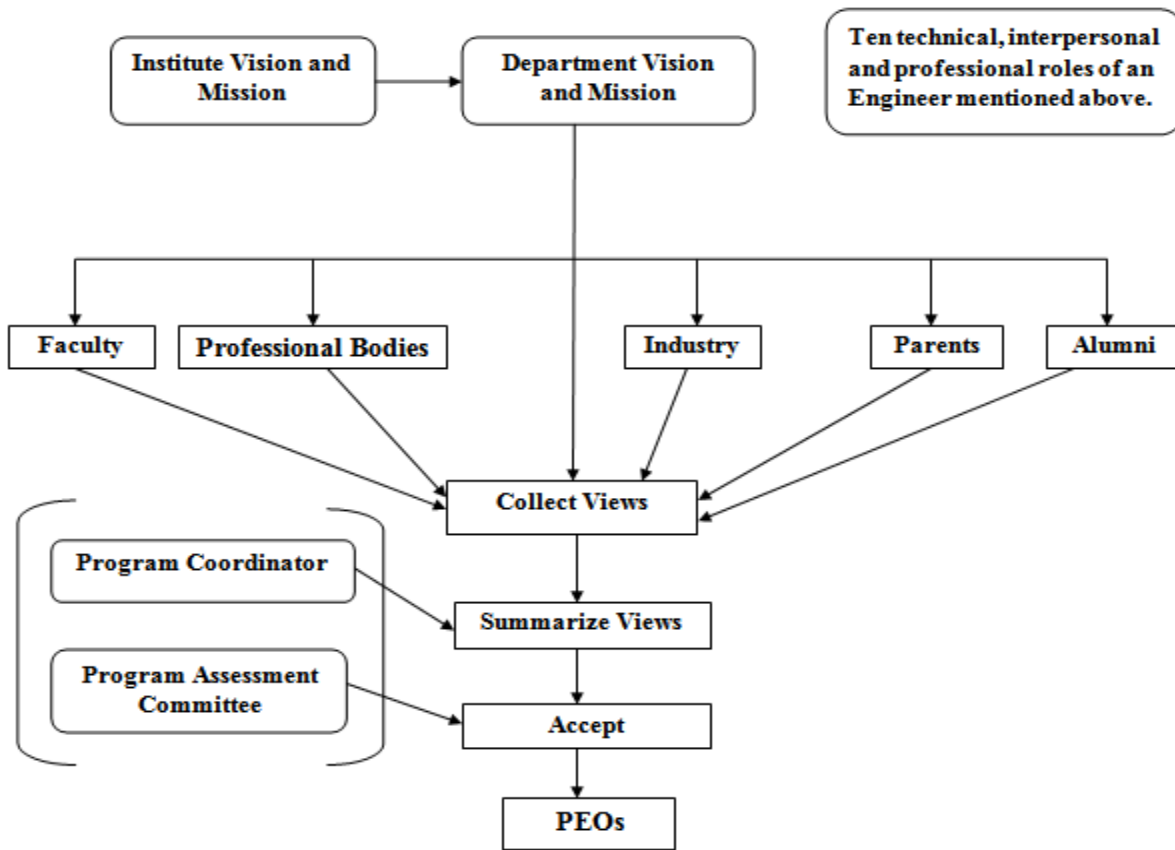


Figure 1.2:Process of defining Department PEOs

1.5. Establish consistency of PEOs with Mission of the Department (10)

(Generate a “Mission of the Department– PEOs matrix” with justification and rationale of the mapping)

Mission of the Department

M1	To provide high-quality educational experience for students in the field of Civil Engineering with strong emphasis on professional ethics, social and environmental responsibilities.
M2	To provide infrastructure and facilities to meet the latest technological requirements.
M3	To provide research opportunities for faculty and students.
M4	To have a continuous interaction with Industry with an emphasis on R and D.
M5	To produce engineers capable of critical thinking, devoted to lifelong learning, and highly sought after by employers.

Table 1.2: PEOs consistency with Mission of the Department

PEO Statements	Mission Statements				
	M1	M2	M3	M4	M5
PEO1: Graduates will be technically adept in mathematical, scientific, and engineering fundamentals to pursue their chosen profession or pursue advanced studies with a commitment to lifelong learning for professional development.	3	2	2	2	3
PEO2: Graduates will be able to apply problem-solving skills to various engineering problems that involve management of medium-sized projects to large-scale projects using modern equipment or systems, and work on multidisciplinary projects in multicultural environment demonstrating interpersonal skills.	2	3	3	3	2
PEO3: Graduates will exhibit creativity, innovation, and professional ethics with leadership qualities towards societal development.	2	2	3	2	2

1. Slight/Low

2.Moderate/Medium

3.Substantial/High

It there is no correlation, put “-”

***Note:** In this document wherever the term ‘Process’ has been used its meaning is process formulation, notification and implementation.*

Justification and Rationale of PEO- Department Mission Mapping:

Mission statements are the avowed and actively pursued functions of the department with the objective of attaining the stated Program Educational Objectives. The correlation levels of mission statements are given in the PEO - Mission matrix.

Justification of the level of pursuit of the mission statements (numbered M1 to M5) is given against each PEO, in the following table:

PEOs	Mission	Justification
PEO1	M1	Providing high-quality educational experience for students in the field of Civil Engineering.
	M2	Providing infrastructure and facilities
	M3	Providing research opportunities for faculty and students.
	M4	Providing interaction with Industry with an emphasis on R and D.
	M5	Providing opportunities for critical thinking, devoted to lifelong learning.
PEO2	M1	Strong emphasis on professional ethics and social responsibilities
	M2	Providing infrastructure and facilities to meet the latest technological requirements.
	M3	Providing research opportunities for faculty and students.
	M4	Providing interaction with Industry with an emphasis on R and D.
	M5	Providing opportunities for critical thinking, devoted to lifelong learning.
PEO3	M1	In addition to providing high-quality educational experience for students, strong emphasis is given on professional ethics, social and environmental responsibilities.
	M2	Providing infrastructure and facilities to meet the latest technological requirements.
	M3	Providing research opportunities for faculty and students.
	M4	Providing interaction with Industry with an emphasis on R and D.
	M5	Providing opportunities for critical thinking, devoted to lifelong learning.

Note: M1, M2,...Mn are distinct elements of Mission statement. Enter correlation levels 1, 2 or 3 as defined below:

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High). If there is no correlation, put “-”

Note: In this document wherever the term ‘Process’ has been used its meaning is process formulation, notification and implementation.

CRITERION 2	Program Curriculum and Teaching-Learning Processes	100
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2.1. Program Curriculum (30)

2.1.1. State the Process for designing the program curriculum (10)

Curriculum development is a purposeful, progressive and a systematic process in order to create positive improvement in the educational system on the lines of research advancements that are taking place in the fields of science and technology and on the societal needs at large. An effective curriculum provides teachers, students, administrators and community stakeholders with a measurable plan and structure for imparting quality education. The curriculum identifies the learning outcomes, standards and core competencies that students must equip and demonstrate before advancing to the next level. Every time there are changes or developments happening around, the curriculum shall be restructured. There is a need to update the curriculum regularly in order to keep pace with the fast-growing technological advances and to address societal needs. Curriculum development has a broad perspective because it is not only about the institution, the students and the teachers but it is also about the development of a society in general.

Policy for Design of Curriculum

Our college has a well-defined policy for the design and development of curriculum for UG programs. The salient features of the policy are detailed below: Based on the Vision and Mission of the college, the department has established its vision and mission. Towards realizing the vision and mission, the department has defined its Programs Educational Objectives (PEOs), Program Specific Outcomes (PSOs). The Program Outcomes (POs) defined by NBA are also taken into consideration while defining the PEOs.

The following are the stages of Curriculum Design:

- 1 Write Vision and Mission of the Department offering the program
- 2 Identify the context of program
- 3 Write Program Educational Objectives (PEO) consistent with the Mission and Vision of the Department
- 4 Write the Program Outcomes (PO) as stated by NBA
- 5 Prepare PO-PEO matrix to ensure POs facilitate realization of PEOs.
- 6 Select the number of credits for the program and decide the distribution of Credits

- 7 Identify the courses to meet the stated Program Outcomes
- 8 Write the PO-CO matrix
- 9 Define the assessment process

It is our strong belief that "Engineers build systems and products for the betterment of humanity". In order to enter the contemporary profession of engineering, students must be able to perform essential functions of an engineer, which are nothing but Program Outcomes (POs). The following are some program outcomes expected of every engineer

- Graduating engineers should be able to conceive-design-implement-operate complex value-added engineering systems in a modern team-based environment.
- “Graduating engineers should appreciate the engineering process, be able to contribute to the development of engineering products, and do so while working in engineering organizations.
- Implicit is the additional expectation that, as university graduates and young adults, engineering graduates should be developing as whole, mature, and thoughtful individuals with a passion to contribute for societal development”
- Curriculum is designed by considering the PEOs, in addition to the above POs given by NBA and the defined PSOs of the department, by taking inputs from all stakeholders, namely, industry, R&D establishments, members of professional bodies, alumni, and faculty of the college, Government and community.
- Subsequently, the College has constituted the Board of Studies (BoS) for the department. BoS consists of senior and experienced faculty of the department, senior Professor nominated by the affiliating university JNTUH, external subject experts from industry, academia, R & D organizations and an alumnus. The BoS, supports the department in the preparation and revision of curriculum for UG and PG programs. While preparing curriculum and subsequent revisions, BoS considers the vision and mission of the department while framing/modifying the curriculum. Then the same is put up before the College Academic Council which consists of college senior faculty members, and external experts from industry, academia, affiliating university that monitors the academic and other aspects governing the college, legal experts and other persons of eminence from society. Their inputs are taken for further revision, if any before finalizing the curriculum.

Our curriculum development and / or its revision shall be consistent with the following principles:

- Curriculum is outcomes-based and learner-centered: content, learning resources, learning activities, assessment, and evaluation, all derived from, and aligned with program outcomes and course outcomes;
- Course outcomes represent the culminating demonstrations of learning and achievement;
- Course outcomes define the skills, knowledge, and attitudes that a student is expected to demonstrate at the completion of a course or a program of study.
- All course outcomes within the program complement and facilitate attainment of the program outcomes Curriculum is purposeful and promotes holistic development of individual;
- Curriculum is current and relevant with provincial program standards or program descriptions and as per employability needs;
- Curriculum is designed based on Bloom's taxonomy;
- Curriculum provides active learning opportunities to maximize student engagement;
- Active learning is the process of learning new ideas, skills and attitudes by doing, performing, and taking action, which is either cognitive or physical and/or can include, but is not restricted to, devices such as games, simulations, introspection, and role playing.
- Curriculum recognizes diversity of students and contributes to the development of a respectful learning environment;
- Curriculum aligns content, learning resources, and authentic assessment with learning outcomes;
- Curriculum complies to relevant standards of AICTE.
- Curriculum is consistent with the mission and vision of the department and as well as the college
- Curriculum is appropriate to the level at which the qualification is offered;
- Curriculum is appropriate to the occupational requirements of the graduates of the program.

The purpose is to encourage students to think not only as an engineer but also as

- Anthropologist
- Biologist
- Chemist
- Literary critic
- Political scientist
- Sociologist
- Statistician etc.

Mechanism used in the design and development of the curriculum with emphasis on "Need Assessment, Feedback, etc."

Our philosophy of curriculum design is aimed at enhancing flexibility in providing holistic education and improving the academic standards to achieve excellence.

In the process of curriculum design and moving towards the objective of preparing students who would be able to contribute significantly for the development of our nation in particular, and the world in general, the BoS and Academic Council (AC) perused the curriculum, guidelines and academic regulations prescribed by the monitoring University, JNTUH, AICTE regulations, its proposed model curriculum and other reputed institutions including a few well known universities abroad.

The College has been organizing and participating in Curriculum Development Workshops for quite some time and reviewing the curriculum. This involves participation of experts from Industry, R&D Establishments and Academic Peers along with its own Faculty members. After a threadbare discussion a draft on the proposed curriculum is prepared by the concerned department of the college, which is subsequently presented to the various Boards of Studies of the affiliating University. Similar exercise was carried out prior to and subsequent to our autonomous status proposing the curriculum under autonomous status involving experts from industry, R&D establishments, members of professional bodies namely, IGBC, ICI, Smart Infra etc., academic peers from reputed institutes and its own senior faculty members. The proposals were subsequently presented to the Boards of Studies for approval and finally after the acceptance of the proposals by the Boards of Studies, the same were put for consideration at the College Academic Council, which again consists of experts from Industry, R&D and Academic field including three nominees of the affiliating university, JNTUH, and the same were accepted.

Curriculum is designed and proposed such that the main frame of the program structure and the syllabi are within the framework of the norms stipulated by UGC and AICTE. The defining element of the curriculum is "Choice Based Credit System (CBCS)", wherein the teaching learning process is student centric with a wide range of courses to choose from.

Involvement of all stakeholders, namely, industry, research bodies and civil society in the curriculum design and development process.

College frequently interacts with industry, R & D establishments, members of professional bodies, alumni, senior and middle level faculty of the college, occasionally with government and community as well.

Feedback on the curriculum is taken from the above bodies, namely, industry, R & D establishments; members of professional bodies, alumni and the like are incorporated in the courses if the feedback demands a small change. However, if the feedback demands a major change, the same will be discussed in respective BoS and again in the academic council, if it warrants a change, it is incorporated.

The following aspects have been ensured through curriculum design and development

Employability - The college prepares the students imbibing analytical thinking, problem solving skills, creativity, innovation, soft skills, programming skills, etc., which are essential to take up a job will be acquired by the student as part of the curriculum. The students are sufficiently trained in their ability to learn new concepts and apply them to various engineering problems. The institute aims to train students not only for their first job but also facilitates them to be a lifelong learner. Three additional English courses are introduced to improve the communication skills both written and oral, interpersonal skills of the students facilitating them for improved employability as well as their professional/career developments. In addition, two courses on logical reasoning/critical thinking skills which would improve student's employability. Unlike the traditional surveying, the institute has introduced Total station, for improved employability. In addition, Software such as STAAD Pro and MX roads are introduced in the curriculum to improve the employability of the students.

Creativity and Innovation - College encourages hands-on learning by introducing mini projects in most of its courses and quite often students are motivated to find innovative solutions while working on these projects. It is our fond hope that some of these projects will lead to start ups in the near future. Mini project and Major project in the curriculum ensure imbining creativity, innovation and teamwork in the students and further promote research culture.

GCET has been striving hard to bridge the gap between academia and the industry. In this direction, GCET has taken a good number of initiatives and invited a few experts towards establishment of a centre for Creativity and Innovation. We have also invited a few experts from reputed academic institutions and industry to join the college as faculty members and have been fairly successful on this front.

Factors to be considered when designing a course

1. Specific Context of the Teaching/Learning Situation
 - Is the course for first year, second year, or third year or final year students?
 - How many credits?
 - What physical elements of the learning environment will affect the class?
 - Are the students majors in your department or are they fulfilling a distribution credit?
2. General Context of the Learning Situation
 - What are the learning expectations in this course in the overall context of the curriculum towards the profession / society?
 - What would distinguish students who would take this course from students who do not? That is, how should taking your course transform students with respect to their abilities?
 - What do you want your students to remember from your course in 5-10 years?
 - What skills should students gain in this course?
 - How does this course relate to other courses in the discipline? Then how would you define the course goals accordingly (e.g., for an introductory, fundamental, or advanced course in the discipline)?
3. Nature of the Course
 - Is the course primarily theoretical, practical, or a combination of both?
 - Is the course primarily convergent or divergent?
4. Characteristics of the Learners

- What prior knowledge, experiences, and initial feelings do students usually have about this subject? Consider previous course(s) they may or may not have taken.
 - What are their learning goals, expectations, and preferred learning styles?
 - What is the motivation for the student to take this course vis-à-vis the program curriculum?
5. Assessment an important aspect of student learning
- Improving the quality of learning in a course involves not just determining to what extent students have mastered the course content at the end of the course; improving the quality of learning also involves determining to what extent students are mastering content throughout the course.
 - Thus in addition to providing instructors with valuable information about students' learning, assessment should assist the students in diagnosing their own learning. That is, assessment should help students "become more effective, self-assessing, self-directed learners".
6. The quality of learning in a course can be measured by the quality of assessment instruments used. Metrics to measure the quality of assessment can be defined in terms of distribution, difficulty level and nature of questions among the six levels of Bloom's Taxonomy.
7. Make sure to think carefully when pairing assessments with learning objectives.
- How are you going to assess the students?
 - What assessment tools would be employed to gain students' learning?

Please note that assessment tasks are designed so that they support evidence of student learning and achievement of course learning outcomes.

The curriculum is designed to facilitate students obtaining liberal education, which has the potential to broaden their perspective and transform the world. The curriculum offers various designated courses namely, Basic Sciences, Engineering Sciences, Social Sciences and Humanities, Professional Electives along with Open Electives such that it ensures balance between these courses. The professional elective courses are introduced with an objective of enabling the students to go for further specialization in their chosen field of interest, if they so desire.

Mandatory non-credit courses suggested by AICTE are also part of the curriculum. The curriculum is structured with five theory and three laboratory courses from second year first semester onwards up to fourth year first semester to facilitate more practical oriented

teaching and learning with an emphasis on local and global needs. The support of the college management, which has been forthcoming for the provision of all the required facilities, including establishing additional labs and infrastructure is unstinted and commendable. The introduction of Open Elective courses promotes the philosophy of liberal education. Academic flexibility is maintained through a wide range of courses offered across departments.

The process flow for Curriculum Design is as follows:

Step 1: The Department formulates PEOs, and PSOs based on Institute's/Department's Vision and Mission, the NBA and AICTE guidelines.

Step 2: Internal Board of Studies Committee, consisting of Professors and senior faculty members of the Department frames the Course Structure of the curriculum keeping in view of the PEOs, the graduating outcomes defined by NBA in the form of POs and sticking to the norms laid down by AICTE, UGC, and JNTUH- Hyderabad by having brainstorm sessions. During this process the curriculum of premier institutions like NITs, IITs, IIITs, foreign universities etc are referred. Alumni feedback is also considered during this step. During curriculum revisions, the POs' attainments and suggestions made in PAC meetings are taken into consideration.

Step 3: The course outcomes of all the courses of the curriculum are planned according to the POs and PSOs. Then, the syllabi of various courses are framed by course coordinators.

Step 4: The feedback on the proposed curriculum is obtained from various stakeholders such as academicians, industrial experts, alumni, parents, and faculty. The feedback is taken on a 5-point scale with 5 points for SA (Strongly Agree), 4 points for ALE (Agree to a Large Extent), 3 points for A (Agree), 2 points for ASE (Agree to Some Extent), and 1 point for D (Disagree). Questionnaire pertaining to AR18 & AR20 structure, the feedback obtained, analysis of the feedback carried out and the action taken is provided below:

Step 5: The curriculum is then discussed in Group Heads meetings to distribute the courses, linking them in a progressive way in appropriate semesters.

Step 6: The proposed curriculum and syllabi are submitted to the Board of Studies (BOS). The recommendations and modifications suggested by BOS members are incorporated. Curriculum and syllabi are then passed for approval to the Academic Council and Governing Body

Step 7: After the approval from Academic Council (AC), the curriculum and syllabi are finalized.

Process flow of the curriculum design is represented pictorially in the diagram given below

The following flowchart depicts the Curriculum Design Model adopted by department.

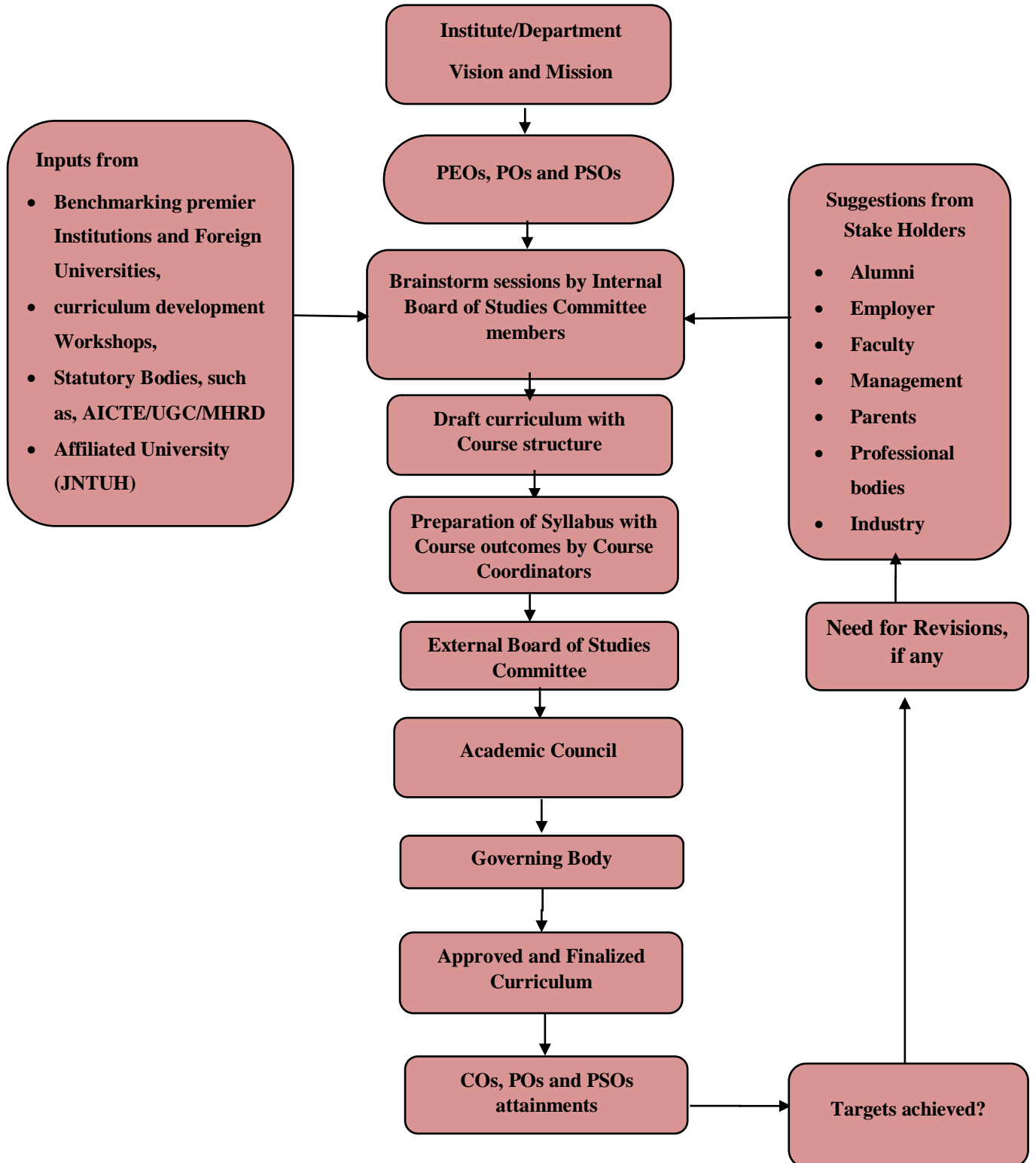


Figure 2.1: Process of the curriculum design

Analysis of Feedback from Visiting/Internal Faculty on Curriculum Design and Development pertaining to AR18

Specific Questionnaire pertaining to AR18

S No	Aspects	SA	ALE	A	ASE	D	%
1	Do you agree for the introduction of AutoCAD in Engineering graphics course in the first year to facilitate developing computer aided drafting skills in Civil engineering Students?	10	16	0	0	0	87.69
2	Do you agree that introduction of Total Station in Surveying theory and practical in Civil engineering would create better employability opportunities for the students?	14	11	1	0	0	90.00
3	Do you agree that making internship mandatory for all students will help in developing an understanding of practical aspects of Civil Engineering?	12	12	2	0	0	87.69
4	Do you agree that introduction of computer aided drafting labs in the curriculum will enhance the employment opportunities of Civil Engineering students?	17	9	0	0	0	93.08
5	Do you agree that introduction of operations research theory and lab will help in students' career progression?	18	8	0	0	0	93.85
Questionnaire on General Aspects pertaining to AR18							
SNo	Aspects	SA	ALE	A	ASE	D	%
1.	Employability is given adequate weightage in curriculum design and development.	17	9	0	0	0	93.08
2.	Curriculum promotes thinking process in the student, facilitates faculty to inculcate/foster creativity and innovation in students	14	11	1	0	0	90.00
3.	Curriculum has reasonable number of multidisciplinary courses thereby facilitates students to obtain liberal and holistic education	14	10	2	0	0	89.23

4.	Curriculum has adequate practical component that facilitates laboratory experiences for the student to gain experimental teaming, designing projects and explore through problem/project based learning	12	12	2	0	0	87.69
5.	Curriculum provides students with a broad understanding of basic concepts of various courses, as well as facilitates them to acquire contemporary skills required by industry	13	12	1	0	0	89.23
6.	Program Structure is well organized with links progressing from one course to another course steadily for a good comprehension of all courses	17	9	0	0	0	93.08
7.	Foundation courses provide a basis for professional competence and the required knowledge to focus on a particular specialization upon graduation, in the work environment or in subsequent higher education	9	15	2	0	0	85.38
8.	Curriculum facilitates student to acquire skills to be communicator, collaborator, and leader	10	16	0	0	0	87.69
9.	The system followed by the college for the design and development of curriculum is effective and curriculum has been updated from time to time.	18	8	0	0	0	93.85
10.	Curriculum facilitates functioning of a student as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.	13	12	1	0	0	89.23

Suggestions Given by the stakeholders:

1. Most of the stakeholders have suggested introducing Auto CAD in engineering graphics course.
2. Majority of the stakeholders suggested introducing total station in surveying theory and lab.
3. Most of the stake holders agreed to have a mandatory internship to all students during their summer break.

Action Taken Report on Feedback collected on curriculum Design and Development

Feedback from various stakeholders is received on curriculum design and development; suggestions given by the stakeholders are discussed in the BOS meeting and are incorporated in the curriculum as given below.

S.No.	Suggestions offered	Action taken
1	To introduce Auto CAD in Engineering graphics course.	Auto CAD introduced of Engineering graphics course in Unit V
2	To introduce the total station in surveying theory and lab.	Total station was introduced in the Surveying theory and lab course of the AR 18 curriculum.
3	To have a mandatory internship to all students during their summer break.	Internship has been made compulsory for all the students after the II year II semester break and will be evaluated during the, I semester of III Year.

Specific Questionnaire pertaining to AR20

S.No.	Aspects	SA	ALE	A	ASE	D	%
1	Do you agree for the introduction of fundamental core courses in the first year to facilitate better understanding of basic civil engineering problems and develop an affinity towards the department?	10	12	0	0	0	89.09
2	Do you agree that introduction of courses on Surveying with more emphasis on Geomatics, Statistical applications in Civil engineering would create better employability opportunities for the students?	10	9	3	0	0	86.36
3	Do you agree that the introduction of activity oriented non-laboratory courses such as English for Effective Communication, English for Career Development, Logical Reasoning English for Professional Success, would improve employability skills of the students?	11	8	3	0	0	87.27
4	Do you agree that the introduction of an activity based course, the Design thinking, would help the students in bringing out innovation and creativity in them to find engineering solutions for societal problems?	10	9	3	0	0	86.36
5	Do you agree that inclusion of professional elective courses such as smart cities planning and development, Pavement Design will help students in securing jobs in the core sector?	11	9	2	0	0	88.18
Questionnaire on General Aspects pertaining to AR20							
S.No.	Aspects	SA	ALE	A	ASE	D	%
1.	Employability is given adequate weightage in curriculum design and development.	11	11	0	0	0	90.00
2.	Curriculum promotes thinking process in the student, facilitates faculty to inculcate/foster creativity and innovation in students	10	12	0	0	0	89.09

3.	Curriculum has reasonable number of multidisciplinary courses thereby facilitates students to obtain liberal and holistic education	10	9	3	0	0	86.36
4.	Curriculum has adequate practical component that facilitates laboratory experiences for the student to gain experiential learning, designing projects and explore through problem/project based learning	II	9	2	0	0	88.18
5.	Curriculum provides students with a broad understanding of basic concepts of various courses, as well as facilitates them to acquire contemporary skills required by industry	10	11	1	0	0	88.18
6	Program Structure is well organized with links progressing from one course to another course steadily for a good comprehension of all courses	11	8	3	0	0	87.27
7.	Foundation courses provide a basis for professional competence and the required knowledge to focus on a particular specialization upon graduation, in the work environment or in subsequent higher education	9	10	3	0	0	85.45
8.	Curriculum facilitates student to acquire skills to be communicator, collaborator, and leader	11	11	0	0	0	90.00
9.	The system followed by the college for the design and development of curriculum is effective and curriculum has been updated from time to time.	10	12	0	0	0	89.09
10.	Curriculum facilitates functioning of a student as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.	10	10	2	0	0	87.27

Suggestions Given by the stakeholders

1. Most of the stakeholders have suggested introducing courses on Surveying with geomatics, statistical applications in civil engineering for better employability opportunities.
2. Majority of the stakeholders suggested professional elective courses in emerging areas of Civil Engineering.
3. Most of the stakeholders agreed to have more activity oriented English courses and Design thinking courses.

Action Taken Report on Feedback collected on curriculum Design Development

Feedback from various stakeholders is received on curriculum design and development; suggestions given by the stakeholders are discussed in the BOS meeting and are incorporated in the curriculum as given below.

S.No	Suggestions offered	Action taken
1.	To introduce Surveying and Geomatics. Statistical applications in Civil Engineering.	Surveying and Geomatics, Statistical applications in Civil Engineering Courses along with associated labs introduced in AR20 curriculum.
2	To offer professional elective courses in emerging areas of Civil engineering.	Introduced smart cities planning and development, Pavement Design courses as professional electives in AR 20 curriculum.
3	To offer more activity oriented English Courses and Design Thinking course.	Four activity oriented English courses and one Design Thinking course are introduced in AR20 curriculum

2.1.2. Structure of the curriculum (5)

Table B.2.1.2: Course Structure-Academic Regulations - AR18

D	Course Code	Course Title	Lecture (L)	Tutorial (T)	Practical (P)	Total Hours	Theory Credits	Practical Credits	Total Credits
1.	18PH1101	Engineering Physics	3	1	-	4	4	-	4
2.	18MA1101	Mathematics-I	3	1	-	4	4	-	4
3.	18CS1101	Programming for Problem Solving	2	-	-	2	2	-	2
4.	18ME1101	Engineering Mechanics-I	3	-	-	3	3	-	3
5.	18ME1102	Engineering Graphics	1	-	4	5	1	4	5
6.	18PH11L1	Engineering Physics Lab	-	-	3	3	-	1.5	1.5
7.	18CS11L1	Programming for Problem Solving Lab	-	-	2	2	-	1	1
8.	18ME11L1	Engineering Workshop	-	-	3	3	-	1.5	1.5
9.	MC	Induction Program	-	-	-	-	-	-	-
10.	18EN1201	English	3	-	-	3	3	-	3
11.	18MA1201	Mathematics-II	3	1	-	4	4	-	4
12.	18CH1201	Engineering Chemistry	3	1	-	4	4	-	4
13.	18CS1201	Data Structures	2	-	-	2	2	-	2
14.	18ME1201	Engineering Mechanics-II	3	-	-	3	3	-	3
15.	18EN12L1	English Language and Communication Skills Lab	-	-	3	3	-	1.5	1.5
16.	18CH12L1	Engineering Chemistry Lab	-	-	3	3	-	1.5	1.5
17.	18CS12L1	Data Structures Lab	-	-	2	2	-	1	1
18.	18MC1201	Indian Constitution	3	-	-	3	-	-	-
19.	18CE2101	Surveying	3	-	-	3	3	-	3
20.	18CE2102	Strength of Materials-I	3	1	-	4	4	-	4
21.	18CE2103	Fluid Mechanics	3	1	-	4	4	-	4

22.	18CE2104	Building Materials,Construction and Planning	3	-	-	3	3	-	3
23.	18EE2101	Basic ElectricalEngineering	3	-	-	3	3	-	3
24.	18CE21L1	Surveying Lab	-	-	2	2	-	1	1
25.	18CE21L2	Strength of Materials Lab	-	-	2	2	-	1	1
26.	18EE21L1	Basic ElectricalEngineering Lab	-	-	2	2	-	1	1
27.	18MA2201	ComputationalMathematics	3	-	-	3	3	-	3
28.	18CE2201	Engineering Geology	3	-	-	3	3	-	3
29.	18CE2202	Strength of Materials-II	3	1	-	4	4	-	4
30.	18CE2203	Hydraulics and Hydraulic Machinery	3	1	-	4	4	-	4
31.	18MB2202	Engineering Economics And Accounting	3	-	-	3	3	-	3
32.	18MA22L1	ComputationalMathematicsLab	-	-	2	2	-	1	1
33.	18CE22L1	Engineering GeologyLab	-	-	2	2	-	1	1
34.	18CE22L2	Hydraulics and Hydraulic MachineryLab	-	-	2	2	-	1	1
35.	18CH2201	Environmental Science	3	-	-	3	3	-	3
36.	18CE3101	Structural Analysis	3	1	-	4	4	-	4
37.	18CE3102	Concrete Technology	3	-	-	3	3	-	3
38.	18CE3103	Geotechnical Engineering	3	-	-	3	3	-	3
39.	18CE3104	Engineering Hydrology	3	-	-	3	3	-	3
40.		Open Elective-I	3	-	-	3	3	-	3
	18EE3122	Industrial Safety andHazards(EEE)							
	18ME3123	Nano Materials andTechnology(ME)							
	18EC3124	ElectronicMeasuringInstruments(ECE)							
	18CS3125	JAVAProgramming(CSE)							
18MB3126	IntellectualPropertyRights(MBA)								

41.	18CE31L1	ComputerAidedDraftingOfBuildings Lab	-	-	2	-	-	1	1
42.	18CE31L2	ConcreteTechnologyLab	-	-	2	-	-	1	1
43.	18CE31L3	Geotechnical Engineering Lab	-	-	2	-	-	1	1
44.	18CE3105	Internship	-	-	-	-	-	2	2
45.	18CE3201	Design of Reinforced Concrete Structures	3	1	-	4	4	-	4
46.	18CE3202	Transportation Engineering	3	-	-	4	3	-	3
47.	Professional Elective –I		3	-	-	3	3	-	3
	18CE3203	Advanced Structural Analysis							
	18CE3204	Foundation Engineering							
	18CE3205	Groundwater Development and Management							
	18CE3206	Air Pollution and Control							
	18CE3207	Disaster Mitigation and Management							
48.	Professional Elective –II		3	-	-	3	3	-	3
	18CE3208	Green Buildings							
	18CE3209	Construction Engineering and Management							
	18CE3210	Irrigation Engineering							
	18CE3211	Remote Sensing and GIS							
	18CE3212	Advanced Concrete Technology							
49.	Open Elective–II		3	-	-	3	3	-	3
	18EE3232	Energy Conservation and Management (EEE)							
	18ME3233	Digital Fabrication(ME)							
	18EC3234	Principles of Communication Systems(ECE)							

	18CS3235	Knowledge Management(CSE)							
	18MB3236	Supply Chain Management(MBA)							
50.	18CE32L1	Structural Drafting Lab	-	-	2	2	-	1	1
51.	18CE32L2	Transportation Engineering Lab	-	-	2	2	-	1	1
52.	18EN32L1	Advanced English Communication SkillsLab	-	-	2	2	-	1	1
53.	18MB3203	Professional Ethics	3	-	-	3	-	-	-
54.	18CE4101	Design of Steel Structures	3	-	-	3	3	-	3
55.	18CE4102	Environmental Engineering	3	-	-	3	3	-	3
56.	18MB4101	Operations Research	3	-	-	3	3	-	3
	Professional Elective– III								
	18CE4103	Pavement Analysis and Design							
57.	18CE4104	Finite Element Methods for Civil Engineering	3	-	-	3	3	-	3
	18CE4105	Ground Improvement Techniques							
	18CE4106	Hydro power Engineering							
	18CE4107	Climate Change and Adaptation							
	Professional Elective–IV								
	18CE4108	Advanced Structural Design							
58.	18CE4109	Traffic Engineering	3	-	-	3	3	-	3
	18CE4110	Pre-stressed Concrete Structures							
	18CE4111	Earth Retaining Structures							
	18CE4112	Solid Waste Management							
59.	18CE41L1	Structural Analysis and Design Lab	-	-	2	2	-	1	1

60.	18CE41L2	Environmental Engineering Lab	-	-	2	2	-	1	1
61.	18MB41L1	Operations Research Lab	-	-	2	2	-	1	1
62.	18CE4113	Mini-Project	-	-	-	-	-	2	2
63.	18CE4201	Estimation and Costing	3	-	-	3	3	-	3
64.	Professional Elective–V		3	-	-	3	3	-	3
65.	18CE4202	Railways and Airport Engineering							
66.	18CE4203	Industrial Wastewater Management							
67.	18CE4204	Soil Dynamics and Machine Foundation							
68.	18CE4205	Rehabilitation and Retrofitting of Structures							
69.	18CE4206	Elements of Earthquake Engineering							
70.	18CE4207	Technical Seminar	-	-	2	2	1	-	1
71.	18CE4208	Major Project	-	-	20	20	-	10	10

Table B.2.1.2: Course Structure-Academic Regulations – AR20

ID	Course Code	Course Title	Lecture (L)	Tutorial (T)	Practical (P)	Total Hours	Theory Credits	Practical Credits	Total Credits
1.	20PH11002	Engineering Physics	3	1	-	4	4	-	4
2.	20MA11001	Basic Engineering Mathematics	3	1	-	4	4	-	4
3.	20CS11001	Programming for Problem Solving–I	2	-	-	2	2	-	2
4.	20ME11002	Engineering Graphics	2	-	2	4	3	-	3
5.	20CE11001	Engineering Mechanics Statics and Dynamics	3	1	-	4	4	-	4
6.	20PH11L02	Engineering Physics Lab	-	-	2	2	-	1	1
7.	20CS11L01	Programming for Problem Solving – I Lab	-	-	2	2	-	1	1
8.		Induction Program	-	-	-	-	-	-	-
9.	20EN12001	English	3	-	-	3	3	-	3
10.	20MA12001	Multi Variable Calculus	3	1	-	4	4	-	4
11.	20CS12001	Programming for Problem Solving–II	2	-	-	2	2	-	2
12.	20CH12001	Engineering Chemistry	3	-	-	3	3	-	3
13.	20CE12001	Engineering Geology	2	-	-	2	2	-	2
14.	20EN12L01	English Language Communication Skills Lab(ELCS)	-	-	2	2	1	-	1
15.	20CS12L01	Programming for Problem Solving - II Lab	-	-	2	2	-	1	1
16.	20CH12L01	Engineering Chemistry Lab	-	-	2	2	-	1	1

17.	20CE12L01	Engineering Geology Lab	-	-	2	2	-	1	1
18.	20ME12L01	Engineering Workshop	-	-	2	2	-	1	1
19.	20CE12P01	Design Thinking*	-	-	4	4	-	2	2
20.	20CE21001	Surveying and Geomatics	3	-	-	3	3	-	3
21.	20CE21002	Mechanics of Materials	3	-	-	3	3	-	3
22.	20CE21003	Fluid Mechanics	3	-	-	3	3	-	3
23.	20CE21004	Building Materials, Construction and Planning	2	-	-	2	2	-	2
24.	20MB21004	Engineering Economics and Accounting	3	-	-	3	3	-	3
25.	20EE21001	Basic Electrical Engineering	3	-	-	3	3	-	3
26.	20CE21L01	Surveying and Geomatics Lab	-	-	2	2	-	1	1
27.	20CE21L02	Mechanics of Materials Lab	-	-	2	2	-	1	1
28.	20EE21L01	Basic Electrical Engineering Lab	-	-	2	2	-	1	1
29.	20EN21P01	English for Effective Communication*	-	-	2	2	-	1	1
30.	20CH21M01	Environmental Science	3	-	-	3	-	-	-
31.	20MA22001	Computational Mathematics	3	-	-	3	3	-	3
32.	20CE22001	Structural Analysis	3	-	-	3	3	-	3
33.	20CE22002	Hydraulics and Hydraulic Machinery	3	-	-	3	3	-	3

34.	20CE22003	Concrete Technology	3	-	-	3	3	-	3
Open Elective-I			3	-	-	3	3	-	3
35.	20EE22062	Industrial Safety and Hazards							
36.	20ME22063	Nano Materials and Technology							
37.	20EC22064	Electronic Measuring Instruments							
38.	20CS22065	Web Programming							
39.	20MB22066	Intellectual Property Rights							
40.	20MA22L01	Computational Mathematics Lab	-	-	2	2	-	1	1
41.	20CE22L01	Computer Aided Drafting of Buildings lab	-	-	2	2	-	1	1
42.	20CE22L02	Fluid Mechanics and Hydraulic Machinery Lab	-	-	2	2	-	1	1
43.	20EN22P01	English for Career Development*	-	-	2	2	-	1	1
44.	20MB22M04	Professional Ethics	3	-	-	3	-	-	-
45.	20CE31001	Design of Reinforced Concrete Structures	3	-	-	3	3	-	3
46.	20CE31002	Transportation Engineering	3	-	-	3	3	-	3
47.	20CE31003	Geotechnical Engineering	3	-	-	3	3	-	3
48.	20MA31002	Statistical Applications in Civil Engineering	3	-	-	3	3	-	3
49.	20CE31L01	Geotechnical Engineering Lab	-	-	2	2	-	1	1

50.	20CE31L02	Highway Engineering and Concrete Technology Lab	-	-	2	2	-	1	1
51.	20MA31L02	Statistical Applications in Civil Engineering Lab	-	-	2	2	-	1	1
52.	20MA31P01	Logical Reasoning-I*	-	-	4	4	-	2	2
53.	20EN31P01	English for Professional Success*	-	-	2	2	-	1	1
54.	20CE31004	Internship	-	-	4	4	-	2	2
55.	20CS31M02	Introduction to Artificial Intelligence	3	-	-	3	-	-	-
56.	20CE32001	Hydrology and Water Resources Engineering	3	-	-	3	3	-	3
57.	20CE32002	Environmental Engineering	3	-	-	3	3	-	3
58.	20CE32003	Design of Steel Structures	3	-	-	3	3	-	3
Professional Elective –I									
59.	20CE32004	Advanced Structural Analysis							
60.	20CE32005	Foundation Engineering							
61.	20CE32006	Intelligent Transportation Systems	3	-	-	3	3	-	3
62.	20CE32007	Disaster Mitigation and Management							
63.	20CE32008	Modern Construction Materials							
Professional Elective –II			3	-	-	3	3	-	3

64.	20CE32009	Prefabricated Structures							
65.	20CE32010	Ground Improvement Techniques							
66.	20CE32011	Traffic Engineering and Management							
67.	20CE32012	Advanced Surveying							
68.	20CE32013	Green Building Systems							
69.	20EN32L01	Professional Communication Skills Lab (PCSLab)	-	-	2	2	-	1	1
70.	20CE32L01	Environmental Engineering Lab	-	-	2	2	-	1	1
71.	20CE32L02	Structural Drafting Lab	-	-	2	2	-	1	1
72.	20MA32P01	Logical Reasoning–II*	-	-	4	4	-	2	2
73.	20CS32M03	Introduction to Cyber Security	3	-	-	3	-	-	-
74.	20CE41001	Estimation and Costing	3	-	-	3	3	-	3
75.	20CE41002	Pavement Analysis and Design	3	-	-	3	3	-	3
Professional Elective –III									
76.	20CE41003	Pre-stressed Concrete Structures							
77.	20CE41004	Soil Dynamics and Machine Foundation	3	-	-	3	3	-	3
78.	20CE41005	Railway Engineering							
79.	20CE41006	Irrigation Engineering and structures							

80.	20CE41007	SolidWasteManagement							
Professional Elective – IV									
81.	20CE41008	Health Monitoring and Retrofitting of structures							
82.	20CE41009	EarthRetaining Structures	3	-	-	3	3	-	3
83.	20CE41010	SmartCitiesPlannin gandDevelopment							
84.	20CE41011	EnvironmentalImpa ctAssessment							
85.	20CE41012	GISandRemoteSen sing							

Open Elective – II									
86.	20EE41072	Energy Conservation and Management	3	-	-	3	3	-	3
87.	20ME41073	Digital Fabrication							
88.	20EC41074	Principles of Communication Systems							
89.	20CS41075	Knowledge Management							
90.	20MB41076	Supply Chain Management							
91.	20CE41L01	STAAD Lab	-	-	2	2	-	1	1
92.	20CE41L02	Pavement Analysis and Design Lab	-	-	2	2	-	1	1
93.	20CE41013	Project Seminar	-	-	2	2	-	1	1
94.	20CE41014	Mini-Project	-	-	4	4	-	2	2
95.	20CE42001	Construction Technology and Project Management	3	-	-	3	3	-	3
Professional Elective – V									
96.	20CE42002	Elements of Earthquake Engineering	3	-	-	3	3	-	3
97.	20CE42003	Soil Reinforcement and Geo-synthetics							
98.	20CE42004	Pavement Maintenance and Management System							
99.	20CE42005	Climate Change and Adaptation							

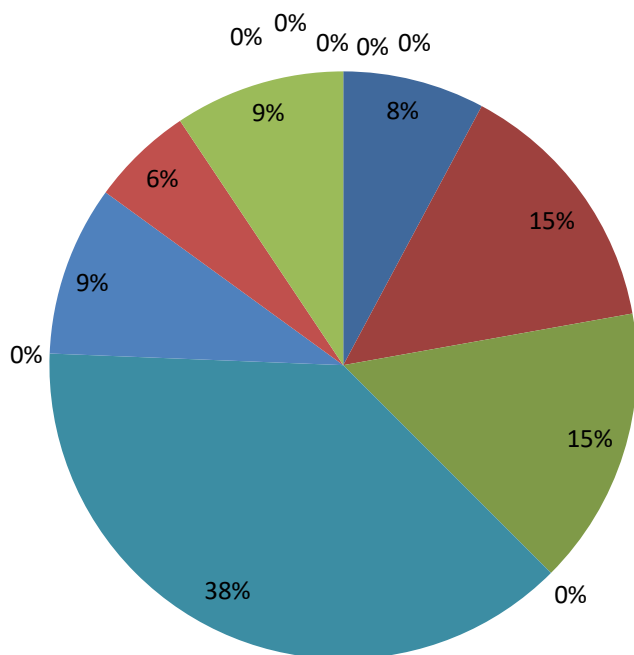
100.	20CE42006	Hydropower Engineering							
OpenElective-III									
101.	20EE42082	Micro-Electro-Mechanical Systems							
102.	20ME42083	Principles of Automobile Engineering	3	-	-	3	3	-	-
103.	20EC42084	Biomedical Instrumentation							
104.	20CS42085	Database Systems							
105.	20MB42086	Entrepreneurship							
106.	20CE42007	Technical Seminar							
107.	20CE42008	Project	-	-	20	20	-	10	-

2.1.3 State the Components of the Curriculum (5)

Table B.2.1.3: Program curriculum grouping based on course components– AR18

S.No.	Category	Curriculum Content (% of total number of credits of the program)	Total number of contact hours	Total number of credits
1	Humanities and Social Sciences including Management Courses	7.81	16	12.5
2	Basic Sciences Courses	14.37	27	23
3	Engineering Sciences Courses including workshop, drawing, basics of electrical/mechanical/computer etc.	15.31	32	24.5
4	Professional Core Courses	38.12	71	61
5	Professional Elective Courses relevant to chosen specialization/branch	9.37	15	15
6	Open Elective Subjects: Electives from other technical and/or emerging subjects	5.62	9	9
7	Project work, seminar and internship in industry or appropriate workplace / academic and research institutions in India /abroad	9.37	22	15
8	Mandatory Courses (Induction Program, Indian Constitution, Environmental Science, Professional Ethics)	–	9	-
Total			201	160

COURSE COMPONENT DISTRIBUTION

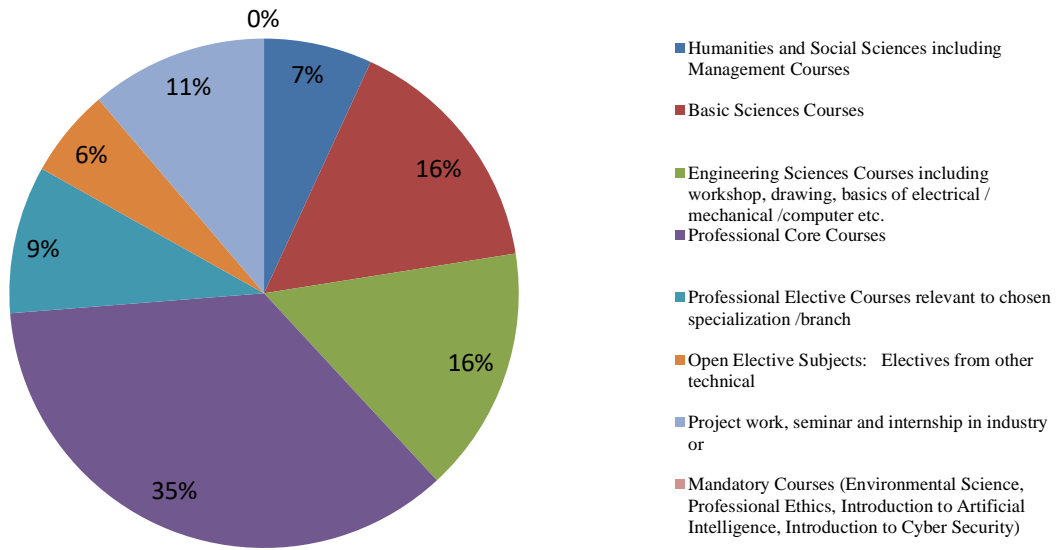


- Humanities and Social Sciences including Management Courses
- Basic Sciences Courses
- Engineering Sciences Courses including workshop, drawing, basics of electrical/mechanical/computer etc.
- Professional Core Courses
- Professional Elective Courses relevant to chosen specialization/branch
- Open Elective Subjects: Electives from other technical and/or emerging subjects
- Project work, seminar and internship in industry or appropriate workplace / academic and research institutions in India /abroad
- Mandatory Courses (Induction Program, Indian Constitution, Environmental Science, Professional Ethics)

Table B.2.1.3: Program curriculum grouping based on course components– AR20

S.No.	Course Components	Curriculum Content (% of total number of credits of the program)	Total number of contact hours	Total number of credits
1.	Humanities and Social Sciences including Management Courses	6.88	16	11
2.	Basic Sciences Courses	15.63	32	25
3.	Engineering Sciences Courses including workshop, drawing, basics of electrical/mechanical/computer etc.	15.63	32	25
4.	Professional Core Courses	35.63	67	57
5.	Professional Elective Courses relevant to chosen specialization/branch	9.38	15	15
6.	Open Elective Subjects: Electives from other technical and/or emerging subjects	5.63	9	9
7.	Project work, seminar and internship in industry or appropriate work place / academic and research institutions in India /abroad	11.25	36	18
8.	Mandatory Courses (Environmental Science, Professional Ethics, Introduction to Artificial Intelligence, Introduction to Cyber Security)	-	12	-
		Total	219	160

COURSE COMPONENT DISTRIBUTION



2.1.4 State the process used to identify extent of compliance of the curriculum for attaining the Program Outcomes and PSOs (10)

Even though the college is autonomous, as the college being affiliated to JNTUH, Hyderabad, the curriculum is designed by the Department/college as per the guidelines of affiliating University, AICTE and UGC.

The curriculum is one of the main tools to prepare students in achieving the Program Outcomes (POs) and Program Specific Outcomes (PSOs). Therefore, the relevance of the courses in the program specific curriculum to POs and PSOs needs to be quantified in order to establish their relevance and level of support to the attainment of POs and PSOs.

a) Process of mapping of COs with POs and PSOs

The National Board of Accreditation (NBA) has defined Graduate Attributes (GAs) and Program Outcomes (POs) for Outcome Based Education. Our department has framed three Program Specific Outcomes (PSOs).

- The Course Outcomes for each course of the curriculum are defined.
- Correlation strengths of Course Outcomes (COs) with Program Outcomes (POs) and Program Specific Outcomes (PSOs) are tabulated. A strong correlation is given a value of '3' while moderate and weak correlations are given values of '2' and '1' respectively.
- The above exercise was done for all the courses of the undergraduate program a student undergoes from 1st year to 4th year in Civil Engineering discipline.

From the above process, percentage contribution of curriculum to the attainment of each Program Outcome (PO) and Program Specific Outcome (PSO) is measured and assessed by the Department Program Assessment Committee with Program Coordinator as the Chairman of the committee. If the average correlation strength to a PO/ PSO is more than 70% (High Level), it is assumed that the curriculum is contributing sufficiently to the attainment of corresponding PO/PSO. If it is more than 50% but less than 70% (Moderate Level), the curriculum is not able to contribute independently for the attainment of corresponding PO/PSO, which can be termed as "curriculum gaps". Suitable measures have to be taken by way of conducting co-curricular and extracurricular activities in the form of guest lectures, workshops and others to bridge these curriculum gaps that improve the attainments of POs and PSOs. If the average correlation strength to a PO/ PSO is less than 50% (Low Level), it is assumed that the curriculum is not able to contribute to the attainment of corresponding PO/PSO. In such cases a revision of the curriculum shall be made such that the deficiencies

are mitigated by proper introduction of the courses. The Program Assessment Committee identifies the curriculum gaps and suggests suitable measures for filling those gaps

The defined POs and PSOs are listed below. The Course Outcomes (COs) of all the courses of the undergraduate program of B.Tech CE are mapped with POs and PSOs as per their correlation strengths of relevance to POs and PSOs.

b) Program Specific Outcomes:

1. Apply knowledge in core areas of Civil Engineering such as Structural, Geotechnical, Water Resources, Transportation and Environmental Engineering to Civil Engineering practice.
2. Utilize Civil Engineering principles that are appropriate to produce detailed drawings, design reports, quantity and cost estimates, specifications, contracts and other documents appropriate for the design, construction, operations and maintenance of Civil Engineering projects.
3. Shall interact and collaborate with stakeholders; execute quality construction works applying Civil Engineering tools namely, Total Station, Global Positioning System (GPS), ArcGIS, AutoCAD, STAAD and other necessary tools.

c) Program Outcomes:

Engineering Graduates will be able to:

1. **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
2. **Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
3. **Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
4. **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
5. **Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.
6. **The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
7. **Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
8. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
9. **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
10. **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

11. **Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
12. **Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Mapping of Courses with POs and PSOs (AR18)

CO-PO & PSO matrix Table																	
Year of Study: 2019-23 (AR 18)																	
Sl.no	Course Index	Name of the Course with Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	C101	18PH1101-Engineering Physics	3.00	3.00	-	-	-	-	-	-	2.00	-	-	2.00	1.00	-	-
2	C102	18MA1101-Mathematics – I	3.00	2.00	2.00	-	-	2.00	-	-	-	-	-	3.00	-	2.00	-
3	C103	18CS1101-Programming for Problem Solving	3.00	2.00	-	2.00	2.00	-	-	2.00	2.00	-	-	2.00	2.00	-	-
4	C104	18ME1101-Engineering Mechanics -I	3.00	3.00	3.00	-	-	-	-	-	-	-	-	3.00	2.00	-	-
5	C105	18ME1102-Engineering Graphics	3.00	2.40	2.60	-	-	-	-	-	-	3.00	-	-	-	3.00	-
6	C106	18PH11L1-Engineering Physics Lab	3.00	3.00	-	-	-	-	-	-	2.00	-	-	2.00	1.00	-	-
7	C107	18CS11L1-Programming for Problem Solving Lab	3.00	2.00	-	2.00	2.00	-	-	2.00	2.00	-	-	2.00	2.00	-	-
8	C108	18ME11L1-Engineering Workshop	2.00	2.80	2.60	1.80	1.80	1.20	-	-	1.40	1.80	-	3.00	2.20	-	3.00

9	C109	18EN1201- English	-	-	-	-	-	-	-	-	2.33	3.00	-	3.00	-	-	-
10	C110	18MA1201- Mathematics – II	3.00	2.00	2.00	-	-	2.00	-	-	-	-	-	3.00	-	2.00	-
11	C111	18CH1201- Engineering Chemistry	3.00	2.00	2.00	-	-	2.00	2.00	-	-	-	-	2.00	-	-	-
12	C112	18CS1201- Data Structures	3.00	2.00	-	2.00	2.00	-	-	-	2.00	-	-	2.00	-	-	-
13	C113	18ME1201- Engineering Mechanics - II	3.00	3.00	3.00	-	-	-	-	-	-	-	-	3.00	3.00	-	-
14	C114	18EN12L1- English Language and Communication Skills Lab	-	-	-	-	-	-	-	-	3.00	3.00	2.00	3.00	-	-	-
15	C115	18CH12L1- Engineering Chemistry Lab	2.00	2.00	2.00	-	-	-	-	1.00	2.00	-	-	2.00	-	-	-
16	C116	18CS12L1- Data Structures Lab	3.00	2.00	-	2.00	2.00	-	-	-	2.00	-	-	2.00	-	-	-
17	C211	18CE2101- Surveying	2.80	2.20	2.70	2.50	2.00	2.20	-	2.00	-	-	-	2.50	3.00	3.00	2.50
18	C212	18CE2102- Strength of Materials -I	2.40	2.80	2.00	1.20	-	-	-	-	-	-	-	1.80	2.00	1.50	-
19	C213	18CE2103- Fluid Mechanics	2.60	2.00	-	2.20	-	-	-	-	-	-	-	2.20	2.60	1.80	-
20	C214	18CE2104- Building Materials, Construction and Planning	3.00	-	2.00	-	-	2.00	2.20	1.70	-	-	-	3.00	3.00	2.20	-
21	C215	18EE2101-	3.00	3.00	2.40	-	-	-	-	-	-	-	-	2.00	1.00	-	-

		Basic Electrical Engineering															
22	C216	18CE21L1- Surveying Lab	3.00	2.40	2.00	2.50	3.00	2.30	2.00	2.00	3.00	2.00	2.00	2.50	2.50	2.50	3.00
23	C217	18CE21L2- Strength of Materials Lab	2.40	-	2.00	1.80	2.00	-	-	1.60	1.60	1.80	-	1.60	2.00	-	-
24	C218	18EE21L1- Basic Electrical Engineering Lab	3.00	3.00	2.20	2.20	-	-	-	2.20	3.00	3.00	-	3.00	2.00	2.00	2.00
25	C221	18MA2201- Computational Mathematics	3.00	2.00	2.00	-	-	2.00	-	-	-	-	-	3.00	2.00	-	-
26	C222	18CE2201- Engineering Geology	2.80	-	-	3.00	-	2.60	2.00	-	2.40	1.40	-	2.80	1.75	1.60	1.60
27	C223	18CE2202- Strength of Materials - II	2.60	2.40	2.00	2.00	-	-	-	-	-	-	-	1.50	3.00	1.40	-
28	C224	18CE2203- Hydraulics and Hydraulic Machinery	3.00	2.20	2.40	2.00	-	-	-	1.00	-	-	-	-	2.80	2.00	-
29	C225	18MB2202- Engineering Economics and Accounting	-	-	2.60	3.00	2.60	3.00	2.40	-	2.80	-	2.60	2.80	3.00	3.00	2.80
30	C226	18MA22L1- Computational Mathematics Lab	3.00	2.00	2.00	-	-	2.00	-	-	-	-	-	3.00	-	2.00	-
31	C227	18CE22L1- Engineering Geology Lab	2.80	-	-	3.00	-	2.40	1.70	-	2.20	1.20	1.00	2.60	1.50	1.4	1.4
32	C228	18CE22L2- Hydraulics and	2.00	-	1.20	1.80	2.00	-	-	1.00	2.00	2.20	-	2.00	3.00	1.70	-

		Hydraulic Machinery Lab															
33	C311	18CE3101- Structural Analysis	2.60	2.40	2.60	2.60	-	-	-	-	-	-	-	2.00	3.00	-	-
34	C312	18CE3102- Concrete Technology	3.00	2.50	3.00	2.00	-	2.60	2.00	2.00	-	-	-	2.40	3.00	2.60	3.00
35	C313	18CE3103- Geotechnical Engineering	3.00	3.00	2.00	-	-	2.00	2.00	1.00	-	-	-	1.40	1.80	2.20	-
36	C314	18CE3104- Engineering Hydrology	3.00	2.40	2.40	2.40	-	2.40	2.60	-	-	-	-	2.20	2.20	2.33	-
37	C315	Open Elective I: 18MB3126- Intellectual property rights	2.40	2.60	1.80	1.40	2.20	2.00	2.00	2.00	2.20	2.40	2.40	1.80	2.00	1.40	1.80
38		Open Elective I: 18EE3122- Industrial Safety and Hazards (EEE)	2.60	2.60	2.20	2.25	2.00	2.80	3.00	2.00	1.67	2.00	1.75	2.00	2.80	1.20	1.00
39	C316	18CE31L1- Computer Aided Drafting of Buildings Lab	1.00	-	1.80	-	2.00	-	-	-	2.00	-	-	3.00	2.60	3.00	3.00
40	C317	18CE31L2- Concrete Technology Lab	2.00	-	2.00	2.60	2.00	2.00	-	2.60	2.00	2.80	-	2.40	2.00	-	-
41	C318	18CE31L3- Geotechnical Engineering Lab	1.40	1.40	1.20	1.20	1.00	1.50	2.00	1.80	1.40	1.60	-	1.30	1.20	1.30	2.00
42	C319	18CE3105- Internship	2.40	2.50	3.00	2.00	2.50	2.30	2.00	2.50	2.60	3.00	2.30	3.00	2.50	2.40	2.00

43	C321	18CE3201- Design of Reinforced Concrete Structures	3.00	2.20	2.20	1.60	-	-	-	1.60	-	-	-	2.80	2.80	1.00	-
44	C322	18CE3202- Transportation Engineering	3.00	2.30	1.60	2.60	-	2.50	2.00	1.60	-	-	-	2.00	3.00	2.30	2.00
45	C323	Professional Elective – I: 18CE3204- Foundation Engineering	2.60	2.20	2.40	2.67	-	2.40	2.50	2.50	-	-	-	2.40	2.80	2.20	2.33
46		Professional Elective – I: 18CE3206- Air Pollution and Control	2.20	2.40	2.40	2.40	2.40	2.20	2.40	-	-	-	-	1.80	2.00	1.50	-
47	C324	Professional Elective – II: 18CE3209- Construction Engineering and Management	3.00	2.40	2.40	2.40	-	2.40	2.60	-	-	-	-	2.20	2.80	1.50	-
48	C325	Open Elective – II: 18ME3233- Digital Fabrication (ME)	3.00	3.00	-	-	3.00	2.00	1.00	-	-	-	-	2.00	-	-	2.00
49		Open Elective – II: 18CS3235- Knowledge Management	3.00	3.00	-	-	3.00	2.00	1.00	-	-	-	-	3.00	-	-	3.00
50	C326	18CE32L1- Structural Drafting Lab	3.00	-	3.00	-	3.00	3.00	3.00	-	2.00	2.00	2.00	3.00	2.00	3.00	3.00
51	C327	18CE32L2- Transportation Engineering Lab	2.00	-	-	2.00	-	2.00	-	1.60	2.60	2.20	-	2.00	2.00	-	-
52	C328	18EN32L1- Advanced English	-	-	-	-	-	2.00	-	-	3.00	3.00	-	3.00	-	-	-

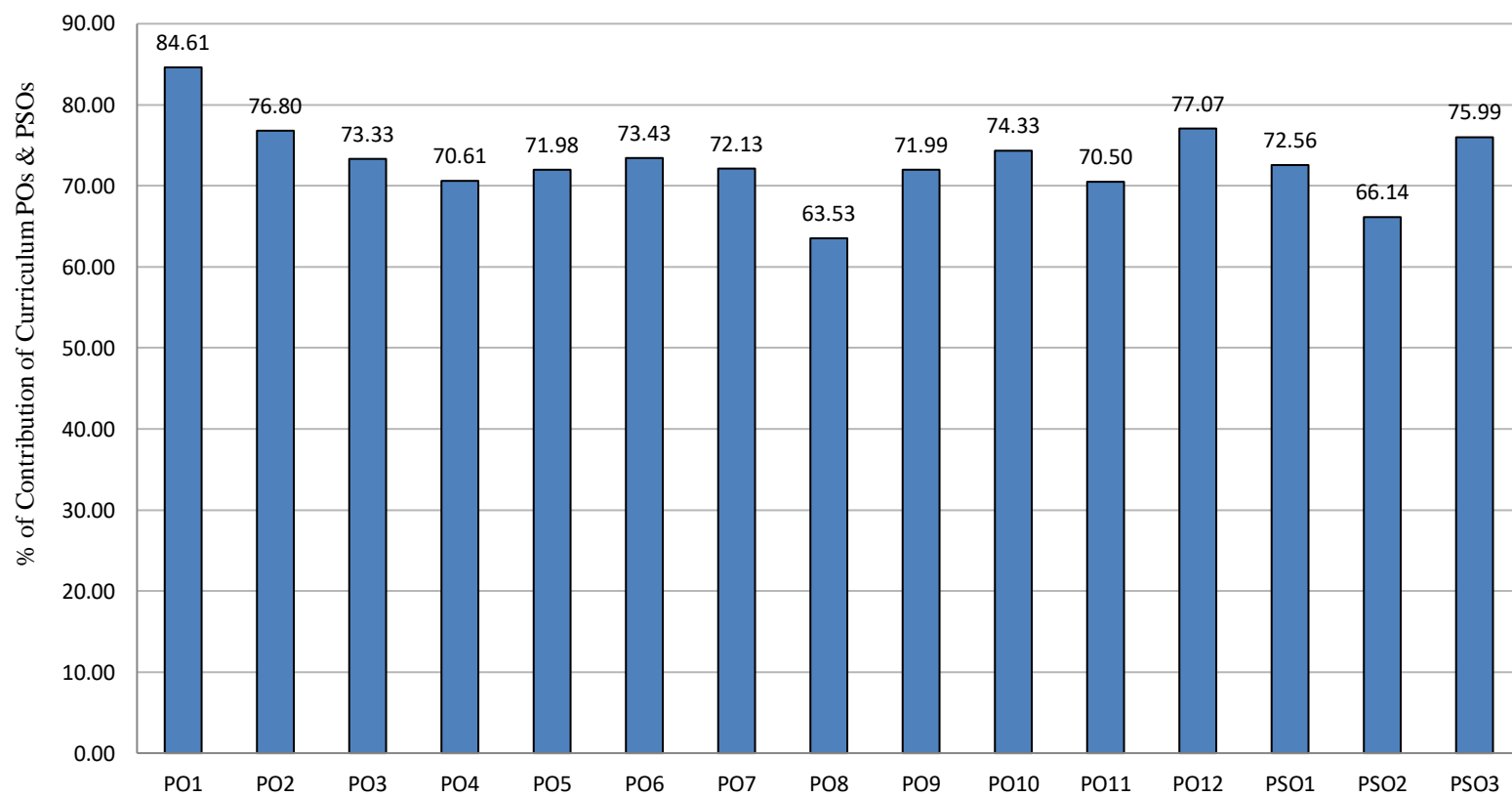
		Communication Skills Lab															
53	C411	18CE4101- Design of Steel Structures	2.20	2.40	2.40	2.40	2.40	2.20	2.40	-	-	-	-	1.80	2.00	1.50	-
54	C412	18CE4102- Environmental Engineering	2.20	2.40	2.40	2.40	2.40	2.20	2.40	-	-	-	-	1.80	2.00	1.50	-
55	C413	18MB4101- Operations Research	2.20	2.40	2.40	2.40	2.40	2.20	2.40	-	-	-	-	1.80	2.00	1.50	-
56	C414	Professional Elective – III: 18CE4107- Climate Change and Adaptations	1.00	1.00	1.00	1.00	-	2.60	2.60	-	-	1.00	-	2.00	1.00	-	-
57	C415	Professional Elective – IV: 18CE4112- Solid Waste Management	2.40	2.80	2.00	1.25	1.60	-	-	-	-	-	-	1.80	2.00	1.50	-
58	C416	18CE41L1- Structural Analysis and Design Lab	2.00	-	2.00	2.60	2.00	2.00	-	2.60	2.00	2.80	-	2.40	2.00	-	-
59	C417	18CE41L2- Environmental Engineering Lab	2.00	-	-	2.75	1.60	2.25	1.75	2.60	2.50	2.00	-	1.40	1.00	-	-
60	C418	18MB41L1- Operations Research Lab	1.40	1.30	2.00	1.20	1.00	1.50	2.00	1.80	1.40	1.60	-	-	1.20	-	-
61	C419	18CE4113- Mini-Project	2.40	2.50	3.00	2.00	2.50	2.33	2.00	2.50	2.60	3.00	2.33	3.00	2.50	2.40	2.00
62	C421	18CE4201- Estimation and Costing	2.80	1.25	-	1.75	-	2.50	-	2.50	-	-	2.50	2.00	2.80	2.80	-
63	C422	Professional Elective – V: 18CE4202-	2.20	2.40	2.40	2.40	2.40	2.20	2.40	-	-	-	-	1.80	2.00	1.50	-

		Railways and Airport Engineering															
64	C423	Professional Elective – V: 18CE4203- Industrial Waste Water Management	1.00	1.00	1.00	1.00	-	2.60	2.60	-	-	1.00	-	2.00	1.00	-	-
65		Open Elective – III: 18MB4246- Entrepreneurship (MBA)	2.20	2.40	2.40	2.40	2.40	2.20	2.40	-	-	-	-	1.80	2.00	1.50	-
66	C424	18CE4207- Technical Seminar	2.20	2.33	-	-	-	-	-	-	2.20	2.60	2.00	3.00	1.80	-	-
67	C425	18CE4208- Major Project	1.92	1.53	1.49	1.86	1.55	1.54	1.33	1.36	1.81	1.58	1.50	1.78	2.00	1.56	1.68
Average correlation strength (out of 3) – PO and PSO wise)			2.54	2.30	2.20	2.12	2.16	2.20	2.16	1.91	2.16	2.23	2.11	2.31	2.18	1.98	2.28
Average correlation strength (in terms of percentage) – PO and PSO wise)			84.61	76.80	73.33	70.61	71.98	73.43	72.13	63.53	71.99	74.33	70.50	77.07	72.56	66.14	75.99
Level of contribution of the curriculum – PO and PSO wise			H	H	H	H	H	H	H	M	H	H	H	H	H	M	H

Note: Contribution of Course component of 70% or more is taken as **HIGH LEVEL** and 50% to 69% contribution is taken as **MODERATE LEVEL** while less than 50% of contribution is construed as **LOW LEVEL**

S.No.	Curriculum Component Level	POs	PSOs	Remarks
1	HIGH LEVEL	1,3	1	No specific action is required
2	MODERATE LEVEL	2, 4,5,7,8,9,10,11	2	Suitable measures have to be taken by way of conducting guest lectures, workshops, training sessions, value added courses/events and others to fill the curricular gaps.
3	LOW LEVEL	6, 12	-	

Percentage Contribution of Curriculum to POs, PSOs for 2018-22 Autonomous Batch



2.2 Teaching - Learning Processes (100)

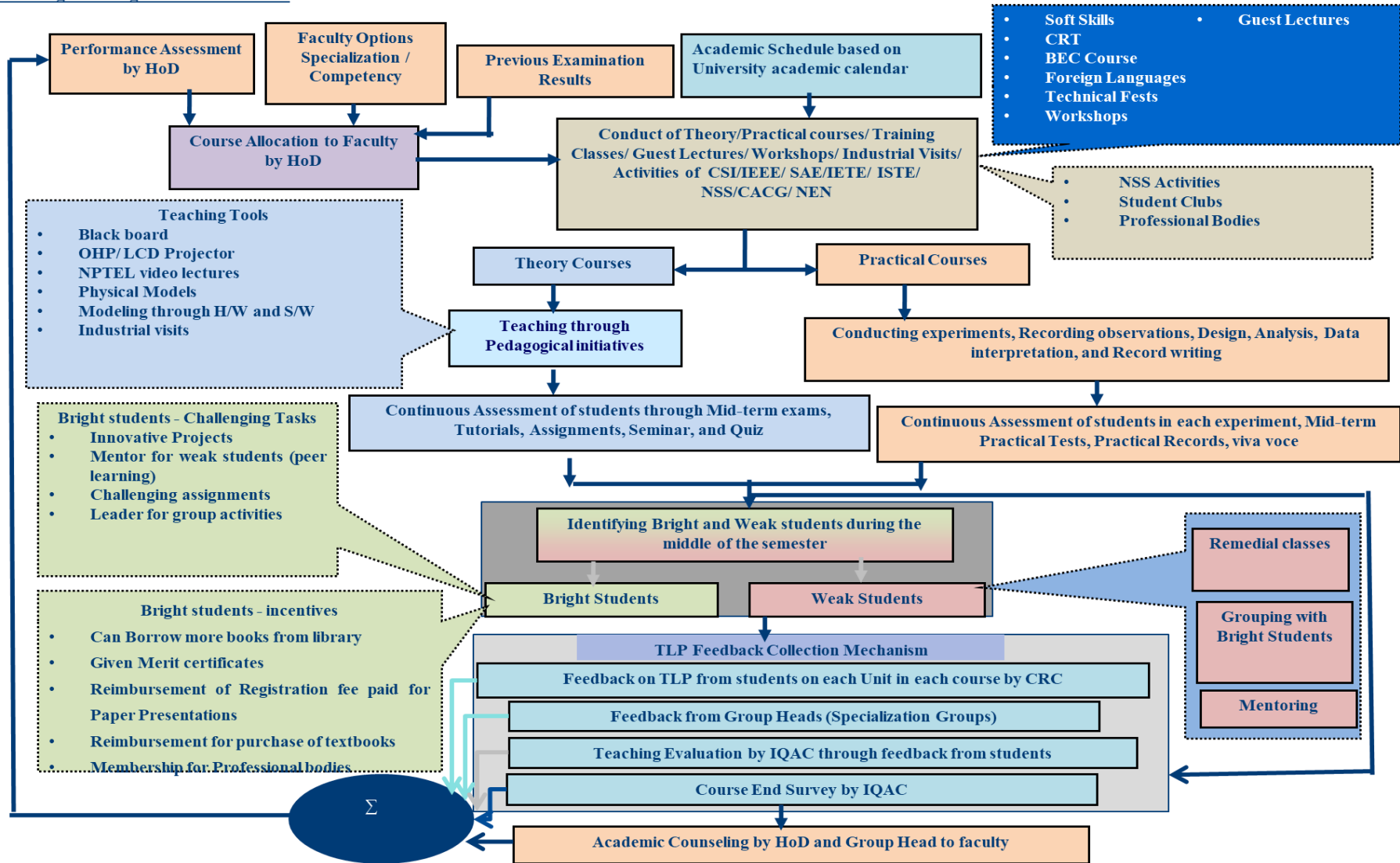
2.2.1 Describe Processes followed to improve quality of Teaching & Learning(15)

(Processes may include adherence to academic calendar and improving instruction methods using pedagogical initiatives such as real world examples, collaborative learning, quality of laboratory experience with regard to conducting experiments, recording observations, analysis of data etc. encouraging bright students, assisting weak students etc. The implementation details and impact analysis need to be documented)

Teaching involves planning and implementation of instructional activities and experiences to meet intended learning outcomes in accordance to a specific teaching plan. It is believed that the Teaching-Learning-Process is the most powerful instrument of education to bring about the desired changes in students. The program curriculum which is designed by institution /department is an outcome-based education that facilitates the students to acquire or possess a pre-defined set of graduating attributes described in the form of POs and PSOs. The Teaching-Learning-Process plays a pivotal role in allowing the students to attain these graduate attributes. The autonomous status of the institution is providing the flexibility of increasing the laboratory component of the curriculum that provides better understanding and assimilation of the engineering concepts. The Outcome Based Education (OBE) is providing an opportunity to take pedagogical initiatives that allow us to stay away from Rote Learning mechanism to practicing student-centric learning in which the student learning outcomes have become more significant. Teachers are encouraged to widen their sphere of knowledge in core as well as in multi-disciplinary areas by way of involving in research projects, attending FDPs and Conferences. Students are encouraged to participate in various Hackathons and Ideathons that provide opportunities for them to come up with innovative ideas in providing engineering solutions for the societal problems being faced. The pedagogical initiatives taken up by the department always aim at imparting quality technical education in the field of Civil Engineering, emphasizing analysis, design/synthesis with emphasis on creativity, innovation and research thereby producing competent engineers who can meet global challenges with societal commitment.

The Teaching-Learning-Process being practiced in the department is depicted in the form of figure shown below:

Teaching-Learning Process continued...



a) Adherence to Academic Calendar

Much before the commencement of a semester, a detailed academic schedule is prepared, listing out all the important academic activities that are to be carried out during the semester.

The academic schedule includes

- Dates of mid-term and end semester theory examinations
- Dates of mid-term and end semester laboratory examinations
- Schedule of CRC (Class Review Committee) meetings
- Schedule of Department faculty meetings
- Group head meetings
- Dates of Parent-Teacher Meetings
- Display of mid-term marks
- Mentoring schedules
- Checking of student attendance registers by IQAC (Internal Quality Audit Cell)
- Alumni Meetings
- Industrial Visits

The detailed academic schedule is prepared by the college and duly approved by the Academic Committee of the College. After the allocation of courses, the course instructors will prepare the course files, laboratory workbooks which will be verified by group heads and the Head of department. The course file contains detailed syllabus, course outcomes, lecture schedule, assignments, tutorial problems etc.

(b) Allocation of Courses

Based on the experience, specialization and course options given by the faculty members, course allotment is done well in advance before the commencement of the semester to provide sufficient time for the faculty members to prepare course files. In general the foundation courses are taught by senior teachers while junior teachers are allotted for the final year classes.

(c) Pedagogical initiatives

In order to make the teaching learning process more effective, the faculty members of the department, apart from following the conventional black board teaching, adopt different teaching methodologies such as Power point presentations, Demonstration using working models, Industry exposure through internships and mini projects, Collaborative learning techniques, Conduct of technical Quizzes/tutorials, Seminars by students, Project Based Learning, Peer Learning, Video lectures such as NPTEL, Self-learning through College Digital Library, Industrial visits and expert lectures by eminent people from

reputed institutions and organizations. Teaching is done more on the lines of student-centric rather than Teacher-centric.

(d) Self Learning through Digital Library

Student Learning Resources are made available in the Digital Library maintained by the Central library of the institution. Students can access the Digital library through an intranet provided in the campus. During the library period or leisure hours students access the Digital library. Link for accessing Digital library: 192.168.0.10

Digital Library: The following material can be accessed through digital library.

1. Course Files
2. Laboratory Workbooks
3. E- Books
4. Journals
5. Previous Question Papers
6. NPTEL Video Lectures
7. Previous GATE Papers

(e) Learning through Workshops/ Guest Lectures/Industrial Visits/ Internships

Workshops are conducted either in emerging areas or keeping in view of the industry requirements for improving the employability of the students. Students participate in workshops that provide experiential learning. Guest lectures by experienced teachers on various advanced topics or by industry people on the technological developments that are taking place in industries are promoted to broaden the horizons of students. Through Industrial visits or internships students get an opportunity to work on live projects, make use of sophisticated equipment's, use of modern software tools and get exposed to industrial culture.

(f) Project Based Learning

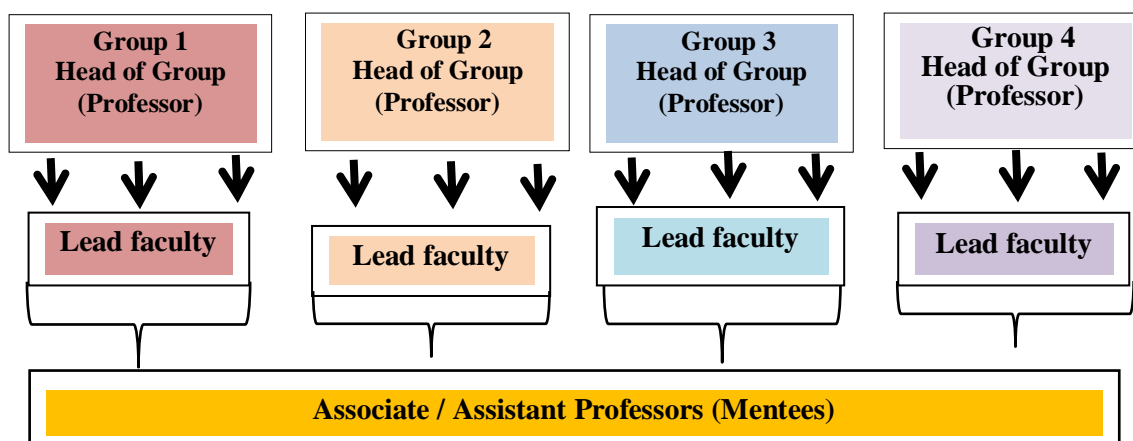
One of the recent pedagogical initiatives taken by the department is the introduction of Project Based Learning. Project-based learning involves a dynamic classroom approach in which students acquire a deeper knowledge of the concepts and equip with better practical skills through expanding their engineering concepts in providing solutions to real-world challenges and problems.

(g) Specialized Groups

In an effort to pass on the expertise and experience of senior faculty members to junior teachers, a novel concept of Group Heads has been introduced to make the Teaching-Learning- Process more effective. All the theory and laboratory courses of the curriculum related to CE Engineering branch are broadly categorized into THREE groups namely, “Structures” (Group I), “Transportation” (Group II) “Geotechnical & Water Resource”(Group III). A senior Professor is nominated as a Group Head for each of the identified groups. All the department faculty members depending upon their specialization and the courses they handle are mentored by their respective group heads in terms of

- Delivery of the content in classrooms,
- Finding the curriculum gaps in a course and arranging guest lecturers for filling the gaps,
- Preparation of assignments and tutorial problems,
- Preparation of laboratory manuals,
- Preparation of mid-term question papers as per the required cognitive levels of Bloom’s taxonomy,
- Providing guidance in research areas.

The division of group heads and the mentee faculty members under each group allotted for the current academic year 2023-24 is indicated in the form of a diagram below. The group head as a mentor and the associated faculty members of that group as mentees are required to submit mentor-mentee reports at the end of every semester to HoD/Principal to assess the impact of mentoring being done. The group heads apart from assisting the mentee faculty members in academic activities, also monitor the student registers and mentor books maintained by the faculty members of the group on a regular basis and conduct Class Review Committee (CRC) meetings with the Class Teacher to monitor and review the progress of the courses in terms of coverage of syllabus, quality of teaching being imparted and extent of attainment of COs by taking feedback from the students.



Faculty Group Heads

S.No.	Name of the Group Head	Name of the Faculty	Specialization
1	Dr.V.V.Praveen Kumar	P.Supriya	Structural Engineering
2		G. Sampath Kumar	Structural Engineering
3		D. Varun Kumar	Structural Engineering
4		V. Navaneetha	Structural Engineering
5	Dr.R.PrasannaKumar	G. Raju	Transportation Engineering
6		M. Srujan Kumar	Transportation Engineering
7		G.Vimala	Structural Engineering
8	V. Abdul Raffi	Dr.N.Mahendra	Engineering Geology
9		V.Goutham	Geomatics
10		Dr.K.SriLakshmi	Environmental Science and Technology
11		Ms.ReenaRana	Irrigation Water Management

(h) Students Feedback

In order to ensure quality in the Teaching-Learning-Process on the expected lines, four forms of feedbacks are collected from the students during the course of semester/year as mentioned below:

1. Online TLP feedback: This provides feedback on the pedagogical practices adopted by the teacher and reflects more on the capabilities of a teacher in making the students understand the course.
2. Class Review Committee Feedback: This provides feedback about the assignments, tutorials and on the expected attainments of the specified course outcomes as stipulated in the curriculum.
3. Course end survey: This survey is conducted to determine the quality of the course by

various outcomes that the course tries to satisfy and the level of achievement of the outcomes.

4. Graduate Exit Survey: This feedback is taken from the students just before they get graduated. This is to evaluate the success of the program in providing graduating attributes defined in the form of POs and PSOs.

Corrective actions taken by the Head of the Department responding to the feedbacks given by the students ensure attainment of learning outcomes by the students as per the expectations. Impact of the corrective measures taken by the HoD is analysed by comparing the feedbacks taken from the students during the course of a semester.

Effect of Counselling of faculty members based on TLP Feedback

Academic Year: 2023-24- I semester

Feedback Process on TLP:

Each faculty member is evaluated (on all the courses the faculty member is taking in the semester) by the students on the teaching-learning aspects listed under Appendix – A. Feedback is taken two times during the semester, namely Term – 1 and Term – 2.

Faculty members who get less than 70% of feedback in Term-1 are counselled by the Head of the department to enable them to improve/modify their teaching methodologies for better understanding of the course by the students which facilitates improving the feedback on them in Term-2.

(i) Student Mentoring

Mentoring of the students is one activity which is carried out in a scrupulous manner on a regular basis. Around 18 to 20 students are attached to 20 students are attached to a faculty mentor who monitors the attendance and academic performance of the allotted students. Provision is made in the class time-table to the extent of one period per week for mentoring. The primary functions of a mentor are listed below.

- Provides requisite guidance to the students in realizing their academic performance and career goals.
- Keeps in touch with the parents of the students and interacts with them from time to time in case their wards are irregular to the classes or their academic performance is not on the expected lines.
- Encourages students to participate in various co-curricular and extracurricular activities.
- The mentor is required to identify the strengths and weaknesses of the students, and their stated goals, in the course of interaction with the students. Where there is incongruence between the students' academic progress and the stated goals; the mentor counsels the students appropriately to bring about positive changes in the students to put them back on the right track. Impact of mentoring is carried out by comparing the attendance in Slot 3 and Slot 7

Methodology

Each faculty member shall be allotted 18 to 20 students. A separate period is allocated in the weekly time-table for mentoring of the students by the faculty. The faculty mentor closely monitors the attendance and other academic aspects of the student mentees and counsels the students accordingly to improve their academic performance. To analyze the impact of mentoring, the Slot attendance (slot 3 and slot 7) and the mid-term examination marks (mid 1 and mid 2) are compared as given below.

Name of Faculty Member: Ms.ReenaRana AY: 2023-2024 III-B.Tech - I SEM

S.No	Roll No	Name of the Student	Cumulative Attendance Upto Slot 3	Cumulative Attendance Upto Slot 7
1	21R11A0101	AlluriUttejVadan	84.87	89.56
2	21R11A0102	Angadi Praveen	64.47	73.6
3	21R11A0103	B N SaiSantosh	51.97	73.30
4	21R11A0104	BabburiPranay	66.45	70.87
5	21R11A0105	BhukyaBhanuPrakash	56.58	74.27
6	21R11A0106	BhukyaRajashekar	59.87	71.84
7	21R11A0107	Boda Rajesh Nayak	55.26	75.49
10	21R11A0110	Dharavath Shiva	54.61	72.90
11	21R11A0111	DharavathVenkat	40.13	71.60
12	21R11A0112	GogiPavan Kumar	46.05	68.20
14	21R11A0114	JaraplaSindhujaPawar	80.26	82.28
15	21R11A0115	JogaVenu	69.08	75.73
16	21R11A0116	Madde Chandra Shekar	65.13	79.85
17	21R11A0117	MylapalliSanthosh	35.53	71.12
18	21R11A0118	N KomalNageshwarrao	58.55	77.91
19	21R11A0119	RayaproluAnudeep	71.71	72.57
20	21R11A0120	SafderMujahid	45.39	68.45

(l) Course Coordinator

For each course, a Course Coordinator is nominated among the teachers taking that course for various sections. The course coordinator who is the senior most of all the faculty members teaching that course and who had a better exposure to that course in terms of his/her related specialization at postgraduate level or taught the course more number of times, will be assisting the junior faculty members in providing requisite guidance in all matters related to that course, in coordination with the corresponding group head. The course coordinator is responsible for preparing the mid-term examination papers, setting targets for the course outcomes, analyzing the attainment of COs of the course, preparation of course file, laboratory manual, assignments and tutorial problems related to that course and facilitate the students in the attainment of the expected course outcomes (COs).

(m) Class Teacher

- The Class Teacher/Coordinator monitors the attendance of students on a regular basis. If a student is irregular to the classes, the same will be informed to the parents and counsels the student to keep him/her back on the right track.
- Facilitates conducting Class Review Committee (CRC) meetings as per the schedules given in the detailed academic calendar.
- Class teacher helps by taking feedback on the teaching learning process from the students.

(n) Program Coordinator

The Program Coordinator, who usually is the Head of the Department, has a good understanding about the goals and objectives of the program and makes use of the available resources in an efficient way to enhance the quality of the program.

- The Program Coordinator encourages promotion of appropriate approaches towards innovation teaching-learning and methods of assessment within the program.
- The Program co-coordinator along with Group Heads and other senior faculty members analyses the attainment of COs, POs and PSOs and suggests remedial measures to be taken in terms of additional activities to be carried out, namely the Guest lectures and Workshops and other necessary academic activities to fill the identified curriculum gaps.
- The program coordinator holds meetings with the course coordinators, monitors the progress of each course and ensures functioning of the program as per the objectives of the program.
- The program coordinator takes feedback from the stakeholders of the program, namely,

faculty members, students, alumni, parents, employers and industries to ensure Program Educational Objectives (PEOs), Program Outcomes (POs) and Program Specific Objectives (PSOs) are met.

(o) Program Assessment Committee

Program Assessment Committee (PAC) consists of Program Coordinator chairing the committee, group heads and other senior faculty members of the department.

- The Program Assessment Committee of the department analyses and approves the Course Outcomes recommended by course coordinators for their respective courses.
- The Program Assessment Committee of the department verifies the attainment of COs, POs and PSOs with the stated targets. Provides suggestions for the improvement in the attainments.
- Evaluates program effectiveness and proposes necessary changes for making the program more effective for the attainment of stated POs, PSOs and PEOs.

(p) Laboratory Courses

The laboratory sessions are conducted as per the schedules with two faculty members and one lab assistant to help the students in carrying out their experiments.

- For each of the laboratories scheduled in a semester, students are supplied with the laboratory workbook that contains the course outcomes, Procedure for conducting the experiment, relevant theory, tabular columns for noting down the observations, expected graphs, results and viva-voce questions related to each experiment.
- Students are required to submit the workbooks every week for the experiments they have done during the preceding week.
- A class of 60 students is divided into two batches, namely Batch 1 and Batch 2 with 30 students per batch. When students of Batch 1 do the experiments pertaining to laboratory course 1 during a slot (3 periods) in a week, Batch 2 students attend the laboratory course 2 during the same slot. In the other slot of 3 periods scheduled for laboratory courses in that week as per the time-table, the batches exchange the laboratory courses.
- Students of each batch attending a laboratory course are divided into two/three students per group to perform the experiments at each workbench.
- In case of software based laboratories each student works on a separate computer system for executing the programs related to experiment.
- It is ensured that one experiment is done every week in the laboratory courses of the semester.

- During the first laboratory slot, students are intimated about the course outcomes and significance of the experiments of the laboratory by explaining the theoretical and design aspects of the experiments.
- The experiments to be carried out are divided into two cycles comprising 5 to 6 experiments in each cycle.
- The first cycle of experiments are performed before the first mid-term examinations while the experiments pertaining to the second cycle are performed during the interval between the first and second mid-term examinations.
- Facilities are created in each laboratory in such a way that the scheduled experiments can be conducted without any hitch by purchase of necessary equipment and instruments.
- Faculty members taking the laboratory course correct the laboratory records and maintain day-to-day evaluation sheets.

(n) Bright and Weak Students

Students are largely identified into two groups namely, Bright students (fast learners) and Weak students (slow learners).

The following factors are considered while classifying the students into these two groups;

- Marks obtained in the first mid-term examinations
- Performance in the Semester End Examinations
- Regularity in attending the classes
- Performance in tutorial classes
- Learning abilities exhibited in the classroom.
- Questioning ability in and outside the classroom.
- Day-to-day performance in the laboratory sessions and performance in the lab mid-term examinations.

Bright students are encouraged in all possible ways with special incentives and provisions. These students will be encouraged to participate in Hackathons, ideathons, JHUB activities that bring out the innovation and creativity of the students. Weak students are provided with the required guidance and help by conducting remedial classes to enable them to catch up with the bright students. Bright students are encouraged by providing them with the following special incentives;

- They can borrow two extra books from the library.
- They are given MeritCertificates
- Reimbursement for the purchase of textbooks up to a maximum of Rs. 1,000/- for the

first ranker and Rs. 500/- for the second ranker.

- Reimbursement of registration fee made for paper presentations and project presentations in other institutions for the toprankers.

Weak Students are provided with the required academic support by conducting remedial and special classes that would facilitate improving their academic performance. Peer learning concept being in practice in the department by forming batches of bright and weak students during tutorial sessions to improve the academic performance of the weak students.

Circular from office of the Principal with regard to the above incentives for the Bright students is shown below:

GEETHANJALI COLLEGE OF ENGINEERING & TECHNOLOGY
Cheeryal (V), Keesara (M), R.R.Dist. - 501301

No. GCET/129/2014-15 03.11.2014

OFFICE OF THE PRINCIPAL


CIRCULAR

Sub: Incentives to the top rankers for the Academic year 2014-15

The following are the special incentives given to the top rankers of all the departments for the Academic year 2014-15.

1. Merit Certificates will be given to all the Top rankers by the Institute.
2. Two additional text books can be drawn by all these top rankers from our college Library (Total six text books can be drawn) in the Academic year 2014-15
3. In addition to the above, Reimbursement for the purchase of books will be done for the ranker 1 and Ranker 2. Up to Rs. 1,000/- will be reimbursed for the Ranker 1 and up to Rs. 500/- will be reimbursed for the Ranker 2, on submission of the bills for the purchase of the text books from any bookshop. Last Date for this reimbursement is 15.11.2014.
4. If the top rankers incur any expenditure as Registration fees for paper presentations, project presentations, etc. in any other colleges, the same will be reimbursed by the college for the Academic year 2014-15.

The above incentives are being given to the rankers so that they can further improve their technical skills and excel in their ~~career~~ *CAREER*.


PRINCIPAL

To: Deans / HODs / I/CS
AO/Accounts/Library
P&S

Impact Analysis of Remedial Classes for A.Y 2022-23 - I Semester

For the students who got less than 50% marks in mid-term examination -1, remedial classes were conducted in 2 courses namely, Mechanics of Materials(MoM) & Fluid Mechanics(FM). Some students attended these classes voluntarily despite scoring more than 50% marks in mid-1 exam. The impact of remedial classes was analyzed by comparing their marks in mid-1 and mid-2. Details of analysis are provided below:

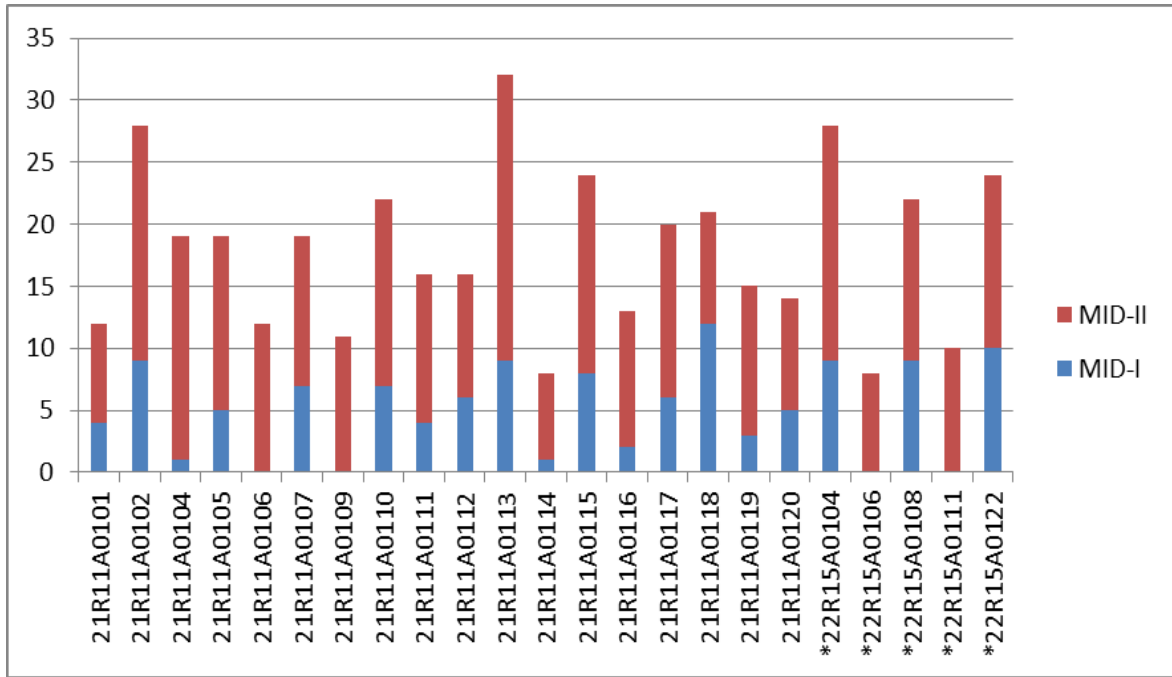
Remedial Classes conducted for the MOM course to 2nd year students on 24th December & 31st December -2022

Mid-Term 1 examination was conducted from 12th to 14th December 2022 for 2nd year students. As it was discussed in the course coordinator's meeting, remedial classes for the Mechanics of Materials (MOM) were planned for the academically weak students based on the Mid-Term 1 marks. The list was finalized based on the marks in the subject less than 12. The approval was taken from HoD for conducting these classes and accordingly, the classes were conducted after informing all these students to attend these classes with our failure. Students who got less than twelve marks attended the classes.

Effect of Remedial Classes

Course: Mechanics of Materials(MOM)

S. No	Roll No	Name of Student	MID-I	MID-II
1	21R11A0101	ALLURI UTTEJ VADAN	4	8
2	21R11A0102	ANGADI PRAVEEN	9	19
3	21R11A0104	BABBURI PRANAY	1	18
4	21R11A0105	BHUKYA BHANU PRAKASH	5	14
5	21R11A0106	BHUKYA RAJASHEKAR	A	12
6	21R11A0107	BODA RAJESH NAYAK	7	12
7	21R11A0109	DESHAM ANIL GOUD	0	11
8	21R11A0110	DHARAVATH SHIVA	7	15
9	21R11A0111	DHARAVATH VENKAT	4	12
10	21R11A0112	GOGI PAVAN KUMAR	6	10
11	21R11A0113	GUGULOTH SRIRAM	9	23
12	21R11A0114	JARAPLA SINDHUJA PAWAR	1	7
13	21R11A0115	JOGA VENU	8	16
14	21R11A0116	MADDE CHANDRA SHEKAR	2	11
15	21R11A0117	MYLAPALLI SANTHOSH	6	14
16	21R11A0118	NEELA KOMAL NAGESHWARRAO	12	9
17	21R11A0119	RAYAPROLU ANUDEEP	3	12
18	21R11A0120	SAFDER MUJAHID	5	9
19	22R15A0104	BANDARI PRASHANTH	9	19
20	22R15A0106	DAPPU MURALIDHARAN	A	8
21	22R15A0108	KAMMAMPALLI SHIVA KUMAR	9	13
22	22R15A0111	KOPPULA PAVAN KUMAR	A	10
23	22R15A0122	INAMPUDI NAGABABU	10	14



Mechanics of Materials(MOM)

(o) Placement and Training

Placement Training is provided to all the students right from the second year to fourth year to enhance their employability skills on the following aspects:

- Verbal Ability
- English Proficiency
- Logical Reasoning & Aptitude
- Communication skills
- Programming skills.

Training carried out during the last three academic years is summarized below:

Batch	Academic Year and Semester	Class	Type of Training	Training Facilitator	Schedule/ Number of Days	No. of CE Students Participated
2020-2024	2022-2023	III CE	Training on Coding & Aptitude	Cantilever Labs	19 th Oct. 2022 to 15 th , July 2023	40
2019-23	2021-2022	III CE	Training on Coding & Aptitude	Cantilever Labs	17 th Jan. to 29 th June, 2022	69

Impact of these training is visible through more students getting placed and going for education.

Batch	No.of students Placed	No.of Student went For Higher Education
2019-23	68	04
2018-22	80	14
2017-21	44	12

(p) Professional Bodies

- **Indian Green Building Council (IGBC)** student chapter was started in the campus on 24.01.2019. The main objective of this chapter is to inspire, instill and imbibe ‘green approach’ for sustainable tomorrow. As part of the chapter, IGBC authorities have provided state of art literature on various areas pertaining to green technologies. Presently an open elective course on green building is offered to the B.Tech students of various branches. This course is offered by civil engineering department. A few projects were also carried by students of B.Tech civil engineering such as “Auditing of buildings for green rating”. An Expert lecture on “Bridging the gap between Academia and Industry through **Green Innovations**” was delivered by Ms. Priyadarshini from CII-IGBC, Hyderabad chapter. About 50 students of B. Tech civil engineering participated in the event.

A field trip to IGBC Hyderabad Campus was arranged by the department in which external and internal participants who attended the Faculty Development Program on “**Green Solutions for Smart Infrastructure Development**”.

- Indian Geo-technical Society (IGS) student chapter initiatives were taken and organized a few activities under IGS for the students of Civil Engineering. Prof.M.R.Madhav visiting professor of IIT Hyderabad inaugurated the student chapter in the department. Further eminent professors from reputed organizations delivered expert lectures on emerging areas of Geotechnical engineering efforts are on to make the student chapter as National level IGS chapter.

- Department has signed MoU with the Smart Infrastructural Engineering Services Trust (SIEST), Hyderabad. As part of MoU, the department has become an Institutional member of SIEST. SIEST facilitates students towards Internship, Guest lectures, Mini and Major Projects. Also facilitates placement opportunities through its subsidiary, SHARP. In addition to the above, provides Career counselling through SIMULATION.

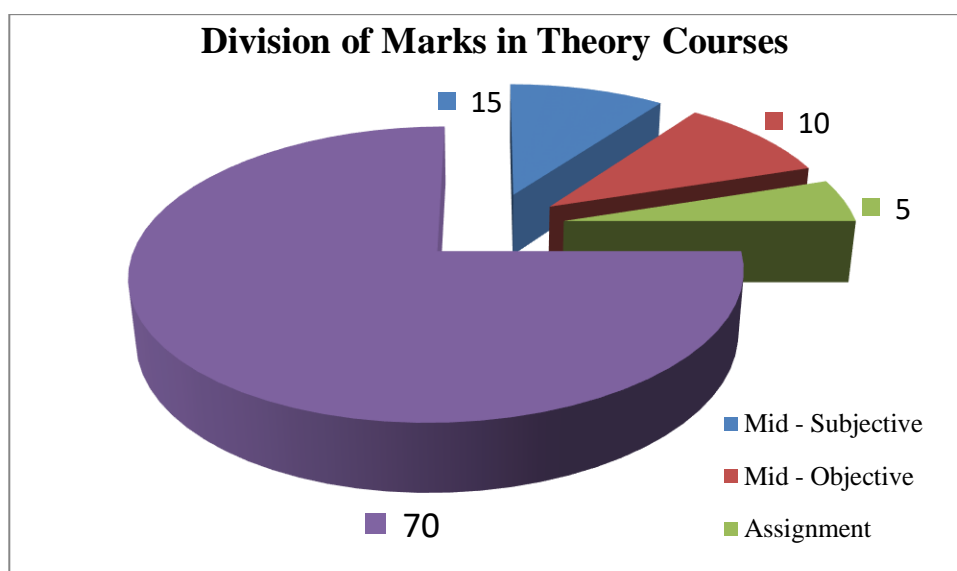
2.2.2. Quality of End semester Examination, internal semester Question papers,

Assignments and Evaluation (15)

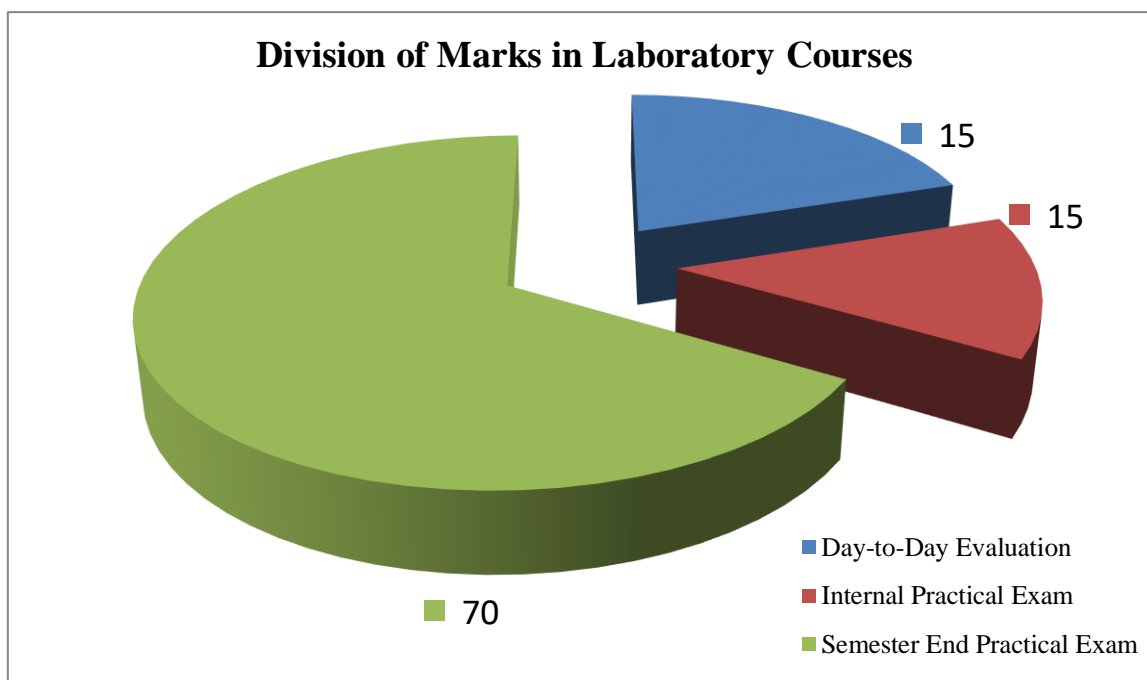
(Mention the initiatives, implementation details and analysis of learning levels related to quality of semester question papers, assignments and evaluation)

- The distribution of marks for each theory course evaluated for 100 marks is as follows: 30 marks are assigned for Continuous Internal Evaluation (CIE) and 70 marks for the Semester End Examination (SEE). For the internal evaluation, there shall be 2 mid-term examinations. In each mid-term examination there shall be one objective paper for 10 marks, one Subjective (descriptive) paper for 15 marks and one Assignment for 5 marks, all prepared internally by the concerned course coordinator in consultation with other teachers taking the same course. In the case of subjective question papers, each question is provided with the corresponding CO (course outcome) to which it is mapped along with the Bloom's Taxonomy Level depending on the nature and complexity of the question.
- For practical courses there shall be a Continuous Internal Evaluation (CIE) during a semester for 30 marks while 70 marks are allotted for the Semester End Examination (SEE). Out of the 30 marks for the internal evaluation, day-to-day work in the laboratory shall be evaluated for 15 marks and internal practical examination conducted during a semester by the concerned teacher shall be evaluated for 15 marks. The Semester End Examination (SEE) shall be conducted with an external examiner along with the concerned laboratory teacher.

Evaluation Parameters for Theory Courses			
Mid-term/ SEE	Marks	Type of Exam	Prepared by
Mid-term Examination – Coercive	15	Internal	Course coordinator
Mid-term Examination – Objective	10	Internal	Course coordinator
Assignment	5	Internal	Course coordinator
Semester End Examination	70	External	External



Evaluation Parameters for Laboratory Courses			
Internal/SEE	Type of Exam	Evaluator(s)	Marks
Day-to-day work in the lab	Internal	Teacher who conducts the lab	15
Internal Practical Examination	Internal	Teacher who conducts the lab and an Internal examiner	15
Semester End Examination	External	Teacher who conducts the lab and an External Examiner	70



Semester End Examination Paper setting and Evaluation Procedures:

Paper setting and Valuation:

Paper setting and valuation of answer scripts pertaining to Semester End Examinations (SEE) is carried out by EXTERNAL faculty members only. For setting question papers in a theory course, faculty members from a reputed institution with a doctorate degree and working as a Professor or working as an Associate Professor having taught the course for a minimum number of FIVE times shall be considered. For paper valuation, faculty members who have taught the course for a minimum number of FIVE times shall be considered. Panel of examiners and evaluators shall be approved by the BoS at the beginning of the academic year.

Paper setting:

- For each theory course, a panel consisting of not less than five subject experts, having expertise and experience in the said course and belonging to different universities/reputed institutions shall be sent to the Controller of Examinations (CoE) by Chairman, BOS after taking approval from Principal/Chief superintendent at the beginning of the semester.
- On receipt of the approved copy of the paper setters, the CoE contacts the paper setters as per the order of preference indicated by the Principal and arranges for setting of the question papers in a most confidential manner. Two sets of papers shall be obtained from

each of the paper setters. On the day of examination, the question paper shall be scrutinized by the Head of the department (BoS Chairman) and a senior faculty member (subject expert/course coordinator) in terms of its adherence to the specified structure and guidelines. In case of any deviations in the question paper from expected structure, moderation of the paper shall be carried out to make it in line with the stipulated guidelines. BoS Chairman and the course coordinator shall submit a moderation report to CoE.

Valuation:

- The institute adopts the system of Central evaluation of the answer scripts by appointing the external examiners/valuators from reputed institutions.
- Computerization of the complete exam results processing system is followed.
- Digital valuation system is employed. All the student exam answer booklets are stored in digital form. This ensures storage for longer durations.

Preparation of Internal Papers:

- Internal question paper (mid-examination paper) is prepared with a perspective of attaining the expected course outcomes and learning levels. While setting the internal mid examination paper every care is taken to ensure that all the topics enunciated for the exam are given equal weightage covering the expected COs thus serving as a tool for the students in the attainment of the expected COs.
 - The course coordinator along with other faculty members teaching the course for other sections prepares TWO sets of question papers to cover the expected course outcomes in each paper. It is a practice being followed that questions pertaining to higher cognitive levels of Bloom's taxonomy are given to third and fourth year students while questions pertaining to lower cognitive levels are given to first and second year students while setting the mid examination papers. Proper care is taken to ensure that all the topics along with the expected outcomes are covered uniformly while framing the internal papers. Screening of the question paper at various stages ensures that the question paper maintains the required standards and contains discriminating power (Distinguishing the bright and the average student).
1. The learning outcomes to be tested shall include Bloom's Taxonomy Levels (BTL) 1-6 as follows:

I year B. Tech TLP

- Lower Order Thinking Skills (BTL 1-2) 30%

- Intermediate Order Thinking Skills (BTL 3-4) 40 – 45%
- Higher Order Thinking Skills (BTL 5-6) 25 – 30%

II B. Tech TLP

- Lower Order Thinking Skills (BTL 1-2) 25%
- Intermediate Order Thinking Skills (BTL 3-4) 50%
- Higher Order Thinking Skills (BTL 5-6) 25-30%

IIIB. Tech TLP

- Lower Order Thinking Skills (BTL 1-2) 15%
- Intermediate Order Thinking Skills (BTL 3-4) 40%
- Higher Order Thinking Skills (BTL 5-6) 45%

IV B. Tech TLP

- Lower Order Thinking Skills (BTL 1-2) 10%
 - Intermediate Order Thinking Skills (BTL 3-4) 25%
 - Higher Order Thinking Skills (BTL 5-6) 65%
- After preparing TWO sets of question papers as per the procedure described above, the papers will be examined and assessed by the Question Paper Assessment Committee (QPAC) as per the guidelines provided in Annexure. The committee comprises of the HOD, Course experts, and a Professor from other department scrutinizes each question paper on the following factors
 - Is it aligned with the expected attainment of COs and POs?
 - Is it aligned with the expected knowledge levels of Bloom's Taxonomy?
 - Is the language Simple, Clear and Unambiguous
 - Whether uniform weightage is given to all the units/ topics?
 - Does the question paper contain discriminating power
 - The respective course coordinator is informed in case of any deviation of the paper from the above factors, and is advised to prepare another set of papers which is again reviewed until it complies fully with the above mentioned factors.
 - With regard to the Objective question paper, TWENTY questions in the form of multiple choice/ fill in the blank are provided by the course coordinator after getting it approved by the Question Paper Assessment Committee (QPAC). Each objective question paper is made into FOUR sets by jumbling the questions in a random manner

so that the order of questions differs from one set to another set, though the overall questions remain same for all the sets.

- The final assessed copy of the question papers are sent to the examination section.
- On the day of examination one subjective paper will be selected at random, out of the TWO sets of question papers prepared.

Evaluation of internal papers:

- The course coordinator, in consultation with other teachers teaching the same course, prepares a scheme of evaluation by assigning marks for each sub-section of the question. The papers will be evaluated by the respective teachers adhering to the scheme of evaluation in order to have uniformity in the evaluation process across all students of various sections.
- The papers evaluated by teachers will be scrutinized at random by the concerned group head. After getting a satisfactory report from the group head, the papers will be issued to the students by the concerned teachers. All the questions given in the internal paper will be thoroughly discussed in the class and the students will be informed about the scheme of valuation being adopted in correcting the papers. A copy of the marks is also displayed in the notice board. If any student is absent from the college on the day of distribution of the papers, the student will be allowed to verify the marks and can contact the concerned teacher in case of any discrepancy in the marks, within two days after the distribution of the internal papers.
- After finalization of the mid marks, the teachers make a report containing information regarding maximum, minimum and average marks obtained in the internal examination. The attainment of COs is estimated for the class which serves as a feedback to the teacher to decide whether to continue with the same methodology of teaching or adopt a different strategy for bringing an improvement in the attainment levels if the obtained levels are not on the expected lines.
- To analyze the distribution of marks across all the students of a class, the teacher prepares a bar graph indicating the number of students securing the same marks spreading through minimum to maximum marks. The graph is expected to follow Gaussian distribution.

Assignment Questions and their Evaluation Parameters

- As per the AR20/22 curriculum, one assignment shall be given for each mid-term examination for 5 marks. The course coordinator in consultation with other teachers teaching the same course prepares questions for the assignment.
- Assignment questions/topics are prepared based on the expected attainment of course outcomes and cognitive levels learning. In general higher cognitive levels are tested through assignment questions.
- Assignment topics are selected in such a way that students should be able to conduct surveys or rigorous search from multiple sources for getting the required information thus serving as a platform for promoting self-learning.
- Questions given in the assignments are more exploring in nature, meeting the higher cognitive levels of Bloom's taxonomy that expand the learning capabilities of students.
- Students are given assignments in the form of theoretical questions that require a rigorous search from multiple resources for answering or design problems that invoke analytical and logical thinking of students as specified in the Annexure-I. Assignments are given as per the schedule notified in the detailed academic schedule. During the span of a semester a minimum of TWO assignments shall be given to the students and the students are required to submit the solutions on or before a specified due date.
- The slow learners will be asked to submit answers for the theoretical questions that are figured in the end examinations of previous years while the fast learners are given much complicated design problems that enhance their learning capabilities.
- In mathematical oriented Courses students are given separate problems as assignments for promoting self-learning.
- The course coordinator in consultation with other teachers teaching the course prepares assignment questions and the Group head will assess the quality of questions. Contribution of assignments in the attainment of COs and POs is mapped.
- Assignments submitted by the students shall be evaluated by the concerned teacher and the students will be given required feedback.

Guidelines for Examiners towards Preparation of Question Paper

A. General Guidelines to the Paper Setter(s)

1. Please make sure you have the latest version of the syllabus sent to you (can also check from the website of the college) and you are familiar with the assessment criteria.
2. Work on a Specification Grid (see section-D). Before and after preparing the question paper, please check and ensure that all the test items are based on the respective syllabus and the items are graded in some order of difficulty.
3. Develop a Marking Scheme alongside the Specification Grid.
4. Check that the duration of the examination is entered correctly on the paper and ensure that the time allotted is sufficient to enable the students to complete the paper and revise their work.
5. Proofread the text.
6. Pass on the finalized draft of the paper to an external reviser who has to proofread the text again, ensure that no test item is out of syllabus, check that all set tasks are workable (particularly in mathematics, science and engineering subjects) and that the paper can be completed in the set time.
7. Make the necessary changes in the examination paper and the marking scheme as advised by the reviser. Proofread the text once again and pass on the paper to the Reviser for the final proofreading.
8. Hand in the Marking Scheme together with the Examination Paper for printing.
9. Examine print view of papers for possible printing defects (e.g. unclear diagrams or pictures) and immediately correct such errors/defects.

B. Layout

1. The layout of the paper should be as clear as possible to make it as student friendly as possible.
2. Instructions to candidates should be clear and unambiguous. They should be presented in bold type.
3. Wherever possible, use a straightforward and consistent format with regular line lengths.
4. Use typesetting features such as bold, italics, indentation or boxes effectively to help candidates focus their attention on the task.
5. Long complex questions are best split up by the use of subsidiary numbering systems.
6. Structured questions should follow a graded and logical sequence.
7. The information contained on a page should be well structured through the appropriate use of headings and subheadings. This would help candidates organize text in advance of reading.
8. Check that the diagrams, and figures/pictures used are necessary, helpful and are of high quality.
9. Place the text close to the relevant diagrams or pictures to enable the candidates to relate the two effectively. Questions with figures/pictures/tables should be set on the same page or on adjacent pages.
10. Ensure that marks assigned for each item / exercise / section are clearly indicated on the question paper.

C. Sentence Construction

1. Use the simplest language and structure possible to convey clearly and unambiguously the meaning of the question.
2. Split down even relatively short sentences if they contain a lot of condensed information.
3. Try not to use passive sentences because it can make a sentence impersonal and complex.
4. Also avoid using the conditional form (sentences starting with “if”) and the double negative.
5. Eliminate superfluous words and any abstract and metaphorical language which is not necessary.

6. Make sure that introductory statements in questions contain only the information which is required for answering those questions relevantly.

D. Specification Grids

1. The writing of test items should be guided by a carefully prepared set of test specifications.
2. The specifications describe the achievement domain being measured and provide guidelines for obtaining a representative sample of test tasks.
3. The specification grid (a two-way table) provides assurance that the test will measure a representative sample of the learning outcomes and the subject matter topics to be measured.
4. The specification grid relates outcomes to content and indicates the relative weight to be given to each of the various areas.
5. A specification grid indicates:
 - i. learning outcomes to be tested
 - ii. subject/course matter or content area
 - iii. assigned weighting to the learning outcomes and content areas in terms of their relative importance
6. The learning outcomes to be tested include
 - a. recall of knowledge,
 - b. intellectual abilities or skills (understanding, application, etc)
 - c. general skills (e.g. practical, performance, communication),
 - d. attitudes, interests, appreciations.
7. The following factors are to be considered when assigning relative weights to each learning outcome and each content area.
 - i. importance of each area in the total learning experience
 - ii. time devoted to each area during the learning experience
 - iii. which outcomes have the greater retention and transfer value

E. Constructing Relevant Test Items

The items used should be *supply-type* items only. The selection-type items present the students with a set of possible responses from which they are to select the most appropriate answer. The supply-type item requires students to create and supply their own answers.

Supply-type items include:

1. Supply-type items are easier to construct but more difficult to score.
2. Use the item types that provide the most direct measures of student performance specified by the learning outcome.
3. Avoid verbal associations that give away the answer.
4. Avoid grammatical inconsistencies that eliminate wrong answers.
5. Avoid material in an item that aids in answering another item.
6. Ensure that the difficulty level matches the intent of the learning outcome.
7. Ensure that there is no disagreement concerning the answer. Typically the answer should be one that experts would agree on as the correct or best answer.
8. Write the test items far enough in advance that they can be later reviewed and modified as needed.
9. Write more test items than called for by the test plan. This will enable you to discard weak or inappropriate items during the item review and make it easier to match the final set of items to the test specifications.

F. For Short-Answer items ensure that:

1. the item calls for a single, brief answer
2. the item has been written as a direct question or a well-stated incomplete sentence
3. the desired response is related to the main point of the item
4. the units and degree of precision is indicated for numerical answers, if any

G. For **Essay** questions make sure that:

Questions starting questions with “who”, “what”, “when”, “where”, “name”, “list” **are avoided as these terms limit the response questions demanding higher order skills**, such as those indicated in the following are used

Outcome	Sample Terms
Comparing	Compare, classify, describe, distinguish between, explain, outline, summarize
Interpreting	Convert, draw, estimate, illustrate, interpret, restate, summarize, translate
Inferring	Derive, draw, estimate, extend, extrapolate, predict, propose, relate
Applying	Arrange, compute, describe, demonstrate, illustrate, rearrange, relate, summarize
Analyzing	Break down, describe, diagram, differentiate, divide, list, outline separate
Creating	Compose, design, devise, draw, formulate, make up, present, propose
Synthesizing	Arrange, combine, construct, design, rearrange, regroup, relate, write
Generalizing	Construct, develop, explain, formulate, generate, make, propose, state
Evaluating	Appraise, criticize, defend, describe, evaluate, explain, judge, write

Annexure-II

Checklist for Evaluation of Question Paper by Department Committee

Course Code: _____

Course Title: _____

Name of the Course Instructor: _____

S. No.	Parameter/Attribute	Evaluation	Remarks, if any
1	Was weightage given uniformly to the content? (Yes/No)		
2	Are there any Analytical questions? (Yes/No). If yes, % of marks for these questions		
3	Are there any questions involving design aspects? (Yes / No). If yes, % of marks for these questions		
4	Please list Course outcomes covered		
5	Please list Program outcomes covered		
6	Please indicate complexity of the questions on a scale of 1 - 5 (5 Highest)		
7	Please indicate estimate of approximate time required for answering all questions		
8	Please mention number of levels of Bloom's taxonomy the question paper covers? List the levels covered.		
9	Does the question paper contain discriminating power (Distinguishing the bright and the average student) Yes / No		
10	Are the questions specific and precise thereby limiting the scope of the answer to a large extent? (Yes / No)		

Name and signature of Evaluator 1:

Name and signature of Evaluator 2:

Name and signature of Course Coordinator:

Name and signature of Program Coordinator:

Name and signature of IQAC Coordinator:

Name and signature of Head of the department:

2.2.3 Quality of Student Projects

Student Projects – Allocation, Reviews and Evaluation

Major Project Seminar and Major Project:

Project work challenges students to think beyond the boundaries of the classroom, and help them in developing their analytical, designing and critical-thinking skills; improving their inter-personal skills and enhancing their confidence levels.

Projects may be broadly categorized in the following ways:

- a) Industry Sponsored Projects
- b) Institute Sponsored Projects
- c) Application Oriented
- d) Design Oriented
- e) Research Oriented

Factors such as Environment, Safety, Legal and ethical principles are to be considered while selecting a project. Project should help the students in attaining the expected POs and PSOs and the outcome of the project ultimately should be beneficial for the development of the society at large.

Student Projects have to be identified in such a way that they have a strong correlation and relevance to Program Outcomes (POs) and / or Program Specific Outcomes (PSOs). Identifying the research problem along with the objectives of the project is one of the key factors that facilitate attaining the expected deliverables of the project. The whole process involved right from the identification of the problem for the Project work to finding its solution and presenting it in the form of a report, is divided into various modules/stages as represented schematically below and explained in detail subsequently. Under autonomous status of the institution Major Project is divided into two parts; Major Project Seminar, which each batch of students shall carry out during the first semester of the fourth year while the actual execution of the project will be carried out during the second semester of fourth year.

In general a Project work is expected to provide the following course outcomes. The Course Outcomes (COs) with Mapping to Program Outcomes (POs) are provided below:

1. Defining the Research Problem:

Head of the department shall issue a circular to all faculty members requesting them to identify projects / research problems, keeping in view of the societal problems that have direct strong correlation and relevance to Program Outcomes (POs) and / or Program Specific Outcomes (PSOs). In response to this, faculty members of the department after rigorously going through various research problems from all possible resources, specify the identified problems and submit the following to the department:

1. Title of the project/research problem/ research area
2. Methodology to be adopted for the execution of the project/research problem
3. Relevant theoretical background with suggested references
4. Specifications of the hardware/software/equipment requirements
5. A monthly timeline for the completion various modules of the project with expected deliverables.

This information is made available to the students through proper announcements. In some cases, students who would be willing to carry out their project in any public sector unit or industry or any research organization, would be permitted to carry out their project and in such cases one internal guide who has expertise in that area will be allotted from the department to monitor the progress of the project at various levels of its execution.

2. Procedure adopted in the formation of Project Batches:

Procedure for Grouping of students:

The following procedure is followed in forming student groups:

1. The result of the preceding semester is considered for forming the groups.
2. The obtained credits of each student are divided with the maximum number of credits in that semester. This is considered as normalized credits obtained.
3. The Obtained SGPA is then multiplied with the normalized credits in that semester. This is considered as normalized SGPA of the student.
4. The normalized percentage of all the students is arranged in a descending order.
5. The position of a student obtained after arranging in descending order is considered as the Rank.
6. The total strength is divided with Number of persons 'N' in the group (N=3 is considered here) to obtain number of groups 'M'.

7. A table is formed with N columns and M rows. Each cell is filled in the order of row-wise and then column-wise.
8. The set of 'M' students is placed in three columns such that the first column indicates strong students; second column indicates middle level students and the last column is filled with weak students.
9. Each row is considered as a group where the students are specified from strong to weak from left to right column.
10. Using the above procedure all the students are given rankings (Ranker 1 to Ranker 60).

While forming batches for carrying out the final year projects, every effort is taken to ensure that meritorious students are distributed uniformly across all the batches by following a specific pattern in the formation of the project batches. A maximum of 3 students are allowed per batch. For a typical class having student strength of 60, the distribution of students is done as shown in below table.

Formation of Project Batches			
Batch 1	Ranker 1	Ranker 21	Ranker 41
Batch 2	Ranker 2	Ranker 22	Ranker 42
Batch 3	Ranker 3	Ranker 23	Ranker 43
Batch 4	Ranker 4	Ranker 24	Ranker 44
Batch 5	Ranker 5	Ranker 25	Ranker 45
Batch 6	Ranker 6	Ranker 26	Ranker 46
Batch 7	Ranker 7	Ranker 27	Ranker 47
Batch 8	Ranker 8	Ranker28	Ranker 48
Batch 9	Ranker 9	Ranker 29	Ranker 49
Batch 10	Ranker 10	Ranker 30	Ranker 50
Batch 11	Ranker 11	Ranker 31	Ranker 51
Batch 12	Ranker 12	Ranker 32	Ranker 52
Batch 13	Ranker 13	Ranker33	Ranker 53
Batch 14	Ranker 14	Ranker 34	Ranker 54
Batch 15	Ranker 15	Ranker 35	Ranker 55
Batch 16	Ranker 16	Ranker 36	Ranker 56
Batch 17	Ranker 17	Ranker 37	Ranker 57
Batch 18	Ranker 18	Ranker 38	Ranker 58
Batch 19	Ranker 19	Ranker 39	Ranker 59
Batch 20	Ranker 20	Ranker 40	Ranker 60

3.Choosing the domain/ area of project and allotment of guide:

- Faculty members of the department specify their specialization/ expertise domain or areas of interest in which they can provide guidance to the students along with the research problems identified. This information is made known to the students through proper announcement.
- After making consultations with faculty members, each batch of students has to give its options; mentioning the area in which they want to carry out the project work. For

the students who would be willing to do their project in any public sector unit or industry or any research organization, the problem will be identified by the concerned organization. One internal guide will be allotted from the department to monitor the progress of the project.

- The Head of the Department in consultation with other senior faculty members of the department finalizes the allotment of guides to the respective student batches; depending upon the area in which they want to carry out their project.
- For in-house projects there shall be only one guide and the faculty member guiding the project will be acting as the guide. For the projects carried out in industries/ PSUs/companies, there shall be two guides; an external guide from the industry/PSU/ company in which the project is carried out and an internal guide from the department who will be monitoring the progress of the project periodically and providing the requisite guidance.

4. Project identification and classification

Students of each project batch would be asked to carry out the literature survey before finalizing the project. The feasibility of executing the project along with the timeline of activities to be carried out and factors such as Environment, Safety, Ethics, and Costs are considered before finalizing the topic of the project. The projects are classified into the following categories:

1. Real time problems from industries which may include developing a new set up or enhancing the existing setup.
2. Society needed projects either design or fabrication.
3. Design / Analysis Projects.
4. Research Projects
5. Application based Projects
6. Product based Projects
7. Review Projects

5. Mapping of Project deliveries with POs and PSOs

After finalization of the research problem along with the requirements of necessary hardware/ software, the expected deliverables of the project are mapped with POs and PSOs of relevance.

6. Project Registration and Reviews

- Students of each batch shall submit a registration form to the department; mentioning the details of the project such as 'Title of the Project', 'Particulars of Guide(s)', 'Place where the project will be carried out', 'Expected deliverables of the project with their mapping to POs and PSOs', 'Facilities required for carrying out the project including the requirements of hardware and software', 'Timeline of activities, indicating the various modules/phases of the project to be completed in a time frame'. In case students of any batch prefers to carry out their project outside the campus such as in industries or PSUs etc., they should get 'No Objection Certificate' from that company and provide details of the person who will be acting as external guide. This entire process has to be completed in the semester preceding to the semester in which the students are required to carry out their project work.
- After the allotment guides to the student batches, the students have to be in touch with the respective guides on a regular basis appraising the guide about the progress of the

project every week. For the projects carried out in industries the internal guide will be in contact with the external guide and monitors the progress of the project and makes visits to the industry if necessary.

- A project coordinator is appointed by the Head of the department who is responsible for planning, scheduling and execution of all the activities related to the student project work.
- During the first semester of the fourth year, each batch of students shall give a presentation (Major Project Seminar Presentation) covering various aspects about the execution of the project, which shall be evaluated internally for 100 marks, while the actual project work shall be carried out during the second semester of fourth year.
- Students of a project batch shall attend reviews regularly and give presentations with regard to the extent of work that is carried out, specifying the results obtained pertaining to the project.
- A Project Review Committee (PRC) composed of HoD, Project Coordinator, Senior faculty members and the respective Guide is formed to monitor the progress of the project work and to assess and evaluate the quality of the work during periodical reviews. The PRC also provides suggestions to the batches if necessary and assists them in the attainment of the expected project deliverables.
- During the first semester of fourth year, each batch of students shall give a presentation in the form of Major Project Seminar along with a report indicating the clear title of the proposed project, timeline of activities to be carried out, budget analysis, deliverables and other details of the project and present before a committee which shall be evaluated for 100 marks.
- Individual and team performances are evaluated by the project guide and Project Review Committee (PRC) during reviews.
- Upon completion of the project work after successful demonstration of the project; making successful reviews and getting approval from PRC; the project report shall be submitted to the department in line with the format and specifications stipulated by the department.
 - A project viva-voce will be conducted in the Semester End Examination (SEE) for 100 marks in the presence of an external examiner appointed by Chairperson, BoS, for the evaluation of the project.
 - Students are encouraged to participate in project competitions held inside and outside the college and are further encouraged publishing research papers in

Journals / Conferences. The project supervisor and the corresponding group head shall facilitate the students writing a paper to a journal or a conference.

7. Timeline of activities

Time frame given for the completion of various modules of the major project seminar and major project are indicated below and the same is intimated to the students.

Timeline	Module	Particulars of Task
Preceding Semester IV Year– I semester (within first 3 weeks)	Formation of Project Batches and Allotment of Guide	<ul style="list-style-type: none"> ● Announcement of Research areas of interest/ Definition of Research problems by faculty members ● Formation of Student Project Batches ● Allotment of Guide ● Registration of the Project ● Title of the Project along with other details such as Place of work, Requirements of Software/ Hardware along with expected project deliverables
6 th Week of the semester	First Review	<ul style="list-style-type: none"> ● Literature Survey – Identifying the problem
10 th Week of the semester		<ul style="list-style-type: none"> ● Submission of Abstract of the Project with expected deliverables
12 th Week of the semester	Major Project Presentation	<ul style="list-style-type: none"> ● Major Project Presentation – Complete details about the execution of the Project – Timeline of activities to be carried out – Deliverables of the Project
14 th Week of the semester	Major Project Report	<ul style="list-style-type: none"> ● Submission of Major Project Report after taking the suggestions from PRC and Guide
IV Year – II Semester 2 nd Week of the semester	First Review	<ul style="list-style-type: none"> ● About 25% of the work should be completed at the time of First Review. ● Presentation should be done before PRC with respect to progress of the project ● Work carried out will be assessed and evaluated; batch wise and also student wise ● Suggestions from PRC
4 th Week of the semester	Second Review	<ul style="list-style-type: none"> ● About 50% of the work should be completed at the time of Second Review. ● Presentation should be done before PRC with respect to progress of the project ● PRC monitors whether suggestions provided by PRC during earlier reviews have been considered or not ● Assessment and Evaluation by PRC ● Suggestions from PRC

6 th Week of the semester	Third Review	<ul style="list-style-type: none"> • About 75% of the work should be completed at the time of Third Review. • Chapters' names of the Project Report should be identified by this time • Presentation should be done before PRC with respect to progress made
8 th Week of the semester	Fourth Review	<ul style="list-style-type: none"> • The work should be completed at the time of Fourth Review. • The hardware projects should be shown in working condition and software based projects should be executed successfully • Presentation should be done regarding the results obtained with necessary Tables and Graphs before PRC • After obtaining satisfactory results the batch is permitted to make Project Report
10 th Week of the semester	Final Review	<ul style="list-style-type: none"> • A draft Project Report should be submitted at the time of Final Review. • PRC goes through the chapters of the report and also checks whether the format of the report made is in accordance with the specified format or not • PRC makes recommendations for any modifications of the report if necessary before giving a final clearance
12 th Week of the semester	Submission of Project Report	<ul style="list-style-type: none"> • Project Reports should be submitted in the department
14 th Week of the semester	Preparation of Journal Paper/ Conference Paper	<ul style="list-style-type: none"> • Taking advice/ help from the guide and group head in the preparation of Conference Paper or Journal Paper

8. Evaluation of Project Work

- ❖ There shall be a project seminar presentation in IV Year I semester. For the project Seminar, each batch of students shall collect the information/ literature on the project, identify the problem in consultation with the guide, and present a seminar, and prepare a report, which will be evaluated as CIE for 100 marks by the project seminar review committee. The committee shall consist of Head of the Department, the supervisor of project and two Professors/Associate professors of the department.

- ❖ Out of a total 100 marks allotted for the major project work, which shall be evaluated in IV-year II semester, 30 marks shall be for CIE (Continuous Internal Evaluation) and 70 marks for the SEE (End Semester Viva-voce Examination). The project viva-voce shall be conducted by a committee comprising an external examiner, Head of the Department and project supervisor. Out of 30 marks allocated for CIE, 15 marks shall be awarded by the project supervisor (based on the continuous evaluation of student's performance throughout the Project Work period), and the other 15 marks shall be awarded by a Departmental Committee consisting of Head of the Department and Project Supervisor, and two Professors/Assoc-Professors, based on the work carried out and the presentation made by the student during internal reviews (at least two internal reviews shall be conducted).

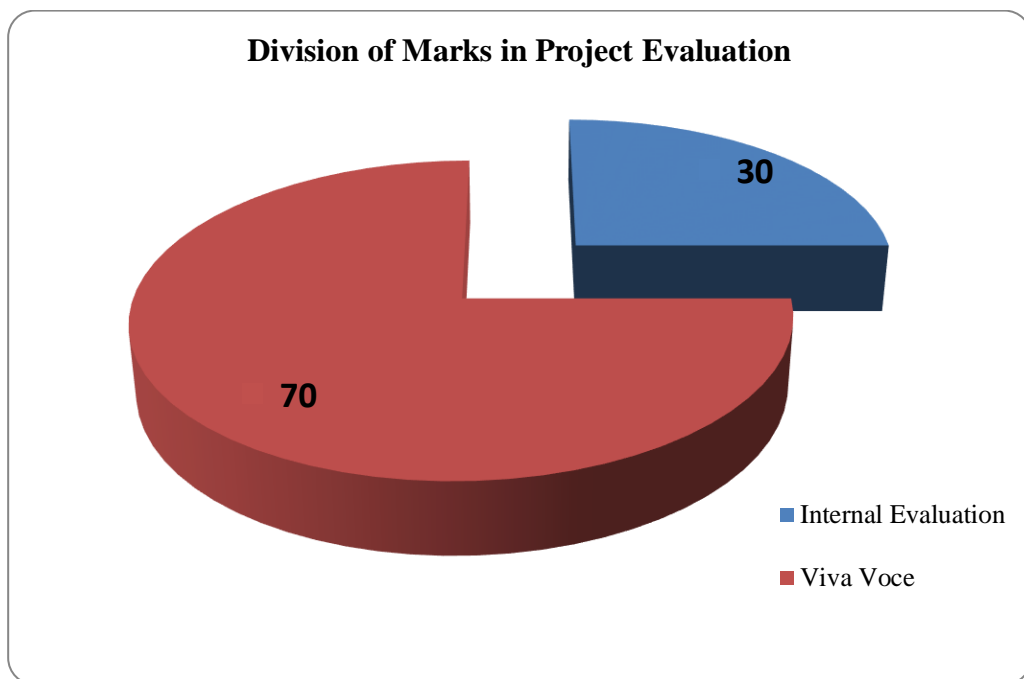


Fig. Division of Marks in Project Evaluation

9. Evaluation Parameters for assessment of Project Work:

The following parameters are considered for assessment of the project work

- Clarity in stating the objectives and purpose of the project work
- Clarity in defining the identified problem of the project work
- Justification of project with supporting design, analysis and modeling
- Whether the results are technically and economically feasible with effective conclusions / recommendations?

- Use of appropriate language/word choice, formatting, and writing conventions in the written project
- Adherence of the project report with the stipulated format and guidelines
- Whether factors such as environment, safety, ethics and cost have been considered in the selection of the project.
- Presentation skills exhibited during the reviews of project
- Individual and team performances in completion of the project work.
- Proper demonstration of the working model of the project

10. Best Projects:

- The department has taken initiative steps in identifying and rewarding the best major projects carried out during the final semester of B.Tech program.
- The major projects of the students are evaluated based on recent advancements in various domains of civil engineering. The best two projects are rewarded with cash prizes of Rs. 2,500 and Rs. 1,500 respectively.
- Identification of best projects is done by an internal evaluation committee composed of HOD, senior faculty and Project coordinator.

Rubrics for Evaluation of Major Project Seminar and Major Project Work

Rubrics for Evaluation of Project Work							
S. No	Parameter	Excellent (5)	Good (4)	Average (3)	Acceptable (2)	Unacceptable (1)	Score
1	Objectives and Purpose of the Project Identification and definition of Problem	Detailed and extensive explanation of the purpose and need of the project. Problem is accurately defined with supporting analysis.	Good explanation of the purpose and need of the project. Problem is well defined with good analysis	Moderate explanation of the purpose and need of the project. Problem is defined with sufficient analysis	Outline explanation of the purpose and need of the project. Problem is defined but not with supporting analysis	Minimal explanation of the purpose and need of the project. Problem is not defined accurately	
2	Literature Survey Study of the Existing Systems and their limitations	Detailed and extensive study and explanation of the limitations of the existing systems.	Great deal of information is collected and good study of the existing systems.	Moderate study of the existing systems; collects some basic information	Peripheral study on limitations of the existing systems Limited information	Minimal study on the limitations of the existing systems; incomplete information	

3	Deliverables of the Project Methodology of the Proposed Work	Deliverables of the Project are defined very accurately. Methodology to be followed is defined very clearly	Deliverables of the Project are defined to great extent. Methodology to be followed is specified but detailing is not done	Deliverables of the Project are defined in a reasonable manner Steps are mentioned but unclear; without justification to objectives	Project deliverables are not defined accurately. Steps to be followed to solve the defined problem are not specified properly	Not able to figure out the Project outcomes. Methodology of the proposed work is incomplete and improperly Specified.
4	Division of Modules Design/ Analysis and Modelling of the Project	Division of modules is done appropriately. Appropriate design methodology and properly justified	Division of modules is done appropriately Design methodology not properly justified	Division of problem into modules is done. Design methodology not defined properly.	Partial division of Problem into Modules. Methodology not defined properly	Division of Problem into Modules has not been done. Design methodology not specified
5	Planning of Project Work - Timeline Activities	Time frame properly specified and followed Appropriate distribution of project work	Time frame properly specified and Distribution of project work inappropriate	Time frame properly specified, but not followed Distribution of project work uneven	Time frame properly specified, but not followed Un-even distribution of project work and no synchronization	Time frame not properly specified. Inappropriate distribution of project work

6	Project Demonstration: Achievement of the Objectives and Functioning/ Working of the Project	All defined objectives are achieved. Each module is working well and properly demonstrated. All modules of project are well integrated and system working is accurate	All defined objectives are achieved. Each module is working well and properly demonstrated Integration of all modules not done and system working is not very satisfactory	All defined objectives are achieved Modules are working well in isolation and properly demonstrated Modules of project are not properly integrated	Some of the defined objectives are achieved Modules are working well in isolation and properly demonstrated Modules of project are not properly integrated	Defined objectives are not achieved. Modules are not in proper working form	
7	Presentation	Contents of presentation are appropriate and well delivered with clarity. Proper eye contact with audience and clear voice with good spoken language	Contents of presentation are good and well delivered Clear voice with good spoken language but less eye contact with audience	Contents of presentations are good but not delivered convincingly Eye contact with few people and unclear voice	Contents of presentations are not appropriate. Delivered with less confidence. Eye contact with few people and unclear voice	Contents of presentations are not appropriate and not delivered in acceptable manner. Eye contact with few people and voice is not audible.	

8	Project Report	Project report is very well organized with appropriate graphs and charts. Use of appropriate language/word choice, formatting, and writing conventions. Report is according to the specified format. References and citations are appropriate and well mentioned.	Project report is well organized with graphs and charts. Use of decent language/word choice and writing conventions. Report is according to the specified format. References and citations are well mentioned.	Project report is according to the specified format but the language used needs improvement. In-sufficient references and citations.	Project report is not fully according to the specified format and not organized in the expected manner. In-sufficient references and citations.	Project report not prepared according to the specified format. Language used is in correct. References and citations are not appropriate.	
9	Results and Discussion	Results are presented and justified in a very appropriate manner.	Results are presented and justified in good manner.	Results presented but not justified in a satisfactory manner.	Results are not accurate and justification is not appropriate.	Results are not presented properly.	
10	Conclusion	Project work is aptly summarized and concluded. Future extensions in the project are well specified.	Project work is well summarized and concluded. Future extensions in the project are specified.	Project work summary and conclusions are not completely appropriate. Future extensions in the project are specified.	Project work summary and conclusion are not very appropriate. Future extensions in the project are not specified.	Project work is not summarized and concluded. Future extensions in the project are not specified.	

2.2.4 Initiatives related to Industry Interaction:

Industry Institute Interaction Committee, composed of the following members, was set up for the Department of CE, GCET with the objectives and outcomes as envisaged below.

Objectives: To facilitate faculty and students to gain practical exposure to the industrial environment. The interaction will enable working on research topics which are of relevance to the industry, thereby providing a strong linkage, resulting in good employment opportunities to the students and taking up consultancy. This interaction will help in tailoring the curriculum as per needs of the industry.

Outcomes: Faculty and students gain broader exposure to the industrial environment so that they can understand the different types of problems being worked upon by the industry. This will enable the students to get absorbed in the industry smoothly and be productive from the very beginning. The technical lectures by the experts from the industry will strengthen the practical knowledge of the faculty members and students. The experts can also suggest research topics to the faculty leading to papers / publications / Ph.D which will potentially result in overall value addition to the Teaching Learning Process.

The process of Industry Institute Interaction is accomplished through following mechanisms:

- Conduct industrial visits to faculty and students
- Execute MoUs and encourage the students to work on Industry Oriented Mini Projects and Major projects
- Invite industry experts as resource persons to deliver guest lecturers in the college
- Encourage students to take up Internships in industry.
- Understand the industrial problems of relevance and encourage faculty and students to get associated with a collaborative consultancy / research effort.

Interaction with Industries

1. **Industry Expert as BoS Member:** A senior technical expert Er.P.SuryaPrakash Managing Director (SATYA VANI PROJECTS AND CONSULTANTS PVT.LTD.) with rich experience in industry has been nominated as one of the members in our Department BoS. The objective is to understand industrial requirements and the latest

trends from the technological / practical perspective and incorporate the right kind of courses in our curriculum to improve job opportunities to our students.

2. Faculty members possessing industrial experience inducted into the department:

Few faculty members possessing substantial industrial / research experience are recruited as faculty members to impart practical knowledge to the students which will help the students understand the concepts in a better way.

Profile of the faculty member with significant industry experience is given below:

Mr. V. Goutham, Senior Assistant Professor, worked for 3 years in Indu Aranya limited, Construction of Duplex villas and Laying of 220 K.V. underground Cable Project as Engineer(Civil). The activities included Checking Structural reinforcement, Concrete works and executing as per the specifications for villas, pump house, S.T.P (shell & core) works progress & quality control. Preparation of D.P.R & planning of works, Certification of the pour cards/checklists for concrete, shell and core works. Take site measurements, Certify R.A (running account) bills for all the internal and external works. Studying & executing the works as per the approved G.F.C. drawing from the design consultant.

3. Industrial visits of our students:

Summary of Industrial Visits of Students for AY 2023-24					
S.No	Year/Sem	Date of visit	Name of Industry visited	No. of Students	Faculty members accompanied
1	Faculty & student Visit	18/08/2023	Indian Green Building council, Hyderabad	50	02
2	B.Tech-II-CE	15/07/2023	Brick work of a residential building at Karmanghat, Hyderabad	20	02
3	B.Tech-II-CE	17/11/2023	Survey of India	18	02

Summary of Industrial Visits of Students for AY 2022-23					
S.No	Year/Sem	Date of visit	Name of Industry visited	No. of Students	Faculty members accompanied
1	B.Tech III year	3/2/2023	Sri Sai Metal industry (aggregate production plant),Ghatkesar,Hyderabad	61	4
2	B.Tech II year	24/12/2022	NAC(National Academy of Construction),Hyderabad	42	4

Summary of Industrial Visits of Students for AY 2021-22					
S.No	Year/Sem	Date of visit	Name of Industry visited	No. of Students	Faculty members accompanied
1	B.Tech III year	31/3/2022	Nilaya Architects Structural consultants & Construction, L.B.Nagar,Hyderabad	75	4
2	B.Tech II year	18/6/2022	Hella Infra Market Pvt.ltd.Peerzadiguda,Uppal circle	25	5

4. Guest Lectures Conducted

A.Y: 2023-2024						
S. No	Name of the Resource person	Designation and Organization	Date organized	Topic covered	Target Attendance	Activity
1	Shri. ANSP ShastryGaru,	Retd. Scientist, Bureau of Indian Standards	6.10.2023 (9.00AM to 2.30PM)	Expert lecture on " Indian standards"(World standards Day Celebrations)-2023	I, II, III Year	Expert lecture and Events (Essay writing, standard competition)
	Smt. ChVidisha Reddy,	Scientist-B, Asst Director, BIS.				
	Shri. Abhisai Etta	Standards Promotion Officer, Hyderabad Branch				
2	B. Santhosh	Manager, Canter CADD, ECIL	4.10.2023 (2.00PM to 3.30PM)	Expert lecture on "Awareness on Civil Engineering Software"	II Year	Expert Lecture
3	Er. Surya Prakash	Managing Director, Satyavani Projects and Constructions Pvt. Ltd.)	15.09.2023 (3.00PM to 4..30PM)	Civil Engineering as a Challenging Profession(Engineers Day)	I, II, III Year	Expert Lecture and Event
4	Er. N. SrinivasRao	Engineer, Ultra Tech Cements	09.09.2023 (1.45PM to 2.45PM)	Expert lecture on "Next Generation Concrete"	III, IV year	Expert Lecture
5	Er. C .Prashanth Kumar,	Deputy Geotechnical Engineer (Jacobs)	20/10/2023, (02:00 PM-03:30 PM)	Beyond the Degree: Navigating your career in Civil Engineering	I, II, III Year	Expert Lecture
	Er. M. Ambica	Project Engineer-II (Morrison Hershfield)				

6	1. B. Santhosh, 2. S. SaiMrudula, 3. B. Renuka	Trainer, CANTER CADD	02/01/2024, 03/01/2024, 04/01/2024, 08/01/2024, 09/01/2024, 10/01/2024, 11/01/2024	“Career opportunities for students of Civil Engineering” (Through extensive use of 'Revit Arch.' as a design tool)	IV year	Software Training Program
7	Ch Ravi Kumar	Senior Consultant, National Academy of Construction	23.02.2024	Emerging Technologies in Civil Engineering & Opportunities for Civil Engineering Graduates	All students	Guest Lecture

A.Y: 2022-2023

S. No	Name of the Resource person	Designation and Organization	Date organized	Topic covered	Target Attendance	Activity
1.	Dr.N R Dakshina Murthy	Associate Professor, CBIT,Hyderabad.	26-08-2022	NDT and Structural Rehabilitation Case studies	II, III and IV	Expert Lecture
2.	Mr.S.Mani Mohan Trinath	Managing Director, ACE Academy	30.08.2022	How to crack ESE/ GATE/PSUs in First Attempt?	III and IV	Guest Lecture
3.	Er. S. B. Shankar Rao	Retired Sp. Engineer	15.09.2022	Role of a Civil Engineer in the world	III and IV	Expert Lecture
4.	Ch Ravi Kumar	Senior Consultant, National Academy for Construction	21.10.2022	Opportunities for Civil Engineering Students	III and IV	Student Development Program
5.	Indrasen Singh	Director of Academics Affairs, NICMAR, Hyderabad	03.02.2023	To develop awareness on career opportunities in techno management sector	III and IV	Student Development Program
6.	B. Santhosh	Manager, Canter CADD, ECIL, Hyderabad	17.04.2023 AN: 1.30pm-3.30pm	Role of Engineering Software's for enhanced placements	III year	Expert Lecture
7.	-	-	03/02/2023 AN 6.00PM to 6.15PM	A National Level Quiz Competition on "Cyber Security Awareness, ThinkB4Uclick"	II, III and IV	National Level Quiz Competition
8.	-	-	31/03/2023 10.00AM to 3.30PM	Wall Painting Competition	III and IV	Wall Painting Competition

9.	-	-	18/04/2023 AN 3.00Pm to 3.15PM	Quiz Competition (offline) on “Cyber Security Awareness, ThinkB4Ulick”	all	Offline Quiz competition of B. Tech Civil Engineering Students
10.	Ms. Sri Rekha	Senior Consultant, Indian Green Buildings Council Of Confederation of Indian Industry	02/05/2023 AN: 1.30PM to 3.30PM	Green Building Movement, Green Education & Opportunities.	Civil 2nd & 4th Year, CSE, AIML, DS, CS 3rd year students	Expert Lecture
11.	Dr. N. SrinivasaRao	Scientist E at Indian National Center for Ocean Information Services (INCOIS)	05/06/2023 AN: 2.30PM to 4.00PM	The role of satellite technology in monitoring environmental pollutants and pollution	Civil , CSE, AIML, DS, CS 1st year students	Expert Lecture

A.Y: 2021-2022

S. No	Name of the Resource person	Designation and Organization	Date organized	Topic covered	Target Attendance	Remarks
1	Dr. C. Lavanya	Associate Professor, VNR VJIET	05-08-2021	Overview of Ground Improvement Techniques in Civil Engineering	III and IV	Expert Lecture
2	Ravikanth Chittiprolu	Managing partner, Nilaya Architects, Structural consultant and construction	23-03-2022	Entrepreneurship in civil engineering & Awareness on civil engineering software's	II, III and IV	Expert Lecture

A.Y: 2020-21					
S. No	Name of the Resource person	Designation and Organization	Date organized	Topic covered	Target Attendance
1	Mr. NVL Krishna Prakash	Star Educator, South India Civil Engineering Head, Unacademy.	09.01.2021	“Awareness on GATE” Why GATE? and How to prepare? Subject wise analysis	III year (Section A&B)
2	Mr. P. SaiCharan	Trainer, Canter CADD, ECIL, Hyderabad	17.03.2021 FN: 9.00am-12.30Pm	ETABS-Software	III year (Section A&B)
3	B. Santhosh	Manager, Canter CADD, ECIL, Hyderabad	17.03.2021 AN: 1.30pm-3.30pm	REVIT-Software	III year (Section A&B)
4	Prof. M. R. Madhav	IIT Kanpur	24.03.2021 AN: 2.30pm-4.00pm	Geotechnical Challenges-Case Histories	II, III & IV year
5	Dr. Rajesh Sathyamurthi	IIT Kanpur	31.03.2021 FN: 10.30am-12.30Pm	Ground Improvement by Geo Synthetic Encased Stone Columns	III & IV year
6	Shyamala Devi	Trainer, CAD DESK	05.04.2021	Role of Software’s in Civil Engineering field	III year (Section A&B)
7	K. Madhusudan Reddy	Professor, Anurag University, Hyderabad	29.05.2021, Time: 11.00am to 12.30pm	“Importance of Site investigation in Civil Engineering”	II, III, IV Year

Faculty Development Programs

A.Y: 2021-2022						
S. No	Name of the Resource person	Designation and Organization	Date organized	Topic covered	Target Attendance	Remarks
1.	Dr. P. Dilip Kumar,	Mahindra EcoleCentrale, Hyderabad.	20-25 Sept. 2021	Smart Infra structures using Sensors	220	FDP
2.	Dr.PrafullaKalapatapu	Mahindra EcoleCentrale, Hyderabad.		Applications of Artificial Intelligence (AI) in Civil Engineering	220	FDP
3.	Dr. K. V. Jaya Kumar	Professor, NITW		Softwares in Water Resources Engineering	220	FDP
4.	Dr. S. Bhuvaneshwari	Associate ProfessorSRM Institute of Science and Technology, Kattankulathur		Soil modelling and parameters for numerical modelling in geotechnical applications	220	FDP
5.	Dr.Vinayaka Ram	Professor, BITS Pilani, Hyderabad.		HDM Application to Pavement Management System	220	FDP
6.	Mr. Shiva Rami Reddy,	Structural Consultants, GAMBREL ENGINEERS LLP, Hyderabad		Computer Applications in Foundation Design	220	FDP

5. Memorandum of Understanding (MoU) for Collaboration with Industry and Impact of Interaction

S.No.	Name of Industry	Date	Impact of Interaction
1.	GAMUT INDIA PROJECTS KNR GAMUT SQUARE, 100' ROAD, near YSR STATUE, VIP Hills, Jaihind Enclave, Madhapur, Hyderabad, Telangana 500081	2/3/2024	<ul style="list-style-type: none"> ● Consultancy service are rendered ● Facilitate field visits ● Expert lectures by imparting knowledge and skills in emerging areas of Civil engineering
2.	SMART INFRA STRUCTURAL ENGINEERING SERVICES TRUST(SIE) Kushal Towers, A-203, Taj Enclave, Khairtabad, Hyderabad, Telangana 500004	8/12/2023	<ul style="list-style-type: none"> ● Facilitate conducting of technical events, seminars, competitions, skill development programmes ● Conduct training classes live online through LEAP ● Provide Internships, Coordinate Projects and provide placements opportunities through SHARP. ● Provide Career counselling through SIMULATION. ● Encourage Start-ups through IN³.
3.	NATIONAL ACADEMY OF CONSTRUCTION(NAC), NAC Campus, Kothaguda(Post), Cyberabad, Hyderabad-84.	08/12/2022	<ul style="list-style-type: none"> ● Provides training to Civil Engineering Students in the area of latest technologies. ● Use of laboratory facilities at NAC for conducting combined research work of students to do summer internship. ● Expert lectures by imparting knowledge & skills in emerging areas of Civil engineering.
4.	Nilaya Architects, Structural consultants & Constructions, 3rd Floor, Plot no 2, shivalasyam Complex, TelanganaChourasta, BN Reddy Nagar, Hyderabad Telangana, India	23/03/2022	<ul style="list-style-type: none"> ● Provide Internships/Project works/Industrial visits etc. ● Provide Industrial training for faculty and students. ● To undertake consultancy and joint R&D projects

6. Workshops conducted for students in association with industries:

S. No	Name of the Resource person	Designation and Organization	Date organized	Topic covered	Target Attendance	Activity
1.	1. B. Santhosh, 2. S. Sai Mrudula 3. B. Renuka	Trainer, CANTER CADD	05.08. 2023, 12.08.2023, 19.08.2023, 09.09.2023, 15.09.2023, 16.09.2023, 04.10.2023	“Career opportunities for students of Civil Engineering” (Through extensive use of 'Sketchup' as a design tool)	II year (31)	Software Training Program
2.	Mr.Gladvin	Nilaya Architects, Structural consultant and construction	04.07.2022- 14.07.2022	Revit Architecture Training Program	III Year	Software Training Program

2.2.5 Initiatives related to industry/internship/summer training (10)

(Mention the initiatives, implementation details and impact analysis)

Initiatives:

Students are encouraged to undergo industry internship or summer training during their vacation period to get a good exposure to the real-world problems and issues that perhaps are not found in textbooks. Students get exposed to corporate culture while undergoing the internship or summer training. Students get an opportunity to work on sophisticated equipments and software tools that perhaps would be difficult for the institutions to purchase. Internships cultivate adaptability and creativity in a dynamic world. Under AR16 Regulations, internship was not mandatory for the students. However students were advised to take up the internships during summer vacations and as a result, a good number of students have done their internships in various public sector units or private industries. In our Autonomous curriculum AR-18, II-year students have to undergo summer internship as a compulsory course.

Implementation:

The student shall carry out internship immediately after second year second semester examinations and pursue it during summer vacation for duration of four weeks. Students are required to take permission from the department to undergo internship or summer training

after identifying the industry and the area in which he/she wants to undergo the internship training. After successful completion of the training, each student is required to prepare and submit the report along with a presentation before the Department Evaluation Committee. The committee shall consist of the Head of the Department, the supervisor allocated for the internship, and two Professors / Assoc-Professors of the department. The committee evaluates the internship based on the following parameters (rubrics).

- i. Skills acquired during internship
- ii. Use of modern equipment or software tools during internship
- iii. Organization of the report
- iv. Timely submission of report
- v. Presentation Skills

Criteria	Weightage %	Marks 100	Very Good 80-100%	Good 60-79%	Satisfactory 40-59%	Needs Improvement 0-39%
Contents from Title Page to Abstract	10%	10	All required information, detailed and well written abstract.	Most of required information. Abstract is reasonably good.	Required information; But not well written and is incomplete.	Missing Information and/or no abstract.
Organization of the report	10%	10	Proper formatting, sections clearly labelled, well-organized, professional style.	Proper formatting withlabelled sections	Some formatting errors or missing sections	Multiple formatting errors or missing sections.
Topics and Quality of Information	15%	15	All of the suggested topics are covered in good detail and specific to abstract	At least 4 of the suggested topics are covered ingood detail. Some details are vague and do not support the topic.	Focused on only one topic in good detail or at least 3 topics with partial details. Details somewhat sketchy do not supportthe topic.	Insufficient number of topics and unable to find specific details.
Grammar and Spelling	5%	5	Noerrors	Only one or two errors	More than two errors	Numerous errors distract the understanding
Skills acquired during internship	25%	25	Skills are acquired with utmost clarity and demonstrated them correctly and confidently	Skills are acquired at a basic level and demonstrated them correctly	Skills are acquired at a basic level with some ambiguities and some level of difficulty to demo	Ambiguous approach to learn the skills and no focus
References	5%	5	Multiple references appropriately placed, formatted correctly.	References limited, format mostly correct.	References sparse, poor formatting	Noappropriate references
Timely submission of report	10%	10	Submitted on time with no need of corrections and without any reminders.	Submitted with a delay of one week with all recommended corrections done	Submitted with a delay of one week with at least 50% of recommended corrections done	Did not submit even after reminder

<p>Presentation to Evaluation Committee</p>	<p>20%</p>	<p>20</p>	<p>PPT has all needed slides that are logically sequenced Content is covered well highlighting skills acquired during internship. Confidence is clearly visible Oral communication is well modulated Answered the questions posed by the evaluation committee.</p>	<p>PPT has most of the needed slides. Logical sequence can be refined. Content coverage is good. Confidence is good. Oral communication is reasonably modulated Attempted answering of the questions posed by the evaluation committee.</p>	<p>PPT has the needed slides, but not structured well. Content is covered satisfactorily. Confidence can be improved. Oral communication is satisfactory. Tried to understand the questions posed by evaluation committee</p>	<p>PPT has insufficient slides and has no structure in place. Content coverage is haphazard. Low confidence is clearly visible Oral communication needs lot of improvement Indifferent to understand the questions posed by evaluation committee</p>
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Impact Analysis

Impact of internship is analysed on the following lines:

a) Feedback from students:

After successful completion of internship, feedback is taken from each student on a scale of 1 to 5, on the following aspects to measure the impact of internship.

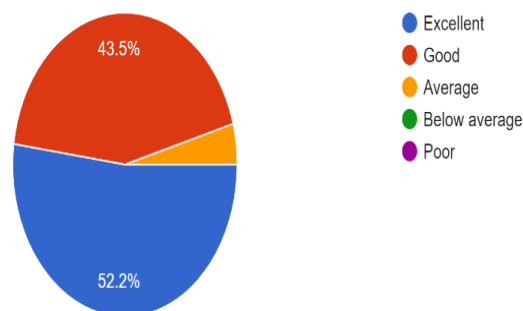
1. This experience gave me a realistic preview of my field of interest
2. As a result of my internship, I have a better understanding of concepts, theories, and skills in my course of study.
3. I was given adequate training.
4. There were ample opportunities for learning.
5. Through this internship I had the opportunity to use and develop my.
6. Overall how would you rate this Internship learning experience?

5: Fully agree; 4: Agree to a large extent; 3: Agree partially; 2: Not agree; 1: Completely disagree

Impact Analysis for the Academic Year 2023-24

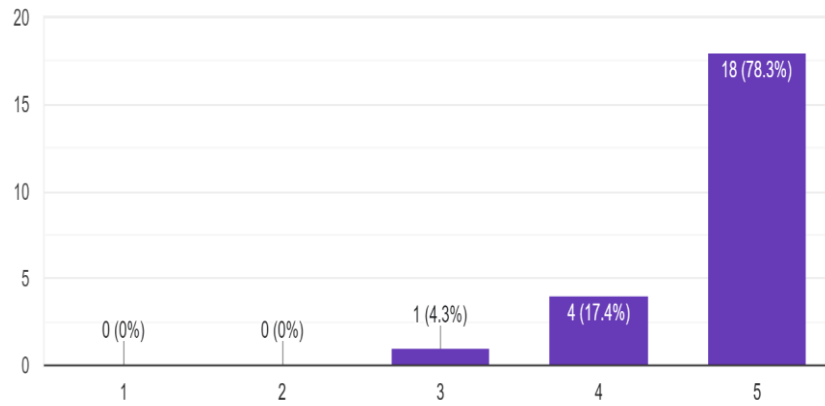
Overall how would you rate this Internship learning experience?

23 responses



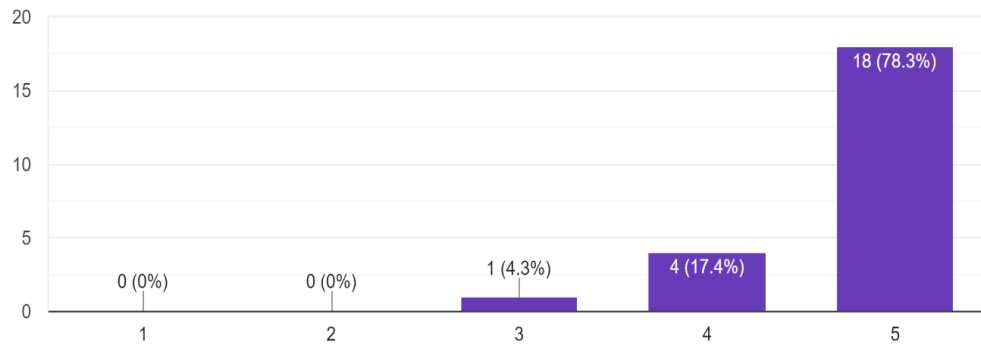
This experience gave me a realistic preview of my field of interest

23 responses



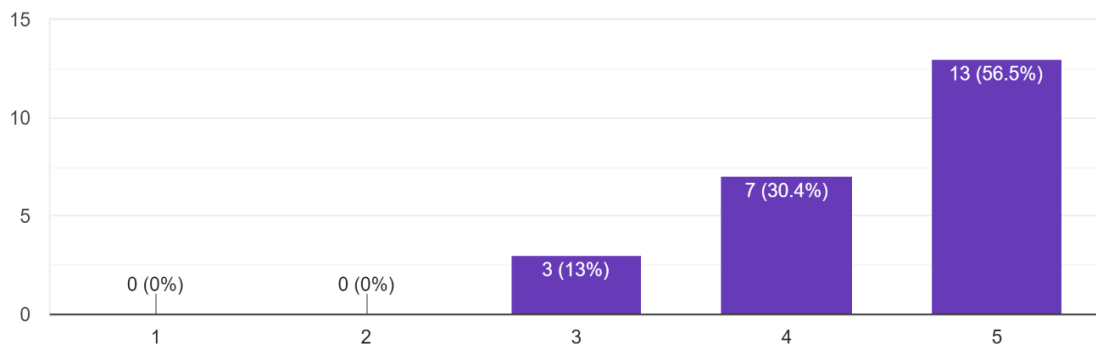
As a result of my internship, I have a better understanding of concepts, theories, and skills in my course of study

23 responses



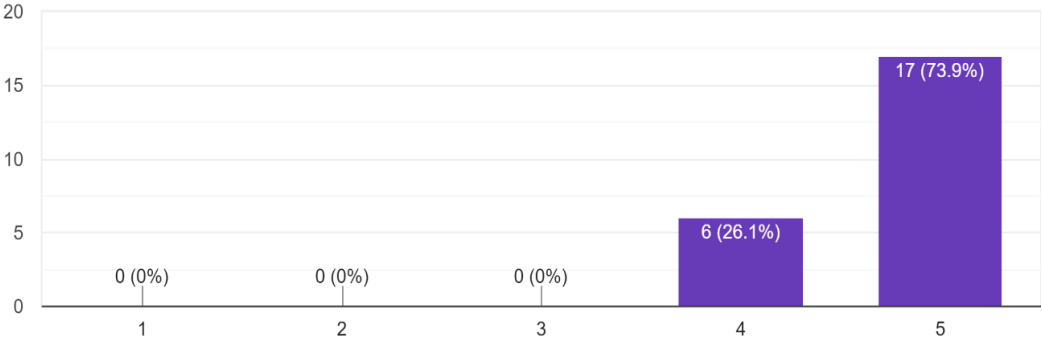
I was given adequate training

23 responses

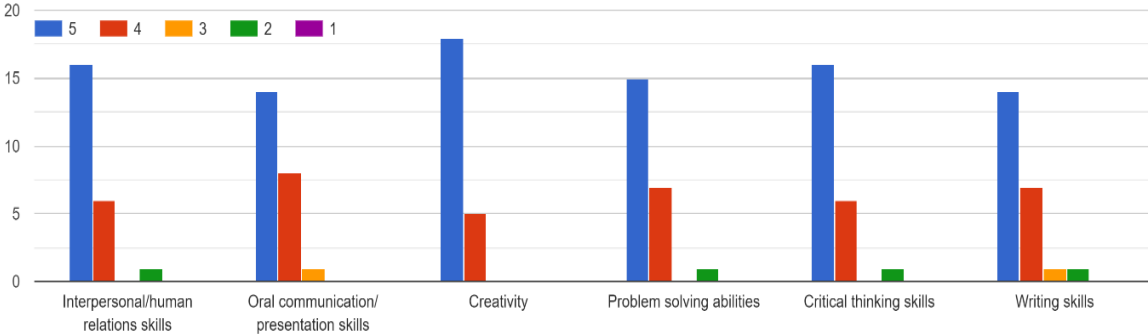


There were ample opportunities for learning

23 responses



Through this internship I had the opportunity to use and develop my



3.1. Establish the correlation between the courses and the Program Outcomes (POs) & Program Specific Outcomes (PSOs) (25)

- NBA defined Program Outcomes (POs) as mentioned in Appendix I of SAR and Program Specific Outcomes (PSOs) as defined by the Program. Six to ten matrices of core courses are to be mentioned with at least one per semester.*
- Select core courses to demonstrate the mapping/correlation with all POs and PSOs.*
- Number of Outcomes for a Course is expected to be around 6.*

(A) Program Outcomes (POs):**Engineering Graduates will be able to:**

PO 1: Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

PO 2: Problem analysis: Identify, formulate, review research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

PO 3: Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO 4: Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO 5: Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.

PO 6: The Engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO 7: Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO 8: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO 9: Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO 10: Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO 11: Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO 12: Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

(B) Program Specific Outcomes (PSOs):

PSO 1: Apply knowledge in core areas of Civil Engineering such as Structural, Geotechnical, Water Resources, Transportation and Environmental Engineering to Civil Engineering practice.

PSO 2: Utilize Civil Engineering principles that are appropriate to produce detailed drawings, design reports, quantity and cost estimates, specifications, contracts and other documents appropriate for the design, construction, operations and maintenance of Civil Engineering projects.

PSO 3: Shall interact and collaborate with stakeholders; execute quality construction works applying Civil Engineering tools namely, Total Station, Global Positioning System (GPS), ArcGIS, AutoCAD, STAAD and other necessary tools.

Table B. 3.1a: Program Articulation Matrix

Course number	Course Code	Course Name	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
C211	18CE2101	Surveying	2.8	2.2	2.7	2.5	2.0	2.2	-	2.0	-	-	-	2.5	3.0	3.0	2.5
C221	18CE2203	Hydraulics and Hydraulic Machinery	3.0	2.2	2.4	2.0	-	-	-	1.0	-	-	-	-	2.8	2.0	-
C311	18CE3102	Concrete Technology	3.0	2.5	3.0	2.0	-	2.6	2.0	2.0	-	-	-	2.4	3.0	2.6	3.0
C321	18CE3202	Transportation Engineering	3.0	2.3	1.6	2.6	-	2.5	2.0	1.6	-	-	-	2.0	3.0	2.3	2.0
C411	18CE4102	Environmental Engineering	2.2	2.4	2.4	2.4	2.4	2.2	2.4	-	-	-	-	1.8	2.0	1.5	-
C421	18CE4201	Estimation and Costing	2.8	1.2	-	1.7	-	2.5	-	2.5	-	-	2.5	2.0	2.8	2.8	-

Table B. 3.1b: Course Articulation Matrix (Six matrices to be mentioned; one per semester from 3rd to 8th semester)

Regulation: AR18		Year & Sem: II Year I Semester							Course Name: 18CE2101-Surveying							
CO	Statement	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
C211.1	CO1: Explain the principles and classifications of plane surveying.	2.0	-	-	-	-	2.0	-	-	-	-	-	-	3.0	-	-
C211.2	CO2: Perform simple levelling operations and plotting of contour maps.	3.0	2.0	2.0	3.0	-	2.0	-	2.0	-	-	-	2.0	3.0	3.0	2.0
C211.3	CO3: Determine horizontal and vertical angles using theodolite and apply the concepts of trigonometric levelling and tacheometric surveying.	3.0	2.0	3.0	3.0	-	2.0	-	2.0	-	-	-	2.0	3.0	3.0	2.0
C211.4	CO4: Compute areas and volumes of regular and irregular field boundaries and determine the capacity of a reservoir.	3.0	2.0	-	2.0	-	2.0	-	2.0	-	-	-	3.0	3.0	3.0	3.0
C211.5	CO5: Design simple and compound curves and understand the applications of Total Station, GPS, Remote sensing and GIS.	3.0	3.0	3.0	2.0	2.0	3.0	-	2.0	-	-	-	3.0	3.0	3.0	3.0
AVERAGE		2.8	2.2	2.7	2.5	2.0	2.2	-	2.0	-	-	-	2.5	3.0	3.0	2.5

Regulation: AR18		Year & Sem: II Year II Semester							Course Name: 18CE2203- Hydraulics and Hydraulic Machinery							
CO	Statement	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
C221.1	CO 1: Design the most economical channel section using Chezy's and Manning's formulae.	3.0	2.0	2.0	2.0	-	-	-	1.0	-	-	-	-	2.0	2.0	-
C221.2	CO 2: Compute flow profiles in channel transitions and analyze hydraulic transients; Apply dimensional analysis to solve fluid flow problems and plan hydraulic similitude studies.	3.0	3.0	2.0	2.0	-	-	-	-	-	-	-	-	3.0	2.0	-
C221.3	CO 3: Evaluate the performance of vanes due to hydrodynamic forces acting on it.	3.0	2.0	2.0	2.0	-	-	-	-	-	-	-	-	3.0	2.0	-
C221.4	CO 4: Design components of turbines and study their performance characteristics.	3.0	2.0	3.0	2.0	-	-	-	1.0	-	-	-	-	3.0	2.0	-
C221.5	CO 5: Design components of pumps and study their performance characteristics; Explain basic concepts in Hydropower engineering	3.0	2.0	3.0	2.0	-	-	-	1.0	-	-	-	-	3.0	2.0	-
AVERAGE		3.0	2.2	2.4	2.0	-	-	-	1.0	-	-	-		2.8	2.0	-

Regulation: AR18		Year & Sem: III Year I Semester							Course Name: 18CE3102 – Concrete Technology							
CO	Statement	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
C311.1	CO 1: Identify the various engineering properties and usage of cement.	3.0	-	-	-	-	2.0	2.0	-	-	-	-	2.0	3.0	2.0	-
C311.2	CO 2: Classify the various engineering properties and usage of aggregates.	3.0	-	-	-	-	2.0	2.0	-	-	-	-	2.0	3.0	3.0	-
C311.3	CO 3: Assess the workability of fresh concrete under various environments.	3.0	-	-	-	-	3.0	-	2.0	-	-	-	2.0	3.0	3.0	-
C311.4	CO 4: Determine the strength properties of hardened concrete.	3.0	2.0	-	-	-	3.0	-	2.0	-	-	-	3.0	3.0	3.0	3.0
C311.5	CO 5: Design the desirable concrete mix and evaluate the concrete required for special environmental conditions.	3.0	3.0	3.0	2.0	-	3.0	2.0	2.0	-	-	-	3.0	3.0	2.0	-
AVERAGE		3.0	2.5	3.0	2.0	-	2.6	2.0	2.0	-	-	-	2.4	3.0	2.6	3.0

Regulation: AR18		Year & Sem: III Year II Semester							Course Name: 18CE3202- Transportation Engineering							
CO	Statement	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
C321.1	CO 1: Explain the importance of highway development in India and the principles of Highway alignment.	3.0	-	-	2.0	-	3.0	2.0	2.0	-	-	-	2.0	3.0	3.0	3.0
C321.2	CO 2: Design the various geometric elements of a highway system.	3.0	3.0	2.0	-	-	-	-	2.0	-	-	-	2.0	3.0	-	-
C321.3	CO 3: Analyze the traffic flow parameters and conduct various traffic studies.	3.0	2.0	1.0	3.0	-	2.0	-	2.0	-	-	-	2.0	3.0	-	2.0
C321.4	CO 4: Develop an understanding of highway material characterization and methods of road construction.	3.0	2.0	2.0	3.0	-	-	-	1.0	-	-	-	2.0	3.0	2.0	-
C321.5	CO 5: Explain the permanent way components and functions	3.0	-	-	-	-	-	2.0	1.0	-	-	-	2.0	3.0	2.0	1.0
AVERAGE		3.0	2.3	1.6	2.6	-	2.5	2.0	1.6	-	-	-	2.0	3.0	2.3	2.0

Regulation: AR18		Year & Sem: IV Year I Semester							Course Name: 18CE4102 - Environmental Engineering							
CO	Statement	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
C411.1	CO1: Explain concepts of water supply engineering and population forecasting.	3.0	2.0	2.0	3.0	1.0	3.0	3.0	-	-	-	-	2.0	3.0	-	-
C411.2	CO2: Design a drinking water treatment plant to meet societal needs.	2.0	3.0	3.0	2.0	2.0	2.0	2.0	-	-	-	-	2.0	2.0	1.0	-
C411.3	CO3: Select suitable water distribution layout and design it for a community.	2.0	2.0	2.0	2.0	3.0	2.0	2.0	-	-	-	-	1.0	1.0	1.0	-
C411.4	CO4: Explain wastewater characteristics and design a sewerage network with suitable sewer appurtenances from collection to disposal of sewage.	2.0	2.0	2.0	3.0	3.0	2.0	3.0	-	-	-	-	2.0	2.0	2.0	-
C411.5	CO5: Design Sewage treatment plant (STP) and solids handling system.	2.0	3.0	3.0	2.0	3.0	2.0	2.0	-	-	-	-	2.0	2.0	2.0	-
AVERAGE		2.2	2.4	2.4	2.4	2.4	2.2	2.4	-	-	-	-	1.8	2.0	1.5	-

Regulation: AR18		Year & Sem: IV Year II Semester							Course Name: 18CE4201-Estimation and Costing							
CO	Statement	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
C421.1	CO 1: Explain various estimation methods and standard principles.	2.0	-	-	-	-	-	-	-	-	-	-	2.0	2.0	2.0	-
C421.2	CO 2: Perform detailed estimation of buildings and Reinforcement bar bending	3.0	1.0	-	1.0	-	2.0	-	2.0	-	-	-	1.0	3.0	3.0	-
C421.3	CO 3: Prepare earthwork quantity for roads and canals	3.0	1.0	-	1.0	-	2.0	-	2.0	-	-	-	1.0	3.0	3.0	-
C421.4	CO 4: Analyze rates for various items of works in Civil construction	3.0	2.0	-	3.0	-	3.0	-	3.0	-	-	2.0	3.0	3.0	3.0	-
C421.5	CO 5: Explain the various types of contracts and valuation of building	3.0	1.0	-	2.0	-	3.0	-	3.0	-	-	3.0	3.0	3.0	3.0	-
AVERAGE		2.8	1.25	-	1.7	-	2.5	-	2.5	-	-	2.5	2.0	2.8	2.8	-

Note: Enter correlation levels 1,2 or 3 as defined below:

1: Slight (Low)

2: Moderate (Medium)

3:Substantial(High)

3.2. Attainment of Course Outcomes (75)

3.2.1. Describe the assessment tools and processes used to gather the data upon which the evaluation of Course Outcome is based (10)

(Describe different assessment tools (semester end examinations, mid-semester tests, laboratory examinations, student portfolios, etc) to measure the student learning and hence attainment of course outcomes. (Student portfolio is a collection of artifacts that demonstrate skills, personal characteristics and accomplishments created by the student during study period.)

Course Outcomes are statements on what the students are expected to attain at the end of the course. Attainment of course outcomes is measured through direct and indirect assessment.

Assessment is a:

- Tool which facilitates the teacher to gain information with regard to the comprehension levels of student learning.
- Tool that improves teaching learning process.
Fulfils two-fold objectives, namely,
 - It enables the teachers to understand whether the student assessment aligns with the curriculum goals and objectives
 - Provides opportunities to improve pedagogical practices.

Direct assessment of COs

- For Theory courses: The direct assessment is carried out by using the performance data of the students in
 - Assignments (5 No.).
 - Tutorials (5 No.)
 - Mid-term examinations (2 No.), and
 - Semester End Examination.
- For Laboratory Courses: The direct assessment is carried out by collecting the following data of the students
 - Continuous Internal evaluation for each experiment
 - Performance in internal laboratory examinations (2 No.), and
 - Performance in semester end examination.
- Semester End Examination (SEE) is conducted and evaluated by the external Evaluators from reputed affiliated colleges.

- The examination branch of the college provides question wise marks for internal and external examinations for assessment of course outcomes is carried out by the respective course coordinators along with course instructors based on the students performance.

Indirect assessment of COs: It is carried out through

- Course end survey analysis and
- Feedback on Teaching Learning Process
- Class review committee meetings are also conducted immediately after the completion of each unit and feedback is collected and passed on to the concerned teacher who adjusts their Pedagogy accordingly.
- Course End Survey form has closed ended and open ended questions.
 - The closed ended questions provide information on course outcomes and general objectives on a scale of 1-5*
 - The open ended questions are centered on student's suggestions for improving the course.
 - The appropriate blend of closed ended and open ended questions provides constructive feedback on the objectives and outcomes achieved in a particular course.
 - *5 – Excellently achieved, 4 – Very well achieved, 3-Achieved to a large extent, 2 – Moderately achieved, 1 – Poorly achieved.

Table B.3.2.1a: Indicates assessment criteria for each Theory course and its outcomes

CO	Assessment		Assessment Tool	Assessment Criteria	Data Collection
Course Code/ Name	Direct Assessment (75%)	Internal Assessment (40%)	Continuous internal evaluation (10%)	Maximum marks per assignment = 5 Target: 3 Marks i.e. greater than or equal to 60% of total marks.	Two times in a semester per course
			Mid Term examinations (30%)	No. of Mid Exams (Subjective and Objective) = 2 per course Subjective exam Maximum marks = 15 Objective exam Maximum marks = 10 Subjective Exam Target = 60% of maximum marks. Objective Exam Target = 60% of maximum marks	Twice in a semester per course
		External Assessment (60%)	Semester End examinations (60%)	Semester End exam Maximum marks = 70 Subjective End Exam Target = 60% of maximum marks.	Once in a Semester per course
	Indirect Assessment (25%)	Class Review committee (40%)	Learning outcomes of each unit in each course	Class Review committee analysis at the completion of each unit	Unit wise five times in a semester per course
		TLP Feedback (40%)	Teaching Learning Process feedback	Feedback on TLP from students by IQAC	Twice in a Semester per course
		Course End Survey (20%)	Course outcome feedback	Course end survey analysis at the end of semester	Once in a Semester per course

Table B.3.2.1 b: Indicates assessment criteria for each Lab course and its outcomes

CO	Assessment		Assessment Tool	Assessment Criteria	Data Collection
Lab Code/ Name	Direct assessment (75%)	Internal Assessment (40%)	Mid Term examinations (40%)	No. of Mid Exams = 2 per lab Maximum marks = 30 40% of marks awarded in internal (Mid Term)	Twice in a semester per course
		External Assessment (60%)	Semester End examination (60%)	Maximum marks = 70 60% of the marks awarded in the Semester End Examination	Once in a Semester per course
	Indirect Assessment (25%)	Class Review committee (40%)	Learning outcomes of each unit in each course	Class Review committee analysis at the completion of each unit	Unit wise five times in a semester per course
		TLP Feedback (40%)	Teaching Learning Process feedback	Feedback on TLP from students by IQAC	Twice in a Semester per course
		Course End Survey (20%)	Course outcome feedback	Course end survey analysis at the end of semester	Once in a Semester per course

Table B.3.2.1c: Direct Assessment tools for Theory courses:

Assessment Tool		Weightage	Target	Frequency	Description	Attainment Levels*
Internal	Subjective	20%	60% of Maximum marks	Twice per Semester	<ul style="list-style-type: none"> ➤ Subjective Internal exam is used to assess higher order learning levels of Bloom's Taxonomy namely, design, analysis and comprehension of the course. ➤ The assessment is based on 60% of maximum marks obtained by the student in examinations, which are conducted for 15 marks. 	Assessed in three levels namely 1, 2 and 3 as Low, Medium and High respectively
	Objective	10%	60% of Maximum marks	Twice per Semester	<ul style="list-style-type: none"> ➤ Objective Internal exam is used to assess lower order levels of Bloom's Taxonomy namely define, understanding and application of concepts. ➤ The assessment is based on 60% of maximum marks obtained by the students, which are conducted for 10 marks. 	
	Assignments	10%	60% of Maximum marks	Five per Semester	<ul style="list-style-type: none"> ➤ Students are assessed for higher order learning levels of Bloom's Taxonomy. ➤ Assignments are to assess students' knowledge of engineering fundamentals and problem solving ability. ➤ Assignment component is for 5 marks. ➤ The assessment is based on 60% of max. marks obtained by the student 	
External Semester End Examination	60%	60% of Maximum marks	One Per Semester	<ul style="list-style-type: none"> ➤ External exam is descriptive in nature ➤ External exam is to assess all learning levels of Bloom's Taxonomy ➤ It is conducted for 70 marks 		

Table B.3.2.1 d: Direct Assessment tools for Laboratory courses

Assessment Tool		Weightage	Target	Frequency	Description	Attainment Levels*
Internal	Laboratory	40%	60% of Maximum marks	Twice Per Semester	<ul style="list-style-type: none"> ➤ It is to assess various learning levels of Bloom's taxonomy. ➤ Assessment is for 30 marks ➤ From the average of two examinations conducted for 15 marks ➤ Continuous internal evaluation is for 15 marks 	Assessed in three levels namely 1, 2 and 3 as Low, Medium and High respectively
External	Laboratory	60%	60% of Maximum marks	One Per Semester	<ul style="list-style-type: none"> ➤ It is to assess various learning levels of Bloom's taxonomy. ➤ Assessment is for 70 marks. 	

Table B.3.2.1e: Indirect Assessment

Assessment tool	Weightage	Frequency	Description
Class review committee	40%	After the completion of each unit per course	Class review committee meetings are conducted immediately after the completion of each unit.
Teaching Learning process feedback	40%	Twice in a semester per course	Online Feedback on teaching learning process is taken by IQAC, twice in a semester before the commencement of mid-term examinations.
Course End Survey	20%	Once in a Semester per course	A course end survey feedback will be taken from the students at the end of every semester.

**Procedure for measuring the attainment of Course Outcomes (COs)
(Till Academic Year 2019-2020)**

For measuring the attainments of COs of a theory course, the **targets** for the attainment are fixed as indicated below:

- **Mid Paper Subjective:** 60% of maximum marks
- **Assignments and Tutorials** (if any): 60% of maximum marks (3 marks out of 5)
- **Mid Paper Objective:** 60% of maximum marks (6 marks out of 10) (Should consider all the students who attended the exam)
- **Semester End Examination:** 60% of maximum marks
- With the above fixed target levels, the attainment levels are specified as follows:

Mid-term Exams and Semester End Examinations	
Target is 60% of Max Marks	
Level 1	If > or = 40% and <50% of Students attain the target Marks
Level 2	If > or = 50% and <60% of Students attain the target Marks
Level 3	If > or = 60% of Students attain the target Marks

Mid-term Exams –Assignments	
Target is 60% of Max Marks	
Level 1	If > or = 60% and <70% of students attain the target
Level 2	If > or = 70% to <80% of students attain the target
Level 3	If > or = 80% of students attain the target

1. For Theory courses, in measuring the overall course attainment,
 - 75% weightage is given for the Direct measurement that includes attainments in mid-term examinations (both subjective and objective), semester end examinations, assignments and tutorials
 - 25% weightage is for Indirect measurement that includes Students' online feedback on Teaching-Learning Process (TLP) (15% weightage) and Course End Survey (10% weightage).

In the Direct measurement

- 60% weightage is given for the Semester End Examination
- 40% weightage is given for the internal marks that includes
 - Mid-term examinations -subjective (20%),
 - Mid-term examinations- objective (10%),
 - Assignments (5%) and
 - Tutorials (5%).

Note: If tutorials are not conducted in any course, a total of 10% weightage will be given to Assignments only.

Both Mid Term Examination -1 and Mid Term Examination -2 will be considered together in measuring the attainment levels.

Direct Attainment of Course Outcome (CO) = 0.2* Mid-term -Subjective + 0.1* Mid Term-Objective + 0.05* Assignment + 0.05* Tutorial + 0.6* End Sem. Exam

Indirect Attainment of CO = 0.4* Course End Survey (CES) + 0.6* Feedback on TLP

Overall CO Attainment = 0.75* Direct Attainment Level + 0.25* Indirect Attainment Level

2. In the case of laboratory courses, 60% of internal marks and average of External marks are considered for the calculation of attainment.

Direct Attainment of CO = 0.4* Mid-term Exam + 0.6* End Semester Exam

Indirect Attainment of CO = 0.4* Course End Survey (CES) + 0.6* Feedback on TLP

Overall CO Attainment = 0.75* Direct Attainment Level + 0.25* Indirect Attainment Level

NOTE:

- In the Mid Term or End semester Examinations of a particular Theory course, the question paper comprises two questions Question1 (Q1) or Question2 (Q2) from each unit of the syllabus, with internal choice.
- Each of the two may have sub parts also.
- A Student is supposed to answer either of Q1 or Q2.

Case 1: If Student answers both Q1 and Q2, then the question awarded with more marks among the two will be considered for the calculation of attainment, making other one as 'NA' (Not Applicable)

Case 2: If Student fails to answer both Q1 and Q2, then one of the questions will be awarded zero marks (0) and other as 'NA'.

- If student answers a question having two sub parts (a) and (b),

Case 1: If both (a) and (b) are mapped to same CO, the total marks awarded for that question will be sum of the marks allotted for (a) and (b) and will be considered for the calculation of attainment.

Case 2: If student answers any of the parts of a question only, the remaining unanswered part/s of the question will be awarded zero (0) marks.

Procedure for measuring the attainment of Course Outcomes (COs)

(From Academic Year 2020-2021 onwards)

For measuring the attainment of COs of a theory course, the **targets** for the attainment are fixed as indicated below:

- **Mid Paper -Subjective:** 60% of maximum marks
- **Assignments and Tutorials** (if any): 60% of maximum marks (3 marks out of 5)
- **Mid Paper -Objective:** 60% of maximum marks (6 marks out of 10) (Should consider all the students who attended the exam)
- **Semester End Examination:** 60% of maximum marks
- With the above fixed target levels, the attainment levels are specified as follows:

Semester End Examinations	
Target is 60% of Max Marks	
Level 1	If > or = 40% and <50% of Students attain the target Marks
Level 2	If > or = 50% and <60% of Students attain the target Marks
Level 3	If > or = 60% of Students attain the target Marks

Mid-term Exams – Subjective, Objective and Assignments	
Target is 60% of Max Marks	
Level 1	If > or = 60% and <70% of students attain the target
Level 2	If > or = 70% to <80% of students attain the target
Level 3	If > or = 80% of students attain the target

**Indirect attainment – Course End Survey, CRC and TLP feedback
Levels for CO attainment measurement**

Level 1	If > or = 60% and <70% of students attain the target
Level 2	If > or = 70% to <80% of students attain the target
Level 3	If > or = 80% of students attain the target

1. For Theory courses, in measuring the overall course attainment,

- 75% weightage is given for the direct measurement that includes attainments in mid-term examinations (both subjective and objective), semester end examinations, assignments /tutorials.

and

- 25% weightage is given for the Indirect measurement that includes Student's online feedback on TLP (10% weightage), CRC (10% weightage) and Course End Survey (5% weightage).

1.1. In the Direct measurement

- 60% weightage is given for the Semester End Examination and
- 40% weightage is given for the internal marks that includes
 - Mid-term examinations subjective (20%),
 - Mid-term examinations objective (10%),
 - Assignments (5%) and
 - Tutorials (5%).

Note: If tutorials are not conducted in any course, a total of 10% weightage will be given to Assignments only.

1.2. Both mid-1 and mid -2 should be considered together in measuring the attainment levels.

Direct Attainment of CO = 0.2* Mid-term Subjective + 0.1* Mid-term Objective + 0.05* Assignment + 0.05* Tutorial + 0.6* End Semester Exam

Indirect Attainment of CO = 0.2* Course End Survey + 0.4* Feedback on TLP +0.4*CRC (Class review Committee) feedback

Overall CO Attainment = 0.75* Direct Attainment Level + 0.25* Indirect Attainment Level

2. In the case of laboratory courses, 60% of marks awarded in internal (Mid Term) examinations and 60% of the marks awarded in semester End Examination are considered for attainment calculation.

Direct Attainment of CO = 0.4* Mid-term Exam + 0.6* End Semester Exam

Indirect Attainment of CO = 0.2* Course End Survey + 0.4* Feedback on TLP +0.4* CRC feedback

Overall CO Attainment = 0.75* Direct Attainment Level + 0.25* Indirect Attainment Level

NOTE:

- In the Mid Term or End semester Examinations of a particular Theory course, the question paper comprises two questions Question1 (Q1) or Question 2(Q2) from each unit of the syllabus, with internal choice.
- Each of the two may have sub parts also.
- A Student is supposed to answer either of Q1 or Q2.

Case 1: If Student answers both Q1 and Q2, then the question awarded with more marks among the two will be considered for the calculation of attainment, making other one as 'NA' (Not Applicable)

Case 2: If Student fails to answer both Q1 and Q2, then one of the question will be awarded zero marks (0) and other as 'NA'.

- If student answers a question having two sub parts (a) and (b),

Case 1: If both (a) and (b) are mapped to same CO, the total marks awarded for that question will be sum of the marks allotted for (a) and (b) and will be considered for the calculation of attainment.

Case 2: If student answers any of the parts of a question only, the remaining unanswered part/s of the question will be awarded zero (0) marks.

3.2.2. Record the attainment of Course Outcomes of all courses with respect to set attainment levels (65)

Course Outcome Attainments for the batch 2019-2023

Academic Year: 2020-2021				Year & Sem: II-I				
Course	Internal	External	Direct Attainment	TLP	CRC	CES	Indirect Attainment	Overall Attainment
18CE2101- Surveying	0.34	2.20	1.46	3.00	3.00	3.00	3.00	1.84
18CE2102- Strength of Materials-I	0.74	1.20	1.02	3.00	3.00	3.00	3.00	1.51
18CE2103 - Fluid Mechanics	0.30	0.80	0.60	3.00	3.00	3.00	3.00	1.20
18CE2104 - Building Materials Construction & Planning	0.38	1.20	0.87	3.00	3.00	3.00	3.00	1.40
18EE2101 -Basic Electrical Engineering	0.30	0.60	0.48	3.00	3.00	3.00	3.00	1.11
18CE21L1 - Surveying Lab	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
18CE21L2 -Strength of Materials Lab	2.00	3.00	2.60	3.00	3.00	3.00	3.00	2.70
18EE21L1 - Basic Electrical Engineering Lab	3.00	0.00	1.20	3.00	3.00	3.00	3.00	1.65

Academic Year: 2021-2022				Year & Sem: III-I				
Subjects	Internal	External	Direct Attainment	TLP	CRC	CES	Indirect Attainment	Overall Attainment
18CE3101- Structural Analysis	0.44	3.00	1.98	3.00	3.00	3.00	3.00	2.23
18CE3102- Concrete Technology	0.66	2.80	1.94	3.00	3.00	3.00	3.00	2.21
18CE3103- Geotechnical Engineering	0.42	1.40	1.01	3.00	3.00	3.00	3.00	1.49
18CE3104- Engineering Hydrology	0.42	1.40	1.01	3.00	3.00	3.00	3.00	1.49
18EE3122-OE-I-ISH:Industrial Safety and Hazards (EEE)	1.20	3.00	2.28	3.00	2.00	3.00	2.60	2.36
18MB3126-OE-I-IPR:Intellectual Property Rights (MBA)	0.74	2.80	1.98	3.00	3.00	3.00	3.00	2.23
18CE31L1- Computer Aided Drafting of Buildings Lab	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
18CE31L2- Concrete Technology Lab	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
18CE31L3- Geotechnical Engineering Lab	2.00	3.00	2.60	2.00	3.00	3.00	2.60	2.60
18CE3105-Internship	3.00	-	3.00	-	-	3.00	3.00	3.00

Academic Year: 2022-2023				Year & Sem: IV-I				
Subjects	Internal	External	Direct Attainment	TLP	CES	CRC	Indirect Attainment	Overall Attainment
18CE4101-Design of Steel Structures	1.00	2.80	2.08	3.00	3.00	3.00	3.00	2.31
18CE4102-Environmental Engineering	0.70	2.00	1.48	3.00	3.00	3.00	3.00	1.86
18MB4101-Operation Research	1.00	2.80	2.08	3.00	3.00	3.00	3.00	2.31
18CE4107-PE-III-Climate Change and Adaptation	0.86	3.00	2.14	3.00	2.00	3.00	2.60	2.30
18CE4112-PE-IV-Solid Waste Management	1.10	3.00	2.24	3.00	2.00	3.00	2.60	2.33
18CE41L1-Structural Analysis and Design Lab	3.00	3.00	3.00	3.00	2.80	3.00	2.96	2.99
18CE41L2-Environmental Engineering Lab	3.00	2.00	2.40	3.00	2.80	3.00	2.93	2.54
18MB41L1-Operations Research Lab	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
18CE4113-Mini Project	-	-	3.00	-	3.00	-	3.00	3.00

Academic Year: 2022-2023				Year & Sem: IV-II				
Subjects	Internal	External	Direct Attainment	TLP	CES	CRC	Indirect Attainment	Overall Attainment
18CE4201-Estimation and Costing	0.76	3.00	2.10	3.00	3.00	3.00	3.00	2.33
18CE4202-PE-V-Railways and Airport Engineering	0.96	2.80	2.06	3.00	3.00	3.00	3.00	2.30
18CE4203-PE-V-Industrial Wastewater Management	0.90	1.80	1.44	3.00	3.00	3.00	3.00	1.83
18MB4246-OE-III-Entrepreneurship	1.16	3.00	2.26	3.00	2.00	3.00	2.60	2.35
18CE4207-Technical Seminar	3.00	-	3.00	-	-	3.00	3.00	3.00
18CE4208-Major Project	3.00	3.00	3.00	-	-	3.00	3.00	3.00

Course Outcome Attainments for the batch 2018-2022

Academic Year:2019-2020				Year & Sem: II-I			
Course Name	Internal	External	Direct Attainment	TLP	CES	Indirect Attainment	Overall Attainment
18CE2101 - Surveying	0.44	2.20	1.76	3.00	3.00	3.00	2.07
18CE2102 - Strength of Materials-I	0.70	2.00	1.90	3.00	3.00	3.00	2.18
18CE2103 - Fluid Mechanics	0.57	2.60	2.13	3.00	3.00	3.00	2.35
18CE2104-Building Materials, Construction And Planning	0.56	2.80	2.24	2.00	3.00	2.40	2.28
18EE2101 -Basic Electrical Engineering	0.48	2.00	1.68	3.00	3.00	3.00	2.01
18CE21L1 - Surveying Lab	3.00	3.00	3.00	3.00	3.00	3.00	3.00
18CE21L2 - Strength of Materials Lab	3.00	3.00	3.00	3.00	3.00	3.00	3.00
18EE21L1 - Basic Electrical Engineering Lab	3.00	3.00	3.00	2.00	3.00	2.40	2.85

Academic Year:2019-2020				Year & Sem: II-II			
Course Name	Internal	External	Direct Attainment	TLP	CES	Indirect Attainment	Overall Attainment
18CE2201 - Engineering Geology	1.20	2.60	2.04	2.00	2.80	2.32	2.11
18CE2202 - Strength of materials-II	0.62	3.00	2.05	2.00	2.80	2.32	2.12
18CE2203 - Hydraulics & Hydraulic Machinery	0.64	1.00	0.86	2.00	2.60	2.24	1.20
18MA2201 -Computational Mathematics	0.60	3.00	2.04	3.00	3.00	3.00	2.28
18MB2202-Engineering Economics and Accounting	0.92	1.80	1.45	3.00	3.00	3.00	1.84
18CE22L1 - Engineering Geology Lab	1.00	2.00	1.60	3.00	3.00	3.00	1.95
18MA22L1 -Computational Mathematics Lab	3.00	3.00	3.00	3.00	3.00	3.00	3.00
18CE22L2 - Hydraulics & Hydraulic Machinery Lab	1.00	3.00	2.20	3.00	3.00	3.00	2.40

Academic Year:2020-2021			Year & Sem: III-I					
Course Name	Internal	External	Direct Attainment	TLP	CRC	CES	Indirect Attainment	Overall Attainment
18CE3101 - Structural Analysis	0.62	1.40	1.09	2.00	3.00	3.00	2.80	1.52
18CE3102 – Concrete Technology	0.86	2.80	2.02	3.00	3.00	2.60	2.84	2.23
18CE3103 – Geotechnical Engineering	0.58	1.40	1.07	3.00	3.00	3.00	3.00	1.55
18CE3104- Engineering Hydrology	0.42	2.00	1.37	3.00	3.00	3.00	3.00	1.78
18EE3122 - Industrial safety and Hazards	1.16	3.00	2.26	3.00	3.00	2.80	2.92	2.43
18CE31L1 - Computer Aided Drafting of Buildings Lab	3.00	3.00	3.00	2.00	3.00	3.00	2.60	2.90
18CE31L2- Concrete Technology Lab	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
18CE31L3- Geotechnical Engineering Lab	3.00	3.00	3.00	2.00	3.00	3.00	2.60	2.90
18CE3105- Internship	3.00	-	3.00	-	-	3.00	3.00	3.00

Academic Year:2021-2022				Year & Sem: IV-I				
Course Name	Internal	External	Direct Attainment	TLP	CRC	CES	Indirect Attainment	Overall Attainment
18CE4101: Design of Steel Structures	1.06	1.80	1.50	3.00	3.00	3.00	3.00	1.88
18CE4102:Environmental Engineering	1.00	3.00	2.80	3.00	3.00	3.00	3.00	2.85
18MB4101:Operations Research	0.90	3.00	2.70	3.00	2.80	3.00	2.96	2.77
18CE4105-PE-III: Ground Improvement Techniques	1.10	2.40	2.54	3.00	3.00	3.00	3.00	2.66
18CE4109- PE-IV: Traffic Engineering	0.66	3.00	2.46	3.00	3.00	3.00	3.00	2.60
18CE4112-PE-IV:Solid Waste Management	1.12	3.00	2.90	3.00	3.00	3.00	3.00	2.90
18CE41L1:Structural Analysis and Design Lab	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
18CE41L2:Environmental Engineering Lab	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
18MB41L1:Operations Research Lab	3.00	3.00	3.00	2.00	3.00	3.00	2.60	2.90
18CE4113:Mini Project	-	3.00	3.00	-	-	3.00	3.00	3.00

Academic Year:2021-2022			Year & Sem: IV-II					
Course Name	Internal	External	Direct Attainment	TLP	CRC	CES	Indirect Attainment	Overall Attainment
18CE4201:Estimation and Costing	1.04	3.00	2.84	3.00	3.00	3.00	3.00	2.88
18CE4202:PE-V: Railways and Airport Engineering	0.90	2.40	2.34	3.00	3.00	3.00	3.00	2.51
18ME4243-OE-III: Principles of Automobile Engineering	1.00	2.80	2.08	3.00	3.00	3.00	3.00	2.31
18MB4246:OE-III: Entrepreneurship	0.90	3.00	2.16	3.00	3.00	3.00	3.00	2.37
18CE4207: Technical Seminar	3.00	-	3.00	-	-	3.00	3.00	3.00
18CE4208: Major Project	3.00	3.00	3.00	-	-	3.00	3.00	3.00

3.3. Attainment of Program Outcomes and Program Specific Outcomes (75)

3.3.1. Describe assessment tools and processes used for measuring the attainment of each Program Outcome and Program Specific Outcomes (10)

(Describe the assessment tools and processes used to gather the data upon which the evaluation of each of the Program Outcomes and Program Specific Outcomes is based indicating the frequency with which these processes are carried out. Describe the assessment processes that demonstrate the degree to which the Program Outcomes and Program Specific Outcomes are attained and document the attainment levels)

Program outcomes (POs) and Program Specific Outcomes (PSOs) are assessed by means of

- Direct assessment tools and
- Indirect assessment tools

Assessment Tools

Direct and indirect assessment tools used for computing the attainment of POs and PSOs are the same as those used for computing the attainment of COs, as **described in sections 3.2.1**

In addition to the above, indirect assessment tools namely graduate exit survey, Alumni Survey and Co-curricular & extracurricular activities as given below is used.

Table 3.3.1a: Indirect assessment tools for PO attainment calculation

Assessment Tool	Direct/ Indirect	Frequency	Description
Graduate exit survey	Indirect	Once in a year after a batch graduates	Survey is carried out on a scale of 1 to 5.
Alumni survey		Once in a year	
Co-curricular & Extra Curricular Activities		As and when conducted	To document all the conducted of co-curricular & Extracurricular activities and analyse the same for computation of PO's and PSO's.

Calculation of POs attainment

1. In measuring the attainment level of each PO,
 - 75% of weightage is given for the Direct attainment of that PO/PSO obtained in terms of Levels 1,2 and 3, which is the weighted average of all the COs related to that PO/PSO and

➤ 25% of weightage for Indirect measurement that includes
Till Academic year 2020-2021

- Exit feedback on POs (25% weightage)

From Academic year 2021-2022

- Exit feedback on POs (10% weightage)
- Alumni Survey on POs (10% weightage)
- Co-curricular and Extra-curricular activities (5% weightage).

Overall PO/PSO attainment=75% of Direct Assessment + 25% of Indirect Assessment.

2. For calculating the indirect attainment levels of POs, graduate exit feedback on POs and Alumni feedback on POs the following criteria is adopted:

Attainment Levels for Measuring Indirect attainment of PO

Level 1 If attainment is 60% to 69%

Level 2 If attainment is 70% to 79%

Level 3 If attainment is more than 80%

3.3.2. Provide results of evaluation of each PO & PSO (65)

(The attainment levels by direct (student performance) and in direct (surveys) are to be presented through Program level Course-PO & PSO matrices as indicated).

Table B.3.3.2a PO Direct Attainment – Batch 2019-23

Sl. no	Course Index	Name of the Course with Code	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
1	C101	18PH1101-Engineering Physics	1.88	1.88	-	-	-	-	-	-	1.25	-	-	1.25	0.63	-	-
2	C102	18MA1101- Mathematics – I	2.18	1.45	1.45	-	-	1.45				-	-	2.18	-	1.45	-
3	C103	18CS1101- Programming for Problem Solving	1.17	0.78	-	0.78	0.78	-	-	0.78	0.78	-	-	0.78	1.17	-	-
4	C104	18ME1101-Engineering Mechanics -I	1.97	1.97	1.97	-	-	-	-	-	-	-	-	1.97	1.97	-	-
5	C105	18ME1102- Engineering Graphics	1.97	1.53	1.63	-	-	-	-	-	-	1.97	-	-	-	1.97	-
6	C106	18PH11L1- Engineering Physics Lab	2.85	2.85	-	-	-	-	-	-	1.90	-	-	1.90	0.95	-	-
7	C107	18CS11L1- Programming for Problem Solving Lab	1.49	0.99	-	0.99	0.99	-	-	0.99	0.99	-	-	0.99	0.99	-	-
8	C108	18ME11L1- Engineering Workshop	2.00	2.80	2.60	1.80	1.80	1.20	-	-	1.40	1.80	-	3.00	2.20	-	3.00
9	C109	18EN1201- English	-	-	-	-	-	-	-	-	1.82	2.36	-	2.36	-	-	-
10	C110	18MA1201- Mathematics – II	1.31	0.87	0.87	-	-	0.87	-	-	-	-	-	1.31	-	0.87	-
11	C111	18CH1201- Engineering Chemistry	1.52	1.01	1.01	-	-	1.01	1.01	-	-	-	-	1.01	-	-	-
12	C112	18CS1201- Data Structures	1.76	1.17		1.17	1.17	-	-	-	1.17	-	-	1.17	-	-	-
13	C113	18ME1201- Engineering Mechanics – II	1.38	1.38	1.38	-	-	-	-	-	-	-	-	1.38	1.38	-	-
14	C114	18EN12L1- English Language and Communication Skills Lab	-	-	-	-	-	-	-	-	3.00	3.00	2.00	3.00	-	-	-
15	C115	18CH12L1- Engineering Chemistry Lab	1.40	1.40	1.40	-	-	-	-	0.70	1.40	-	-	1.40	-	-	-
16	C116	18CS12L1- Data Structures Lab	2.53	1.69	-	1.69	1.69	-	-	-	1.69	-	-	1.69	-	-	-
17	C211	18CE2101- Surveying	1.85	1.85	1.68	1.84	1.74	1.83	-	1.87	-	-	-	1.89	1.84	1.87	1.89

39	C316	18CE31L1- Computer Aided Drafting of Buildings Lab	3.00	-	3.00	-	3.00	-	-	-	3.00	-	-	3.00	3.00	3.00	3.00
40	C317	18CE31L2- Concrete Technology Lab	3.00	-	3.00	3.00	3.00	3.00	-	3.00	3.00	3.00	-	3.00	3.00	-	-
41	C318	18CE31L3- Geotechnical Engineering Lab	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	-	2.60	2.60	2.60	2.60
42	C319	18CE3105- Internship	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
43	C321	18CE3201- Design of Reinforced Concrete Structures	2.02	2.05	2.05	2.13	-	-	-	1.85	-	-	-	2.00	2.10	2.02	-
44	C322	18CE3202- Transportation Engineering	1.91	1.62	1.72	1.94	-	1.88	2.28	1.81	-	-	-	1.91	1.91	2.28	1.96
45	C323	Professional Elective – I: 18CE3204- Foundation Engineering	2.36	2.37	2.36	2.33	-	2.36	2.29	2.40	-	-	-	2.37	2.36	2.37	2.35
46		Professional Elective – I: 18CE3206- Air Pollution and Control	1.88	1.85	1.85	1.91	1.77	1.88	1.91	-	-	-	-	1.92	1.94	1.78	-
47	C324	Professional Elective – II: 18CE3209- Construction Engineering and Management	2.38	2.38	2.38	2.38	-	2.38	2.37	2.39	-	-	-	2.38	2.37	2.40	-
48	C325	Open Elective – II: 18ME3233- Digital Fabrication (ME)	2.38	2.38	-	-	2.38	2.38	2.38	-	-	-	-	2.38	-	-	2.38
49		Open Elective – II: 18CS3235- Knowledge Management	2.49	2.49	2.71	-	2.49	2.49	2.47	-	-	-	-	2.49	-	2.49	-
50	C326	18CE32L1- Structural Drafting Lab	3.00	-	3.00	-	3.00	3.00	3.00	-	3.00	3.00	3.00	3.00	3.00	3.00	3.00
51	C327	18CE32L2- Transportation Engineering Lab	3.00	-	-	3.00	-	3.00	-	3.00	3.00	3.00	-	3.00	3.00	-	-
52	C328	18EN32L1- Advanced English Communication Skills Lab	-	-	-	-	-	3.00	-	-	3.00	3.00	-	3.00	-	-	-
53	C411	18CE4101- Design of Steel Structures	2.32	2.29	2.29	2.33	2.33	2.32	2.33	-	-	-	-	2.30	2.31	2.33	-
54	C412	18CE4102- Environmental Engineering	1.90	1.86	1.86	1.94	1.82	1.90	1.94	-	-	-	-	1.96	2.00	1.94	-

55	C413	18MB4101- Operations Research	2.77	2.77	2.77	-	2.77	2.77	2.77	-	2.77	2.77	-	2.77	-	-	2.77
56	C414	Professional Elective – III: 18CE4107- Climate Change and Adaptations	2.26	2.26	2.26	2.26	-	2.26	2.26	-	-	2.26	-	2.25	2.26	-	-
57	C415	Professional Elective – IV: 18CE4112- Solid Waste Management	2.33	2.33	2.33	2.33	2.33	-	-	-	-	-	-	2.33	2.33	2.33	-
58	C416	18CE41L1- Structural Analysis and Design Lab	2.99	-	3.00	3.00	3.00	2.99	-	2.99	2.99	2.99	-	3.00	2.99	-	-
59	C417	18CE41L2- Environmental Engineering Lab	2.54	-	-	2.55	2.54	2.55	2.55	2.54	2.55	2.54	-	2.54	2.54	-	-
60	C418	18MB41L1- Operations Research Lab	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	-	-	3.00	-	-
61	C419	18CE4113- Mini-Project	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
62	C421	18CE4201- Estimation and Costing	2.33	2.34	-	2.36	-	2.34	-	2.34	-	-	2.40	2.36	2.33	2.33	-
63	C422	Professional Elective – V: 18CE4202- Railways and Airport Engineering	2.30	2.32	2.32	2.31	2.28	2.30	2.31	-	-	-	-	2.34	2.34	2.33	-
64	C423	Professional Elective – V: 18CE4203- Industrial Waste Water Management	1.83	1.83	1.83	1.83	-	1.85	1.85	-	-	1.81	-	1.85	1.83	-	-
65		Open Elective – III: 18MB4246- Entrepreneurship (MBA)	2.36	2.35	2.36	2.36	2.36	2.32	2.36	2.36	2.30	2.36	2.34	2.34	2.35	2.35	2.36
66	C424	18CE4207- Technical Seminar	2.84	2.82	-	-	-	-	-	-	2.84	2.87	2.75	2.85	2.83	-	-
67	C425	18CE4208- Major Project	1.87	1.52	1.42	1.71	1.70	1.66	1.39	1.44	1.85	1.53	1.48	1.78	1.87	1.76	1.65
Direct PO attainment			2.17	1.98	2.11	2.18	2.32	2.25	2.27	2.19	2.34	2.57	2.52	2.15	2.12	2.15	2.47

Figure 3.3.2a: PO attainment for batch 2019-23

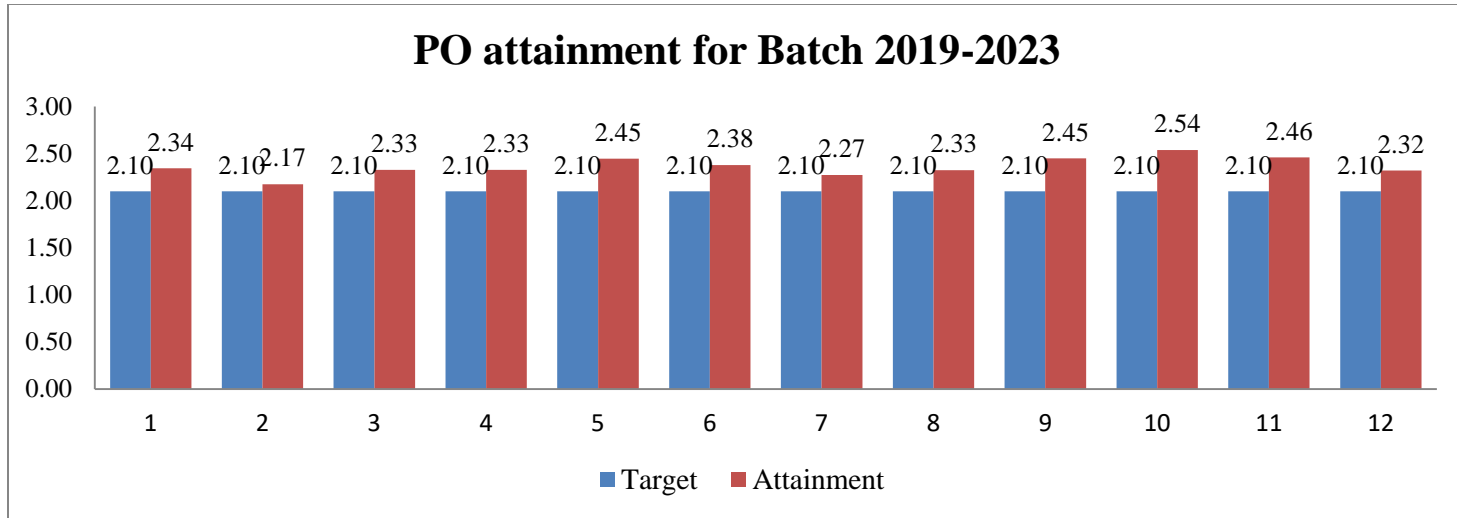


Figure 3.3.2b: PSO attainment for batch 2019-23

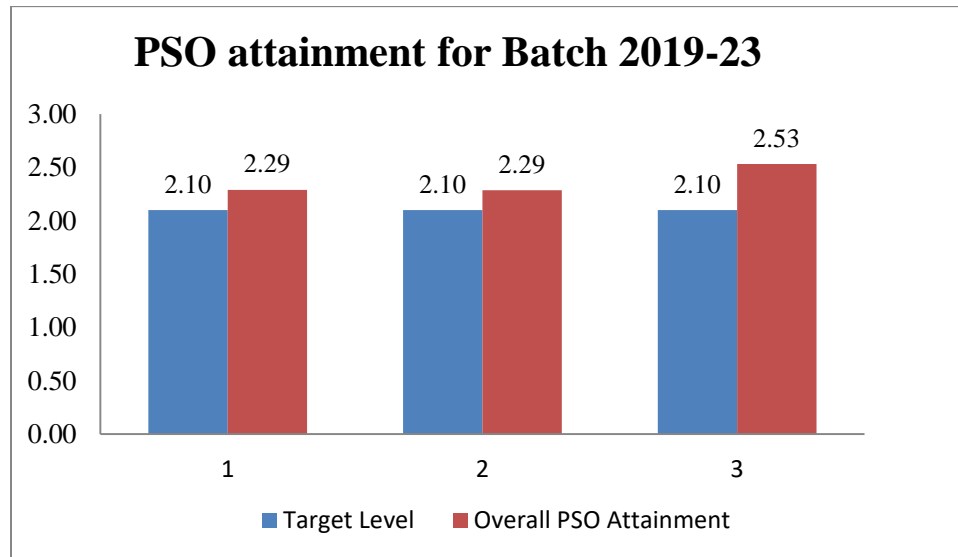


Table B.3.3.2d: PO Direct Attainment – Batch 2018-22

Sl. no	Course Index	Name of the Course with Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	C101	18PH1101-Engineering Physics	2.63	2.63	-	-	-	-	-	-	1.75	-	-	1.75	0.88	-	-
2	C102	18MA1101- Mathematics – I	2.64	1.76	1.76	-	-	1.76				-	-	2.64	-	1.76	-
3	C103	18CS1101- Programming for Problem Solving	2.36	1.57	-	1.57	1.57	-	-	1.57	1.57	-	-	1.57	1.57	-	-
4	C104	18ME1101-Engineering Mechanics -I	2.48	2.48	2.48	-	-	-	-	-	-	-	-	2.48	1.65	-	-
5	C105	18ME1102- Engineering Graphics	2.25	2.10	1.95	-	-	-	-	-	-	2.57	-	-	-	2.25	-
6	C106	18PH11L1- Engineering Physics Lab	2.55	2.55	-	-	-	-	-	-	1.70	-	-	1.70	0.85	-	-
7	C107	18CS11L1- Programming for Problem Solving Lab	2.25	1.50	-	1.50	1.50	-	-	1.50	1.50	-	-	1.50	1.50	-	-
8	C108	18ME11L1- Engineering Workshop	1.70	2.38	2.21	1.53	1.53	1.02	-	-	-	1.53	-	2.55	1.70	-	2.55
9	C109	18EN1201- English	-	-	-	-	-	-	-	-	1.99	2.56	-	2.56	-	-	-
10	C110	18MA1201- Mathematics – II	2.76	1.84	1.84	-	-	1.84	-	-	-	-	-	2.76	-	1.84	-
11	C111	18CH1201- Engineering Chemistry	2.61	1.74	1.74	-	-	1.74	1.74	-	-	-	-	1.74	-	-	-
12	C112	18CS1201- Data Structures	2.76	1.84		1.84	1.84	-	-	-	1.84	-	-	1.84	-	-	-
13	C113	18ME1201- Engineering Mechanics - II	2.58	2.58	2.58	-	-	-	-	-	-	-	-	2.58	2.58	-	-
14	C114	18EN12L1- English Language and Communication Skills Lab	-	-	-	-	-	-	-	-	3.00	3.00	2.00	3.00	-	-	-
15	C115	18CH12L1- Engineering Chemistry Lab	2.00	2.00	2.00	-	-	-	-	1.00	2.00	-	-	2.00	-	-	-
16	C116	18CS12L1- Data Structures Lab	2.07	1.38	-	-	1.38	-	-	-	1.38	-	-	1.38	-	-	-
17	C211	18CE2101- Surveying	1.85	1.77	1.76	1.79	1.71	1.86	-	1.78	-	-	-	1.78	1.87	1.78	1.78
18	C212	18CE2102- Strength of Materials -I	1.90	1.83	1.86	1.79	-	-	-	-	-	-	-	1.90	1.94	1.88	-
19	C213	18CE2103- Fluid Mechanics	2.11	2.10	-	2.11	-	-	-	-	-	-	-	2.11	2.10	2.13	-
20	C214	18CE2104- Building Materials, Construction and Planning	2.03	-	2.03	-	-	2.03	2.03	2.10	-	-	-	2.03	2.03	2.03	-

42	C321	18CE3201- Design of Reinforced Concrete Structures	2.28	2.29	2.33	2.37	-	-	-	2.22	-	-	-	2.27	2.34	2.28	-
43	C322	18CE3202- Transportation Engineering	2.37	2.51	2.46	2.25	-	2.10	2.19	2.36	-	-	-	2.37	2.37	2.13	2.19
44	C323	Professional Elective – I: 18CE3204- Foundation Engineering	2.18	2.13	2.16	2.12	-	2.16	2.46	1.92	-	-	-	2.16	2.20	2.17	2.07
45	C324	Professional Elective – II: 18CE3209- Construction Engineering and Management	1.90	1.84	1.84	1.84	-	1.84	1.95	1.76	-	-	-	1.87	1.92	1.53	-
46		Professional Elective – II: 18CE3210- Irrigation Engineering	2.72	2.75	2.72	2.75	-	2.72	2.73	2.73	-	-	-	2.71	2.72	2.72	-
47	C325	Open Elective – II: 18ME3233- Digital Fabrication (ME)	3.00	3.00	-	-	3.00	3.00	3.00	-	-	-	-	3.00	-	-	3.00
48		Open Elective – II: 18MB3236- Supply Chain Management (MBA)	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82
49	C326	18CE32L1- Structural Drafting Lab	3.00	-	3.00	-	3.00	3.00	3.00	-	3.00	3.00	3.00	3.00	3.00	3.00	3.00
50	C327	18CE32L2- Transportation Engineering Lab	3.00	-	-	3.00	-	3.00	-	3.00	3.00	3.00	-	3.00	3.00	-	-
51	C328	18EN32L1- Advanced English Communication Skills Lab	-	-	-	-	-	3.00	-	-	3.00	3.00	-	3.00	-	-	-
52	C411	18CE4101- Design of Steel Structures	1.84	1.93	1.93	1.85	1.94	1.84	1.85	-	-	-	-	1.92	1.87	2.06	-
53	C412	18CE4102- Environmental Engineering	2.85	2.85	2.85	2.85	2.85	2.85	2.85	-	-	-	-	2.85	2.85	2.85	-
54	C413	18MB4101- Operations Research	2.77	2.77	2.77	-	2.77	2.77	2.77	-	2.77	2.77	-	2.77	-	-	2.77
55	C414	Professional Elective – III: 18CE4105- Ground Improvement Techniques	2.68	2.59	2.59	1.97	2.66	-	-	-	-	-	-	2.63	2.66	2.63	-
56	C415	Professional Elective – IV: 18CE4109- Traffic Engineering	2.61	2.61	2.60	2.66	2.60	2.60	2.67	2.64	2.61	2.64	-	2.58	2.55	2.68	-
57		Professional Elective – IV: 18CE4112- Solid Waste Management	2.95	2.96	2.94	3.00	2.96	-	-	-	-	-	-	2.93	2.91	3.00	-
58	C416	18CE41L1- Structural Analysis and Design Lab	3.00	-	3.00	3.00	3.00	3.00	-	3.00	3.00	3.00	-	3.00	3.00	-	-

59	C417	18CE41L2- Environmental Engineering Lab	3.00	-	-	3.00	3.00	3.00	3.00	3.00	3.00	3.00	-	3.00	3.00	-	-
60	C418	18MB41L1- Operations Research Lab	2.90	2.90	2.90	2.90	2.90	2.90	2.90	2.90	2.90	2.90	-	-	2.90	-	-
61	C419	18CE4113- Mini-Project	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
62	C421	18CE4201- Estimation and Costing	2.88	2.88	-	2.89	-	2.90	-	2.90	-	-	2.94	2.90	2.88	2.88	-
63	C422	Professional Elective – V: 18CE4202- Railways and Airport Engineering	2.46	2.53	2.53	2.50	2.58	2.46	2.50	-	-	-	-	2.53	2.48	2.51	-
64	C423	Open Elective – III: 18ME4243- Principles of Automobile Engineering (ME)	2.77	2.77	2.77	-	2.77	2.77	2.77	-	2.77	2.77	-	2.77	-	-	2.77
65		Open Elective – III: 18MB4246- Entrepreneurship (MBA)	2.37	2.37	2.37	2.37	2.37	2.37	2.37	2.37	2.37	2.37	2.37	2.37	2.37	2.37	2.37
66	C424	18CE4207- Technical Seminar	3.00	3.00	-	-	-	-	-	-	3.00	3.00	3.00	3.00	3.00	-	-
67	C425	18CE4208- Major Project	2.03	1.64	1.62	1.76	1.76	1.77	1.51	1.61	1.97	1.57	1.67	1.89	2.05	1.77	1.63
Direct PO attainment			2.46	2.30	2.35	2.32	2.50	2.42	2.43	2.37	2.50	2.69	2.54	2.40	2.29	2.31	2.51

Figure 3.3.2c: PO attainment for batch 2019-23

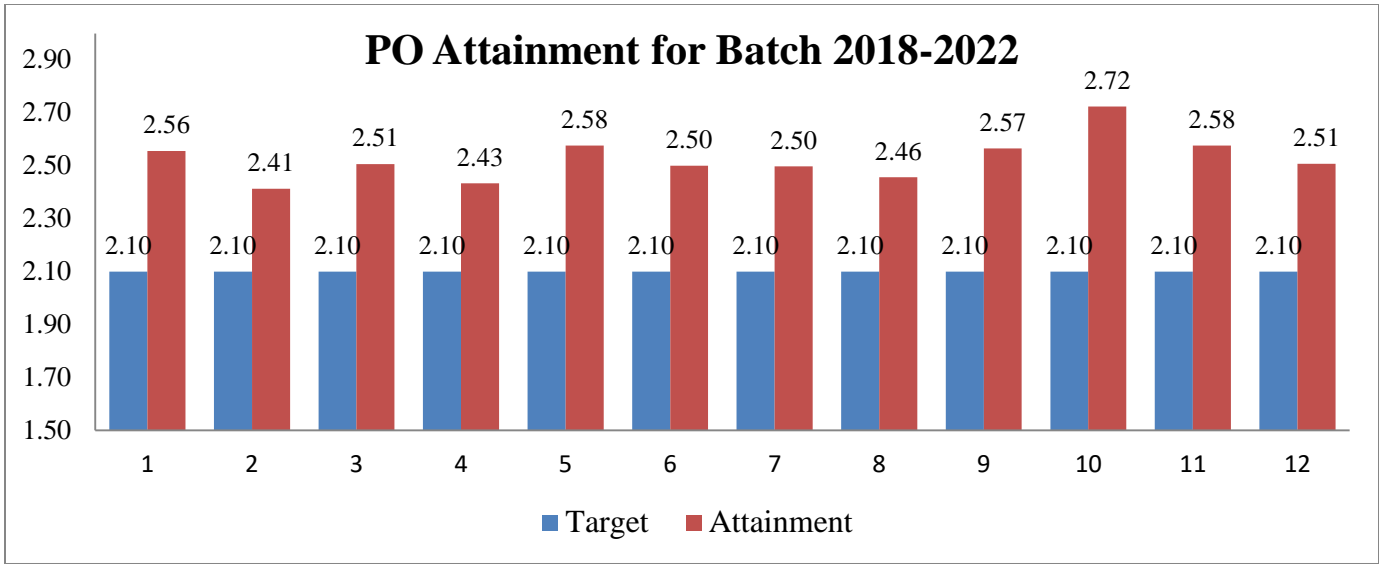
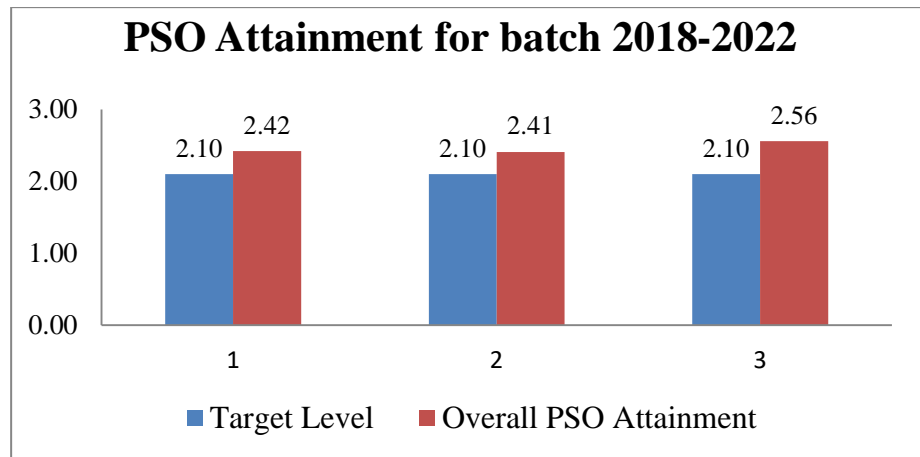


Figure 3.3.2d: PSO attainment for batch 2019-23

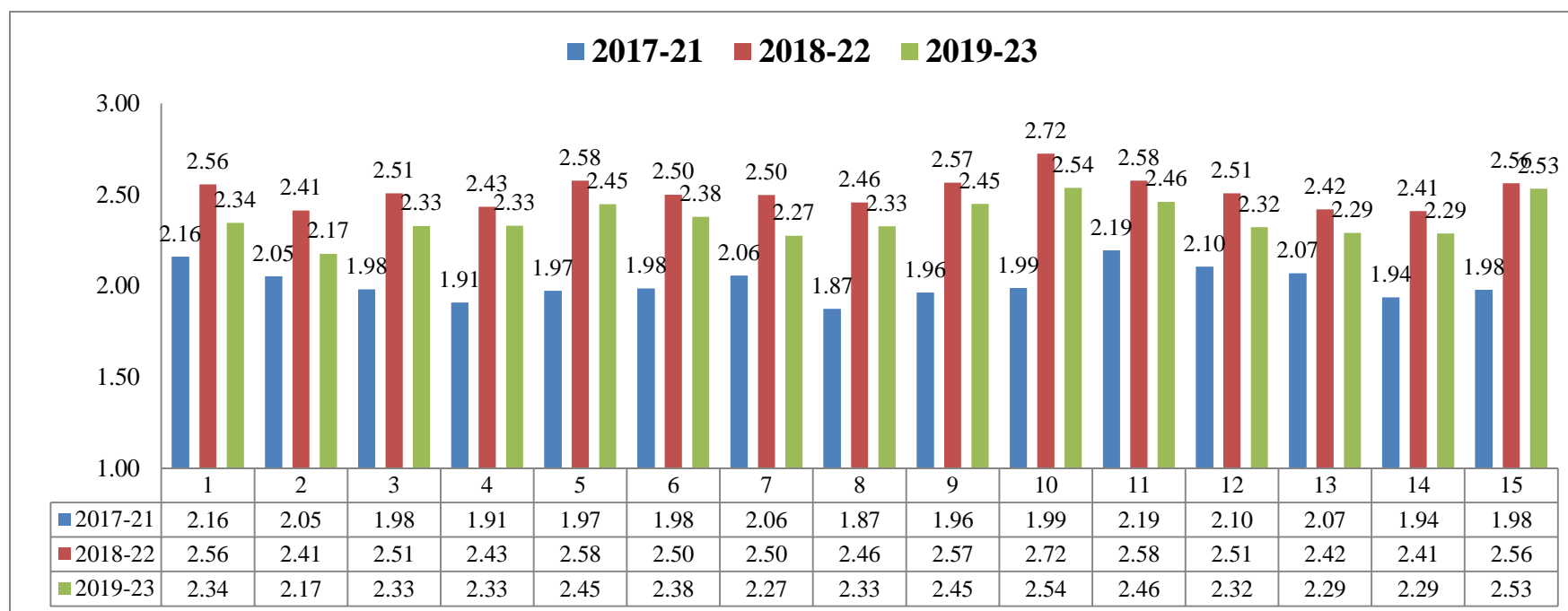


Comparison of PO/PSO Attainment levels

The comparison of average overall attainment of POs and PSOs for the batches 2017-2021, 2018-2022 and 2019-2023 are presented in below table.

Batch	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
2017-21	2.16	2.05	1.98	1.91	1.97	1.98	2.06	1.87	1.96	1.99	2.19	2.10	2.07	1.94	1.98
2018-22	2.56	2.41	2.51	2.43	2.58	2.50	2.50	2.46	2.57	2.72	2.58	2.51	2.42	2.41	2.56
2019-23	2.34	2.17	2.33	2.33	2.45	2.38	2.27	2.33	2.45	2.54	2.46	2.32	2.29	2.29	2.53

Figure 3.3.2e: Comparison of PO and PSO's Attainment



CRITERION 4	Students' Performance	100
Total Marks 51.15		

Table 4.1

Item (Information to be provided cumulatively for all the shifts with explicit headings, wherever applicable)	2023-24 (CAY)	2022-23 (CAYm1)	2021-22 (CAYm2)	2020-21 (CAYm3)	2019-20 (CAYm4)	2018-19 (CAYm5)	2017-18 (CAYm6)
Sanctioned intake of the program(N)	30	60	60	60	120	120	120
Total number of students admitted in first year minus number of students migrated to other programs/ institutions plus No. of students migrated to this program (N1)	13	4	22	55	91	117	119
Number of students admitted in 2nd year in the same batch via lateral entry (N2)	0	18	22	11	35	14	24
Separate division students, If applicable (N3)	0	0	0	0	0	0	0
Total number of students admitted in the programme (N1+ N2 + N3)	13	22	44	66	126	131	143

Table 4.2

Year of entry	Total No of students admitted in the program (N1 + N2 + N3)	Number of students who have successfully graduated without backlogs in any semester/ year of study (Without Backlog means			
		I year	II year	III year	IV year
2023-24 (CAY)	13	-	-	-	-
2022-23 (CAYm1)	22	1	-	-	-
2021-22 (CAYm2)	44	3	14	-	-
2020-21 (CAYm3)	66	8	12	11	-
2019-20 (LYG)	126	19	31	28	27
2018-19 (LYGm1)	131	53	50	43	36
2017-18 (LYGm2)	143	59	51	42	42

Table 4.3

Year of entry	Total No of students admitted in the program (N1 + N2 + N3)	Number of students who have successfully graduated in stipulated period of study) [Total of with Backlog + without Backlog]			
		I year	II year	III year	IV year
2023-24	13	-	-	-	-
2022-23	22	4	-	-	-
2021-22	44	21	39	-	-
2020-21	66	55	60	59	-
2019-20	126	87	122	122	97
2018-19	131	108	120	120	114
2017-18	143	117	140	139	124

4.1 Enrollment Ratio (20)

	N (From Table 4.1)	N1 (From Table 4.1)	Enrollment Ratio [(N1/N)*100]
2023-24 (CAY)	30	13	43.33
2022-23 (CAYm1)	60	4	6.67
2021-22 (CAYm2)	60	22	36.67

Average [(ER1 + ER2 + ER3) / 3] : 28.89

Assessment : 0.0

4.2 Success Rate in the stipulated period of the program (20)

4.2.1 Success rate without backlogs in any semester/year of study(15)

Item	Latest Year of Graduation, LYG (2019-20)	Latest Year of Graduation minus 1, LYGm1 (2018-19)	Latest Year of Graduation minus 2 LYGm2 (2017-18)
X Number of students admitted in the corresponding First year + admitted in 2nd year via lateral entry and seperated division, if applicable	126.00	131.00	143.00
Y Number of students who have graduated without backlogs in the stipulated period	27.00	36.00	42.00
Success Index [SI = Y / X]	0.21	0.27	0.29

Average SI [(SI1 + SI2 + SI3) / 3] : 0.26

Assessment [15 * Average SI] : 3.90

4.2.2 success rate in stipulated period (5)

4.2.2 Success rate with backlog in stipulated period of study :

Item	Latest Year of Graduation, LYG (2019-20)	Latest Year of Graduation minus 1, LYGm1 (2018-19)	Latest Year of Graduation minus 2 LYGm2 (2017-18)
X Number of students admitted in the corresponding First year + admitted in 2nd year via lateral entry and seperated division, if applicable	126.00	131.00	143.00
Y Number of students who have graduated in the stipulated period	97.00	114.00	124.00
Success Index [$SI = Y / X$]	0.77	0.87	0.87

Average SI [$SI1 + SI2 + SI3 / 3$]: 0.84

Assessment: [$5 \times \text{Average SI}$]: 4.18

4.3.Academic Performance in Second Year(10)

Academic Performance	CAYm1 (2022-23)	CAYm2 (2021-22)	CAYm3 (2020-21)
Mean of CGPA or mean percentage of all successful students(X)	6.00	5.27	5.59
Total number of successful students (Y)	39.00	60.00	122.00
Total number of students appeared in the examination (Z)	43.00	66.00	122.00
API [$X * (Y/Z)$]	5.44	4.79	5.59

Assessment [$(AP1 + AP2 + AP3)/3$]: 5.27

Assessment: [$5 \times \text{Average API}$]: 5.27

4.4. Placement, Higher Studies and Entrepreneurship (30)

Item	CAYm1(2022-23)	CAYm2(2021-22)	CAYm3(2020-21)
Total No of Final Year Students(N)	122.00	120.00	139.00
No of students placed in the companies or government sector(X)	68.00	80.00	44.00
No of students admitted to higher studies with valid qualifying scores(GATE or equivalent State or National Level tests, GRE, GMAT etc.) (Y)	4.00	14.00	12.00
No of students turned entrepreneur in engineering/technology (Z)	0.00	1.00	0.00
Placement Index [(X+Y+Z)/N] :	0.59	0.79	0.40

Average Placement [(P1 + P2 + P3)/3] : 0.59

Assessment [30 x Average Placement]: 17.80

Program Name : Civil Engg.

Assessment Year : 2022-23(CAYm1)

S.No	Student Name	Enrollment No	Employee Name	Appointment No
1	Pamu Aravind Kumar	19R11A0178	DWELLTALES	-
2	Ausala Sai Krishna	20R15A0103	DWELLTALES	-
3	Bhukya Vanamala	20R15A0118	N R EQUIPMENTS	-
4	Kasthuri Srikanth	20R15A0130	N R EQUIPMENTS	-
5	K. Vaibhav Yadav	19R11A0143	NICMAR, Hyderabad	3960179
6	Dharani Yadav	19R11A0172	University of North	SEVIS ID :
7	N. Nithin Kumar Reddy	19R11A0175	University of New	SEVIS ID :
8	Balaram Nayak	20R15A0108	NIT Surathkal	232TS011
9	Ajmeera Sandeep	19R11A0101	Cognizant	3645289
10	B Srikar	19R11A0103	ACADEMOR	AM746
11	Babburi Roshini	19R11A0104	FORESLY	-
12	Bandi Sathish Kumar	19R11A0105	ADS ASSOCIATES	-
13	Chowdaboina Sanjay	19R11A0109	Cognizant	3625489
14	D.Sai Kumar	19R11A0111	AMAZON	-
15	Deepa Sai A V S	19R11A0112	FORESLY	-
16	Dubbasi Preethi	19R11A0114	CREATIVE KOVEN	CKDLLP/2024/01/023
17	Shiva Krishnaveni	19R11A0119	TEACHNOOK	TNIR0891
18	Gaddam Sathvika	19R11A0120	S&S BROKERAGE	-
19	Gaddam Srinivas	19R11A0121	KAMAI ELEVATORS	-
20	Gobberi Laxmikanth	19R11A0122	AMAZON	-
21	Jonnawada Arun Reddy	19R11A0126	Cognizant	3643305
22	Nampally Swetha	19R11A0131	VERZEO	VZ22C1932
23	Pabbathi Reddy Praveen	19R11A0132	CREATIVE KOVEN	CKDLLP/2024/01/024
24	Panjala Sathish Goud	19R11A0133	D V Mane Associates	-
25	Pasuluru Omesh	19R11A0134	SUTHERLAND	-
26	Pedditi Manikanth	19R11A0136	SUTHERLAND	-
27	Pitla Srinivas	19R11A0137	CREATIVE KOVEN	CKDLLP/2024/01/025
28	Srijay Jagannatham	19R11A0139	BYJUS	-
29	Sripathi Sai Kiran	19R11A0140	GAMUT INDIA	GAMUT/2024/01
30	Tejavath Suresh	19R11A0141	GAMUT INDIA	GAMUT/2024/02
31	Vallapu Kumar Swamy	19R11A0144	GAMUT INDIA	GAMUT/2024/03
32	Ajmeera Priyanka	19R11A0147	COGENT	-
33	B Tharun	19R11A0148	ACADEMOR	AM735
34	Chepyala Yashwanth	19R11A0150	COGENT	-
35	Devala Akash Yadav	19R11A0152	ELEWAYTE	-
36	Devarampally	19R11A0153	KAMAI ELEVATORS	-

37	Dharmavaram Jujigiri	19R11A0154	COGENT	-
38	Domala Saichand	19R11A0155	COGENT	-
39	Gaddam Suthari	19R11A0157	ADS ASSOCIATES	-
40	Jaida Shravan Kumar	19R11A0158	COGENT	-
41	Kanduri Sumanth	19R11A0160	PIE INFOCOMM	PI/23/178B
42	Kattela Deepthi	19R11A0161	VERZEO	VZ22C1933
43	Koluguri Yagnoosha	19R11A0162	Cognizant	3632266
44	Lokadas Sravana	19R11A0164	ADS Poly Injections	-
45	M. Suresh	19R11A0165	ACADEMOR	AM749
46	Malleboina Rohith	19R11A0167	COGENT	-
47	Manthri Shivashankar	19R11A0169	COGENT	-
48	Padiya Rajesh	19R11A0176	SUNDARAM	-
49	Sai Rohith Kanukuntla	19R11A0181	COGENT	-
50	Vankudothu Aruna	19R11A0186	COGENT	-
51	Wooradi Tarun Kumar	19R11A0187	VERZEO	-
52	Y Nithin	19R11A0188	COGENT	-
53	Yele Chaitanya	19R11A0189	CORE COGENT	-
54	Ameerpet Vineeth Goud	20R15A0102	COGENT	-
55	Banothu Shivaram Naik	20R15A0105	SAVANTIS	SA/TA/HYD/2023/442
56	Cheruku Lohith Goud	20R15A0106	COGENT	-
57	Choppavarapu Sravani	20R15A0107	COGNIZANT	3610656
58	Janga Ajay	20R15A0109	SUNDARAM	-
59	Mora Puneet Narayan	20R15A0111	ACADEMOR	AM757
60	Pendam Sandeep	20R15A0112	KAMAI ELEVATORS	-
61	P.Praveen Kumar	20R15A0113	SKILL DUNIA	SDOL4372
62	Shaik Afreen	20R15A0114	SAVANTIS	SA/TA/HYD/2023/441
63	Thati Pavan Kalyan	20R15A0115	ELEWAYTE	-
64	Varikala Ajay	20R15A0117	KAMAI ELEVATORS	-
65	Gouroju Shirisha	20R15A0119	COGNIZANT	3601757
66	Korubothu Sathwika	20R15A0121	TRIPLE-I	-
67	A.Karthikeya Reddy	20R15A0124	GAMUT INDIA	GAMUT/2024/04
68	Yanamadala Rajesh	20R15A0125	ADS ASSOCIATES	-
69	Manchala Manikanta	20R15A0131	COGENT	-
70	Pannala Sainath Reddy	20R15A0133	COGENT	-
71	Sudhaveni Chandu	20R15A0134	ACADEMOR	AM757
72	Uppala Hemanth	20R15A0135	TRIPLE-I	-

Program Name : Civil Engg.

Assessment Year : 2021-22(CAYm2)

S.N	Student Name	Enrollment No	Employee Name	Appointment No
1	Avuta Naveen	18R11A0163	GAMUT INDIA PROJECTS	GAMUT/2024/09
2	Bathula Tejaswar	18R11A0165	GAMUT INDIA PROJECTS	GAMUT/2024/10
3	Bacha Akhila	18R11A0166	WIPRO TALENT NEXT	-
4	Bandakindi Abhilash	18R11A0167	GAMUT INDIA PROJECTS	GAMUT/2024/11
5	Chukka Uday Kumar	18R11A0169	GAMUT INDIA PROJECTS	GAMUT/2024/12
6	Chunchu Sudheer	18R11A0170	GAMUT INDIA PROJECTS	GAMUT/2024/13
7	Donthula Nithin	18R11A0173	COGNIZANT	-
8	Gattu Sumanth Goud	18R11A0175	SAVANTIS	SA/TA/HYD/2022/3189
9	Gundemaina Naveen	18R11A0179	COGENT	-
10	Hanumandla Mani	18R11A0180	SAVANTIS	SA/TA/HYD/2022/3051
11	Kadari Mahesh	18R11A0182	SAVANTIS	SA/TA/HYD/2022/3174
12	Darga Preetham Kumar	18R11A0171	DWELLTALES	-
13	Gopu Raghuvveera	18R11A0176	DWELLTALES	-
14	Yashwanth Koniki	18R11A0181	DWELLTALES	-
15	Kommidi Venkat	18R11A0186	DWELLTALES	-
16	Lingannapeta Nagaraju	18R11A0189	DWELLTALES	-
17	M Vineeth Kumar	18R11A0191	DWELLTALES	-
18	Matta Tharpani	18R11A0195	DWELLTALES	-
19	Nakka Sandeep	18R11A01A2	DWELLTALES	-
20	P Uttei Kumar	18R11A01A3	DWELLTALES	-
21	V Vishnu Priya	18R11A01B3	N R EQUIPMENTS	-
22	Vellor Jaikumar	18R11A01B5	N R EQUIPMENTS	-
23	Kadari Akhila Yadav	19R15A0101	N R EQUIPMENTS	-
24	Erumadi Sudharshan	19R15A0103	N R EQUIPMENTS	-
25	Thanugula Anil	19R15A0106	N R EQUIPMENTS	-
26	Kandhula Sai Kiran	19R15A0109	N R EQUIPMENTS	-
27	Ginkala Vishal	19R15A0113	N R EQUIPMENTS	-
28	Jav Shree	18R11A0113	University of Texas at Arlington	SEVIS ID: N0034065575
29	Shivani	18R11A0127	University of North Texas	SEVIS ID: N0033581122
30	K.Kruthika	18R11A0130	University of Texas at Arlington	SEVIS ID: N0032643929
31	N.Prathyusha	18R11A0140	University of Texas at Arlington	SEVIS ID: N0033163817
32	P.Sai Ram	18R11A0141	University of Texas at Arlington	SEVIS ID: N0033601772
33	R.Sai Ganesh	18R11A0146	University of Texas at Arlington	SEVIS ID: N0032646857
34	Aditya Narvate	18R11A0161	JNTUH	2300502
35	B.Shaswath	18R11A0164	Cleveland State University	00403160
36	Celina Grace Harrison	18R11A0172	George Mason University	G01477476
37	G.Yashwanth	18R11A0178	Saint Louis University	SEVIS ID: N0034537532
38	K.Anish	18R11A0187	NIT-Warangal	-
39	Akhil Gupta	18R11A01A0	University of Massachusetts	-

40	P.Akshaya	18R11A01A5	University of North Texas	SEVIS ID: N0032817440
41	P.Haritha	18R11A01A7	Politecnico di Milano	-
42	Maredukonda Sai	18R11A0194	SAVANTIS	SA/TA/HYD/2022/3036
43	Mekala Varsha	18R11A0197	TCS L	TCSL/DT20218106665/HY
44	Parankusham	18R11A01A6	SAVANTIS	SA/TA/HYD/2022/3190
45	Pendli Chandana	18R11A01A8	WIPRO	-
46	Perumandla Vinav	18R11A01A9	SAVANTIS	SA/TA/HYD/2022/3035
47	S Sai Roopa	18R11A01B1	COGNIZANT	1462070
48	Vusike Pallavi Reddy	18R11A01B6	WIPRO	-
49	Yaranagula Mahendar	18R11A01B7	SAVANTIS	SA/TA/HYD/2022/3038
50	Ambati Jagruthi	19R15A0102	RIDH CONSTRUCTIONS	-
51	Gourraju Suresh	19R15A0104	SAVANTIS	SA/TA/HYD/2022/3179
52	Enthala Harsha	19R15A0105	COGNIZANT (GEC C)	1395819
53	Govindhu Shilpa	19R15A0107	COGNIZANT	-
54	Gudla Vyshnavi	19R15A0108	RIDH CONSTRUCTIONS	-
55	Bairi Prudviraj	19R15A0110	MILEKAL ENGINEERING	ME/HR/1495
56	Ramavath Vinod	19R15A0111	RIDH CONSTRUCTIONS	-
57	Bhagvan Feroz	19R15A0112	ASBL	ID NO.291
58	Rupani Rakesh	18R11A0149	KV Infra Developers	36DMRPR1144C1ZZ
59	A.Sai Raghavendra	18R11A0101	CREATIVE KOVEN	CKDLLP/2024/01/026
60	Akella.N S V S L	18R11A0102	SMART IMS	-
61	Amgoth Bhanuprasad	18R11A0103	CREATIVE KOVEN	CKDLLP/2024/01/027
62	Anumula Anil Reddy	18R11A0104	CREATIVE KOVEN	CKDLLP/2024/01/028
63	Kunchala Surya	19R15A0114	N R EQUIPMENTS	-
64	Bukya Ashwini	18R11A0108	UDAYA HEIGHTS PVT.LTD.	UHPL/2024/01/047
65	C.Monica Reddy	18R11A0109	UDAYA HEIGHTS PVT.LTD.	UHPL/2024/01/048
66	C Venkata Sri Dikshita	18R11A0110	MILEKAL STEELS	ME/HR/1494
67	Chennaboina Rakesh	18R11A0112	RIDH CONSTRUCTIONS	-
68	D G Harika	18R11A0114	RIDH CONSTRUCTIONS	-
69	Damalla Udayasri	18R11A0115	TCS L	TCSL/DT202118321767/H
70	Dendukuri Vishal	18R11A0116	UDAYA HEIGHTS PVT.LTD.	UHPL/2024/01/049
71	Enugula Sairam	18R11A0118	COGNIZANT	ID-19641528
72	Gadipally Shruthi	18R11A0119	COGNIZANT	-
73	Gokavarapu Sai	18R11A0120	SAVANTIS	SA/TA/HYD/2022/3046
74	Gummadavelli Sneha	18R11A0121	SAVANTIS	SA/TA/HYD/2022/3183
75	Konkati Aiav Kumar	18R11A0123	COGENT	-
76	Karlapalem Sharmada	18R11A0125	COGNIZANT (GEC C)	1290041
77	Satish Katika	18R11A0128	COGENT	-
78	Pratham Khillare	18R11A0129	COGENT	-
79	Lvagala Vasanth	18R11A0132	SAVANTIS	SA/TA/HYD/2022/3172
80	M. Narasimharao	18R11A0133	COGENT	-
81	M.Rakesh Reddy	18R11A0134	UDAYA HEIGHTS PVT.LTD.	UHPL/2024/01/050

82	M.Sampath Kumar	18R11A0136	UDAYA HEIGHTS PVT.LTD.	UHPL/2024/01/051
83	Monaboti Neelima	18R11A0137	MILEKAL ENGINEERING	ME/HR/1492
84	Musku Sai Kiran	18R11A0138	CREATIVE HOMES PVT.LTD.	CHPL/02/2024/110
85	M Pavan Yadav	18R11A0139	COGENT	-
86	Pinnaka Nikhil Sai	18R11A0142	GAMUT INDIA PROJECTS	GAMUT/2024/05
87	Pothuganti Madhu	18R11A0144	GAMUT INDIA PROJECTS	GAMUT/2024/06
88	Rapolu Karthik Reddy	18R11A0145	BYJUS	-
89	Ramidi Snigdha	18R11A0147	SAVANTIS	SA/TA/HYD/2022/3044
90	Rangu Usha	18R11A0148	GAMUT INDIA PROJECTS	GAMUT/2024/07
91	Sudhani Ram Teja	18R11A0152	CRUX PRESTRESSING	-
92	U Harsha	18R11A0156	RIDH CONSTRUCTIONS	-
93	Upputuri Shiva	18R11A0157	GAMUT INDIA PROJECTS	GAMUT/2024/08
94	Yellu Sri Charan Reddy	18R11A0159	INTELLICRATS	-
95	Adapa Varun Teja	18R11A0160	SRI INFOTECH	SRI INFOTECH/HR/HQ-AL/2022-23/0018

Program Name : Civil Engg.

Assessment Year : 2020-21(CAYm3)

S.No	Student Name	Enrollment	Employee Name	Appointment No
1	A Thilok Reddy	17R11A0101	COGNIZANT	15016772
2	Akshitha Bannan Vojjolla	17R11A0103	CREATIVE HOMES	CHPL/02/2024/111
3	Aravelli Sri Charan	17R11A0105	SUTHERLAND	-
4	Cherukuru Kalvani	17R11A0109	DXC.TECHNOLOGY	-
5	Dachineni Sudeepa	17R11A0110	COGNIZANT	15016794
6	G.Krishna Prasad Srinivas	17R11A0112	CREATIVE HOMES	CHPL/02/2024/112
7	Gali Badri Nath	17R11A0113	NGLOME	-
8	Irukularati Gnanavi	17R11A0115	NGLOME	-
9	Kavya Tanda	17R11A0117	DXC.TECHNOLOGY	-
10	Killani Ramya	17R11A0118	CREATIVE HOMES	CHPL/02/2024/113
11	Kommi Reddy Venkatadri	17R11A0120	CREATIVE HOMES	CHPL/02/2024/114
12	Korukonda Venkatanaga	17R11A0121	NGLOME	-
13	M.Vikas	17R11A0123	GAMUT INDIA PROJECTS	GAMUT/2024/14
14	Malavika Sai Budavarapu	17R11A0126	GAMUT INDIA PROJECTS	GAMUT/2024/15
15	Nagarai Sankati	17R11A0130	COGNIZANT	21915631
16	Nalla Spandana	17R11A0131	NGLOME	-
17	Ravana Ramya Sree	17R11A0137	DXC.TECHNOLOGY	-
18	Sukkala Manikanta	17R11A0141	GAMUT INDIA PROJECTS	GAMUT/2024/16
19	Vennamaneni Sai Kiran	17R11A0146	DXC.TECHNOLOGY	-
20	Akula Vijay Kumar	17R11A0150	RDS	-
21	Anjali Naguboina	17R11A0151	SAVANTIS	SA/TA/HYD/2021/1050
22	Dasari Bhargava	17R11A0158	COGNIZANT	15017072
23	Kadukuntla Sanketh Raj	17R11A0162	COGNIZANT	15016814
24	Kottamgari Manish	17R11A0165	SAVANTIS	SA/TA/HYD/2021/1056
25	Nangunuri Naveen Kumar	17R11A0174	TCS	TCSL/DT20229518284/1
26	P Venugopal	17R11A0175	AVINEON	EMP ID-7866
27	Rampally Sai Prasanna	17R11A0181	TCS	TCSL/DT20222007771/
28	Umma Praneta	17R11A0194	RDS	-
29	Vemulakonda Sai Pallav	17R11A0196	COGNIZANT	15016897
30	Dosawada Sriharsha	17R11A01A0	NGLOME	-
31	Kattela Ramakrishna	17R11A01A4	AMAZON	-
32	Sarangapur Yashwanth	17R11A01B6	SUTHERLAND	-
33	Mudadla Srinivas	18R15A0106	RDS	-
34	Anand	18R15A0109	INFOSYS	HRD/3T/1004063049/20
35	Bussa Lahari	17R11A0155	N R EQUIPMENTS	-
36	Cheetakoru Mahesh Babu	17R11A0157	DWELLTALES	-
37	Mureboina Manoj Kumar	17R11A0170	DWELLTALES	-
38	Panduga Arun	17R11A0177	DWELLTALES	-
39	Shette Srikanth	17R11A0190	DWELLTALES	-
40	Gugulothu Prakash	17R11A01A2	N R EQUIPMENTS	-

41	Kethavath Mohan Nayak	17R11A01A5	N R EQUIPMENTS	-
42	Kundarapu Abhinav	18R15A0102	N R EQUIPMENTS	-
43	Voora Sai Keerthi	18R15A0117	N R EQUIPMENTS	-
44	Nari Vivek	17R11A0132	Saint Louis University	SEVIS ID:N0032218891
45	S Likhitha Rao	17R11A0139	CVR Engineering College	-
46	Chaitanya Kapoor	17R11A0156	NICMAR, PUNE	3720165
47	Kunchamwar Ankush	17R11A0166	University College of	100522741104
48	Locharam Nikil Kumar	17R11A0167	Central Michigan University	-
49	N Lalitha	17R11A0171	Webster University	Student Id: 4230610
50	P Vishal	17R11A0176	ASTON University	-
51	P Rahul Reddy	17R11A0178	Anurag University	9302060083
52	Repaka Nikil	17R11A0182	University of West of	W00103243
53	S Sahitva	17R11A0186	JNTUH	9301123332
54	Bantu Pranav Kumar	17R11A0198	University of East London	-
55	Rishikesh	18R15A0110	My Home Constructions	HDP1140
56	Mohammad Ayub	17R11A0169	University of Texas at	-

4.5 - Professional activities (20)

4.5.1 - Professional societies-chapters, organizing engineering events (5)

Professional Bodies:

1. **Indian Green Building Council (IGBC)** student chapter was started in the campus on 24.01.2019. The main objective of this chapter is to inspire, instill and imbibe 'green approach' for sustainable tomorrow. As part of the chapter, IGBC authorities have provided state of art literature on various areas pertaining to green technologies. Presently an open elective course on green building is offered to the B.Tech students of various branches. This course is offered by civil engineering department. A few projects were also carried by students of B.Tech civil engineering such as "Auditing of buildings for green rating". An Expert lecture on "Bridging the gap between Academia and Industry through **Green Innovations**" was delivered by Ms. Priyadarshini from CII-IGBC, Hyderabad chapter. About 50 students of B. Tech civil engineering participated in the event.

A field trip to IGBC Hyderabad Campus was arranged by the department in which external and internal participants who attended the Faculty Development Program on "**Green Solutions for Smart Infrastructure Development**". A few industrial visits are also planned for the students in collaboration with IGBC.



Geethanjali College of Engineering and Technology



Expert lecture
on "Bridging the Gap Between Academia
and Industry through Green Innovations"

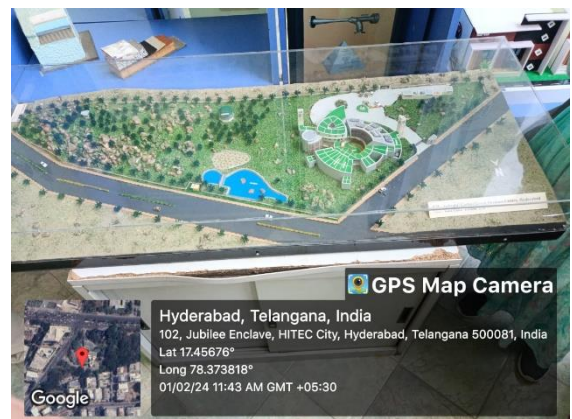
Speaker: Ms. Priadarshni, Councillor,
CII - IGBC, Hyderabad

Date: 12/03/2024, Time: 10.00AM to 12.30 PM

Target Batch: B. Tech,
Civil Engineering Students

Coordinator: Dr. K. SriLakshmi
HOD, CED: Dr. V. V. Praveen Kumar

Patron: Dr. Udaya Kumar Susarla, Principal, GCET
Chief Patron: Sri. Ravinder Reddy, Chairman, GCET



A few Snapshots of activities

2. **Indian Geo-technical Society (IGS)** student chapter initiatives were taken and organized a few activities under IGS for the students of Civil Engineering Prof. M. R. Madhav visiting professor of IIT Hyderabad inaugurated the student chapter in the department. Further eminent professors from reputed organizations delivered expert lectures on emerging areas of Geotechnical engineering efforts are on to make the student chapter as National level IGS chapter.
3. The department has signed an MoU with the **Smart Infrastructural Engineering Services Trust (SIEST)**, Hyderabad. As part of MoU, the department has become an Institutional member of SIEST. SIEST facilitates students towards Internship, Guest lectures, Mini and Major Projects. Also facilitates placement opportunities through its subsidiary, SHARP. In addition to the above, provides Career counselling through SIMULATION.

Smart Infrastructural Engineering Services Trust
Connecting ideas through fellowship

Reg. No.-72/2016

23rd February 2024

M/s .Geethanjali College of Engineering
Cheeryal Village Keesara Mandal
Sy.No: 33 & 34 Medchal,
Hyderabad – 501301.

Invoice No. 01/2023-24

Towards Institutional Membership One Time Fee	Rs. 25,000/-
Total Amount:	Rs.25,000/-

E&OE: (Rupees Twenty-Five Thousand Only)

Our Income Tax Permanent Account Number is: **AARTS4414K**. We hereby confirm that our revenue falls within the threshold limit and we are not required to register as per GST Act. Hence, we have not registered under GST.

For SMART INFR-ES TRUST

(Authorized Signatory)

4/3

v.v. p...
04/02/2024

A-401, Kushal Towers, Khairatabad, Hyderabad-500004
Contact No. : +91-9393348484 Website:www.smartinfrest.in

Faculty members of Civil Engineering department are the members of the following professional societies:

- i. Indian Society for Technical Education (ISTE)
- ii. Indian Geotechnical Society (IGS)
- iii. Indian Road Congress (IRC)
- iv. Institution of Engineers-IE(I)
- v. Indian Concrete Institute (ICI)

Indian Society for Technical Education (ISTE):

The ISTE chapter was established at Geethanjali College of Engineering & technology in 2011 with institute membership number **IM 2061**. Every year ISTE chapter GCET conducts various events such as expert lectures, workshops, seminars, Industrial visits, etc. to assist staff and students for updating their technical knowledge.

List of registered faculty members of Civil Engineering Department in ISTE:

S. No.	Name of the Faculty	Professional Body
1.	Dr. R. Prasanna Kumar	LMISTE
2.	V. Abdul Raffi	LMISTE
3.	G. Raju	LMISTE
4.	V. Goutham	LMISTE
5.	P. Supriya	LMISTE

List of registered faculty members of Civil Engineering Department in other professional bodies:

S. No	Name of the Faculty	Professional Body
1.	Dr. R. Prasanna Kumar	IRC
2.	Dr. R. Prasanna Kumar	IGS
3.	V. Abdul Raffi	ICI

List of registered students of Civil Engineering Department in ISTE:

Batch:2019-23		
S. No.	Roll No.	Name of the student
1.	19R11A0173	Munigeti Prudhviraaj
2.	19R11A0101	Ajmeera Sandeep
3.	19R11A0182	Shaik Mohammed Riaz
4.	19R11A0152	Devala Akash Yadav

5.	19R11A0162	Koluguri Yagnoosha Bandhavi
6.	19R11A0161	Kattela Deepthi
7.	19R11A0167	Malleboina Rohit
8.	19R11A0178	Pamu Aravind Kumar
Batch: 2018-22		
S.No.	Roll no.	Name of the student
1	18R11A0161	Aditya Narvate
2	18R11A0194	Maredukonda Sai Karthika
3	18R11A0195	Matta Tharpani
4	18R11A0171	Darga Preetham Kumar
5	18R11A0147	Ramidi Snigdha
6	18R11A01B1	S Sai Roopa
7	18R11A0166	Bacha Akhila
8	18R11A01A5	Pankuntla Akshaya
9	18R11A0110	C Venkata Sri Dikshita
10	18R11A0140	Nandivelugu Prathyusha
11	18R11A0119	Gadipally Shruthi
12	18R11A01A8	Pendli Chandana
13	18R11A0199	Mohammed Yaseen
14	18R11A0187	Kormatha Anish
15	18R11A01A0	Mutpuri Akhil Gupta
16	18R11A0120	Gokavarapu Sai Hanisha
17	18R11A0172	Domathoti Celina Grace Harrison
18	18R11A0197	Mekala Varsha

4.5.2 - Publication of technical magazines, newsletters, etc. (5)

Department of Civil Engineering is releasing “PRAGATHI” newsletter twice in a year. The first volume first issue was released in the academic year 2016-17. It covers all the activities of the department that include faculty contributions through publication of papers in journals and conferences, participation in FDP’s, STTP’s, workshops, faculty achievements in self learning courses such as NPTEL and student participation in various activities including curricular, co-curricular and extracurricular. It also covers industrial visits organized, workshops conducted, guest lectures by invited experts, and contributed articles by senior faculty.

In addition, at the college level, the department also publishes a technical magazine named INNOVATION, showcasing technical articles and papers, etc.

S. No.	Newsletter	Term	Editorial Board
1.	PRAGATHI, Volume 8, Issue 1	July -December 2023	1. V. Abdul Raffi– Chief Editor 2. Reena Raana – Associate Editor
2.	PRAGATHI, Volume 7, Issue 2	Jan-July 2023	1. V. Abdul Raffi– Chief Editor 2. Reena Raana – Associate Editor
3.	PRAGATHI, Volume 7, Issue 1	July -December 2022	1. V. Abdul Raffi– Chief Editor 2. G. Raju – Associate Editor
4.	PRAGATHI, Volume 6, Issue 2	Jan-July 2022	1. V. Abdul Raffi -Chief Editor 2. K. Rupa Sree- Associate Editor
5.	PRAGATHI, Volume 6, Issue 1	July -December 2021	1. Dr. R. Prasanna Kumar – Chief Editor 2. V. Anusha – Associate Editor 3. V. Anusha - Editor
6.	PRAGATHI, Volume 5, Issue 2	Jan-July 2021	1. Dr. R. Prasanna Kumar-Chief Editor 2. G. Raju- Associate Editor 3. P. Supriya- Editor
7.	PRAGATHI, Volume 5, Issue 1	July -December 2020	1. Dr. R. Prasanna Kumar – Chief Editor 2. G. Raju – Associate Editor 3. K. Divya - Editor
8.	PRAGATHI, Volume 4, Issue 2	Jan-July 2020	1. Dr. R. Prasanna Kumar-Chief Editor 2. G. Raju- Associate Editor 3. P. Supriya- Editor
9.	PRAGATHI, Volume 4, Issue 1	July – December 2019	1. Dr. R. Prasanna Kumar – Chief Editor 2. G. Raju – Associate Editor 3. D. Ramachander - Editor
10.	PRAGATHI, Volume 3, Issue 2	Jan – July 2019	1. Dr. R. Prasanna Kumar – Chief Editor 2. G. Raju – Associate Editor

			3. D. Ramachander - Editor
11.	PRAGATHI, Volume 3, Issue 1	July – December 2018	1. Dr. R. Prasanna Kumar – Chief Editor 2. G. Raju – Associate Editor 3. D. Ramachander – Editor 4. K. Divya - Editor
12.	PRAGATHI, Volume 2, Issue 2	Jan – June 2018	1. Dr. P. Ram Mohan Rao – Chief Editor 2. G. Raju – Associate Editor 3. K. Divya - Editor
13.	NEWSLETTER, Volume 2, Issue 1	July – December 2017	1. Dr. K.R.C. Reddy – Chief Editor 2. P. Neeraja – Associate Editor 3. G. Raju – Editor 4. Y.V. Mohan Reddy – Student Member 5. K. Linga Raju - Student Member 6. K. Vaishnav - Student Member
14.	NIRMAAN, Volume 1, Issue 2	December 2016- May 2017	1. P. Neeraja - Chief Editor 2. D. Ramachander - Editor
15.	NIRMAAN, Volume 1, Issue 1	June- November 2016	1. P. Neeraja - Chief Editor 2. D. Ramachander - Editor



GEETHANJALI COLLEGE OF ENGINEERING AND TECHNOLOGY

UGC Autonomous Institution

Accredited by NAAC, Approved by AICTE and affiliated to JNTUH

Cheerayal (V), Keesara (M), Medchal (Dist.) Pin-501 301

Ph: +91 7306295152, Website: www.gcet.edu.in

Newsletter: Volume7, Issue1

PRAGATHI: July - Dec 2022

PRAGATHI

DEPARTMENT OF CIVIL ENGINEERING

What's Inside

Message from Head of the
Department

Vision, Mission, PEO's and PSO's
of the Department

- I. Publications by faculty*
- II. Faculty
Achievements/Awards*
- III. Student participation &
achievements*
- IV. FDP's/Workshops/Conferen
ces/Webinars participated by
faculty*
- V. Expert lectures / Workshops
/ Field visits organized by
the department*



G. R. Ravinder Reddy
Chairman



Dr. Uday Kumar Susarla
Principal



Dr. R. Prasanna Kumar
Dean-Registrar



V. Abdul Raffi
Head-CED

Message from Head of the Department

I am very happy to bring out the fifth volume, second issue Department Newsletter "PRAGATHI". My hearty congratulations to all the academic toppers of II, III and IV years. Five of our students qualified through GATE and IELTS 2021 examinations. On the placements front, this time, CE department feel pride to place on record that two of our students got placed in Byju's with an annual package of 10 Lakh rupees, and about 30 other Civil Engineering students of 2017-2021 batch secured placements on campus in various multinational companies such as Cognizant, Accenture, DXC Technologies etc. Many of the faculty members of the department have participated in various online ATAL FDPs and webinars organized by reputed institutions.

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Vision of the department

The Civil Engineering Department is committed to excellence, quality, and sustained growth while offering our students an outstanding and rigorous education in an environment that supports intellectual growth while meeting 21st century demands.

Mission of the department

1. To provide high-quality educational experience for students in the field of Civil Engineering with strong emphasis on professional ethics, social and environmental responsibilities.
2. To provide infrastructure and facilities to meet the latest technological requirements.
3. To provide research opportunities for faculty and students.
4. To have a continuous interaction with Industry with an emphasis on R and D.
5. To produce engineers capable of critical thinking, devoted to lifelong learning, and highly sought after by employers.

Program Educational Objectives (PEOs)

Program Educational Objectives (PEOs) are broad statements that describe the career and professional accomplishments that the program is preparing the graduates to achieve within three to five years of graduation. The PEOs for Civil Engineering program are:

PEO 1: Graduates will be technically adept in mathematical, scientific, and engineering fundamentals to pursue their chosen profession or pursue advanced studies with a commitment to lifelong learning for professional development.

PEO 2: Graduates will be able to apply problem-solving skills to various engineering problems that involve management of medium-sized projects to large-scale projects using modern equipment or systems, and work on multidisciplinary projects in multicultural environment demonstrating interpersonal skills.

PEO 3: Graduates will exhibit creativity, innovation, and professional ethics with leadership qualities towards societal development.

Program Specific Outcomes (PSOs)

PSO 1: Apply knowledge in core areas of Civil Engineering such as Structural, Geotechnical, Water Resources, Transportation and Environmental Engineering to Civil Engineering practice.

PSO 2: Utilize Civil Engineering principles that are appropriate to produce detailed drawings, design reports, quantity and cost estimates, specifications, contracts and other documents appropriate for the design, construction, operations and maintenance of Civil Engineering projects.

PSO 3: Shall interact and collaborate with stakeholders; execute quality construction works applying Civil Engineering tools namely, Total Station, Global Positioning System (GPS), ArcGIS, AutoCAD, STAAD and other necessary tools.

I. Publications by faculty

S. No.	Faculty Name	Title of Paper	Details
1.	<i>Dr. V. V. Praveen</i>	<i>A study on validation of moment-curvature relationship of lime sludge-based blended cement concrete on numerical modeling (ATENA)</i>	<i>Name of the journal - Structures - SCI Date of published: 11/10/2022 Volume: 45 Page: 1729-1737</i>
2.	<i>Dr. V. V. Praveen</i>	<i>Study on strength and durability characteristics of nano-silica based blended concrete Name of the journal - Hybrid advances</i>	<i>Date of published: 31/12/2022 Volume: 2 Page: 1-15</i>
3.	<i>Dr. K. Sri Lakshmi</i>	Establishment of CETP at Chirala textile cluster using RS and GIS: a site suitability study	International conference on education 5.0- role of institution, industry and society, (eriis - 2022) october 14 -15 2022, organised by NIT Warangal.

II. Faculty Achievements/Awards

1. *G. Raju*, Assistant Professor got admission for Ph. D. under category -II in Osmania University, Hyderabad, Telangana.

2. *V. Navaneetha*, Assistant Professor got admission for Ph. D. under category -II in Osmania University, Hyderabad, Telangana.

III. Student participation & achievements

S. No.	Student Name	Event Name with Date	Place/College	Remarks
1.	Ajmeera Sandeep	QUIZOHOLIC-3.0, November 2022	GCET	Participation
2.	Ajmeera Sandeep	Flipkart GRiD-4.0- Software Development Challenge	Flipkart	Participation
3.	Deeravath Balaram	GATE 2023	GATE 2023	Qualified
4.	Abhishek Vemula	GRE March 2023	GRE	Qualified
5.	Sabiha Tabassum Shaik	GRE Sept 2022	Master's in University of North Texas	MS in NTU
6.	Harita Pasumarthi	IELTS Jul 2022	IELTS	Qualified
7.	Tummeti Sai Kumar Reddy	GRE	Data Science MS Programme in University of New Heaven , West Heaven	MS in UNH
8.	Rakesh Reddy Maggidi	GATE 2023	GATE 2023	Qualified

IV. FDP's/Workshops/Conferences/Webinars participated by faculty

S. No.	Name of the Faculty	Duration of Workshop	Topic	Organized by
1.	V Navodaya	13-07-2022	Webinar on NEP 2020 Implementation Plan: Equity and Inclusion	JNTUH
2.	K.Keerthi	16-07-2022	New techniques for prevention and mitigation of disasters triggered by earth quake and tsunami	Ultratech cement .Ltd
3.	N Kranthi Kumar	18-07-2022 to 22-07-2022	Concrete Mix Proportioning as per IS 10262 - 2019	NITTTR Kolkatta
4.	V.Abdul Raffi	12 Weeks (July-22 to Oct-22)	Geotechnical Engineering-I	IIT Khargpur NPTEL Course
5.	N Kranthi Kumar	12 Weeks (July-22 to Oct-22)	Design of Reinforced Concrete Structures	IIT Khargpur NPTEL Course
6.	N Kranthi Kumar	12 Weeks (July-22 to Oct-22)	FDP on Design of Reinforced Concrete Structures	IIT Khargpur NPTEL Course
7.	Dr. K. SriLakshmi	12-08-2022	Represented GCET as Innovation ambassador	Srinidhi College of Engineering & Technology
8.	V.Abdul Raffi	14-09-2022	Latest trends in Green Buildings	Jaipee University, Solan, Himachal Pradesh
9.	Dr. K. SriLakshmi	17-09-2022	Innovation ambassador (IA) training (Foundation level)	MoE's Innovation cell and AICTE
10.	Dr. K. SriLakshmi	10-10-2022	Innovation ambassador (IA) training (Advanced level)	MoE's Innovation cell and AICTE
11.	Dr. K. SriLakshmi	15-10-2022	National webinar on women and environment : issues & challenges	Acharya Nagarjuna University
12.	Reena Rana	15-10-2022	National webinar on women and environment : issues & challenges	Acharya Nagarjuna University

13.	<i>Dr. K. SriLakshmi</i>	<i>15-10-2022</i>	<i>Education 5.0- Role of Institution, Industry and Society (ERIIS-2022)</i>	<i>NIT, Warangal</i>
14.	<i>Dr. K. SriLakshmi</i>	<i>24-11-2022</i>	<i>Green talk on Rain Water Harvesting</i>	<i>Jaippee University, Solan, Himachal Pradesh</i>
15.	<i>V.Abdul Raffi</i>	<i>24-11-2022</i>	<i>Green talk on Rain Water Harvesting</i>	<i>Jaippee University, Solan, Himachal Pradesh</i>
16.	<i>K.Keerthi</i>	<i>24-11-2022</i>	<i>Green talk on Rain Water Harvesting</i>	<i>Jaippee University, Solan, Himachal Pradesh</i>
17.	<i>Reena Rana</i>	<i>24-11-2022</i>	<i>Green talk on Rain Water Harvesting</i>	<i>Jaippee University, Solan, Himachal Pradesh</i>
18.	<i>V Navaneetha</i>	<i>24-11-2022 to 29-11-2022</i>	<i>Applications of Artificial Intelligence & Machine Learning in Civil Engineering</i>	<i>IIC & IEI</i>
19.	<i>V.Abdul Raffi</i>	<i>26-11-2022</i>	<i>Reinforced concrete piled wall retention systems for deep excavations in urban areas</i>	<i>ICI Hyderabad centre</i>
20.	<i>Dr. K. SriLakshmi</i>	<i>28-11-2022 to 04-12-2022</i>	<i>Publications, Projects and Patents (PPP-2K22)</i>	<i>CVR college of Engineering</i>
21.	<i>Dr.N.Mahendra</i>	<i>22-12-2022 to 24-12-2022</i>	<i>Petrographic features of Granitic Rocks</i>	<i>Conference</i>
22.	<i>N Kranthi Kumar</i>	<i>26-12-2022 to 30-12-2022</i>	<i>Course on Commentary for Code on Ductility Design and Detailing of RC structures</i>	<i>NITTTR Kolkatta</i>

V. Expert lectures / Workshops / Field visits organized by the department

S. No	Name of the Resource person	Designation and Organization	Date organized	Topic covered	Activity
1	Dr. N R Dakshina Murthy	Associate Professor, CBIT, Hyderabad.	26-08-2022	NDT and Structural Rehabilitation Case studies	Expert Lecture
2	Mr. Gladvin	Trainer, Nilaya Architects, Structural consultant & construction	04.07.2022-14.07.2022	Revit Architecture	Training Program
3	Mr. S. Mani Mohan Trinath	Managing Director, ACE Academy	30.08.2022	How to crack ESE/ GATE/PSUs in First Attempt?	Expert Lecture
4	Er. S. B. Shankar Rao	Ritired Sp. Engineer	15.09.2022	Role of a Civil Engineer in the world	Expert Lecture
5	Ch Ravi Kumar	Senior Consultant, National Academy for Construction	21.10.2022	Opportunities for Civil Engineering Students	Student Development Program

6. Quiz Competition on “A National Online Quiz on Entrepreneurial Competence of 75 years of free India,”

Dated: 13/08/2022

The Indian National Flag is a symbol of national pride. To further honor our flag, the department of Civil engineering decided to conduct an online national quiz under Azadi Ka Amrit Mahotsav that has approved the program of 'Har Ghar Tiranga'. The idea behind the initiative is to invoke the feeling of patriotism in the hearts of the students and promote awareness about our national flag. In this context, the department of civil engineering in collaboration with Institutions Innovation Council (IIC) organized a National Quiz and invited all college students to participate in the quiz.

The Quiz was unique in itself because it was held on virtual platform. The Rules and regulations of the quiz were shared to the students during registration. And on later stage they were also informed to students on whatsapp platform. We had 70 students from 19 different colleges throughout India who have enthusiastically participated in the quiz. It was organized by Dr. K. SriLakshmi and Reena Rana.



Geethanjali College of Engineering and Technology

(UGC Autonomous Institution Accredited by NBA & NAAC,
Permanently Affiliated to JNTUH, ISO 9001:2015 certified)
Cheeryal (T), Keesara (M), Medchal, Dist. 501301

Department of Civil Engineering, in collaboration with Institution's Innovation Council of GCET
Results

An online Quiz Competition on "Entrepreneurial competence of 75 years of free India"

1st : Yellavula Sreeya Reddy, Matrusri engineering college (Hyd)

2nd: Mamilla Rithika, Geethanjali college of engineering and technology (Hyd)

3rd : Nidhi Singh Thakur, Guru nanak dev engineering college (Hyderabad)

Kallem Preetham Reddy, Geethanjali college of engineering and technology (Hyderabad)
Amzadpasha. C, Sir M Vishveshvariya institute of Technology (MVI), (Hyderabad)
Vaishnavi Agarwal, College of engineering, (Roorkee)
Sania Begum, Geethanjali college of engineering and technology (Hyderabad)
D. Sai Bhavani, Geethanjali college of engineering and technology (Hyderabad)

Consolation Prizes

Quiz Organizers:

Dr. K. SriLakshmi & Reena Rana, Department of Civil Engineering



Few snapshots of Training Programs

7. Industrial visit at "Emergency Steel Staircase-Block 3 -GCET"

All the B. Tech IV Year students of Civil Engineering were taken to visit the Emergency Steel Staircase at Block-III of GCET on 10th August 2022. Mr. G.Sampath Kumar and Ms.V.Navaneetha ,faculty of Civil Engineering department have accompanied the students for the visit. Students are exposed to understand the importance of rolled steel sections, its connections like welding, bolting and its structural design aspects adopted as per different loading conditions.



A few snap shots during the visit

8. Industrial visit at "National Academy of Construction-Hitech City"

A group of B. Tech II- Year students were taken to National Academy of Construction on 24th December 2022, as part of Curriculum. Students were accompanied by three faculty members. The team of NAC gave a power point presentation on various training programs conducted by the organization. A demonstration on various construction techniques was also given such as Scaffolding, Welding, Plumbing services, prefabricated materials used in industry, Brick masonry, Painting, Electrical wiring, Bar bending schedule etc. Mr. G. Raju, Mr. G. Sampath Kumar and Ms. Reena Rana faculty of Civil Engineering department have accompanied the students for the visit. The visit was highly informative and useful to all the students and the faculty as they got exposed to the practical aspects of construction.



A few snap shots during the visit

Periodical Editions



EDITORIAL BOARD

Mr. V. Abdul Raffi
Mr. G. Raju
Dr. K. Sri lakshmi
Reena Rana
Mr. G. Sampath Kumar
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Assistant Professor
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**Geethanjali College of
Engineering and Technology**

ACCREDITED BY NAAC, NBA AND AUTONOMOUS UNDER UGC

INNOVATION

COLLEGE MAGAZINE

2019-20

*The science of today,
is the technology of tomorrow.*

- EDWARD TELLER



Geethanjali College of
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4.5.3 - Participation of inter-institute events by students of the program of study(10)

STUDENT'S PARTICIPATION (A.Y.2023-24)			
S. No.	Student Name	Event Name with Date	Place/College
1	A. Uttej vadan	1-Day workshop on Tunneling on 03.01.2024	GITAM (Deemed to be University)
2	B.N. Sai Santhosh	1-Day workshop on Tunneling on 3 rd Jan 2024	GITAM (Deemed to be University)
3	B. Bhanu Prakash	1-Day workshop on Tunneling on 3 rd Jan 2024	GITAM (Deemed to be University)
4	J. Sindhuja Pawar	1-Day workshop on Tunneling on 3 rd Jan 2024	GITAM (Deemed to be University)
5	N. Komal	1-Day workshop on Tunneling on 3 rd Jan 2024	GITAM (Deemed to be University)
6	T. Kowshik Raj Singh	Standard Writing Competition by BIS on 06/10/2023	BIS- Hyderabad
7	V. Jayanth Sakar	Standard Writing Competition by BIS on 06/10/2023	BIS- Hyderabad
8	Vislavath Ravi	Standard Writing Competition by BIS on 06/10/2023	BIS- Hyderabad
9	Sk. Abidur Rahman	Standard Writing Competition by BIS on 06/10/2023	BIS- Hyderabad
10	B Harshini	Standard Writing Competition by BIS on 06/10/2023	BIS- Hyderabad
11	B Devender	Standard Writing Competition by BIS on 06/10/2023	BIS- Hyderabad
12	A Roopa Chandrika	Standard Writing Competition by BIS on 06/10/2023	BIS- Hyderabad
13	B Harshitha	Standard Writing Competition by BIS on 06/10/2023	BIS- Hyderabad
14	B Sai Varun	Standard Writing Competition by BIS on 06/10/2023	BIS- Hyderabad
15	A Mavitha	Standard Writing Competition by BIS on 06/10/2023	BIS- Hyderabad
16	V Deeraj	Standard Writing Competition by BIS on 06/10/2023	BIS- Hyderabad
17	T Devisatyasri	Standard Writing Competition by BIS on 06/10/2023	BIS- Hyderabad
18	R Praveen Kumar	Standard Writing Competition by BIS on 06/10/2023	BIS- Hyderabad
19	S. Sanjeev	Standard Writing Competition by BIS on 06/10/2023	BIS- Hyderabad
20	G Prashanth	Standard Writing Competition by BIS on 06/10/2023	BIS- Hyderabad
21	P Bhavana	Standard Writing Competition by BIS on 06/10/2023	BIS- Hyderabad

22	M Kushalatha	Standard Writing Competition by BIS on 06/10/2023	BIS- Hyderabad
23	K Pavan Kumar	Standard Writing Competition by BIS on 06/10/2023	BIS- Hyderabad
24	K. Nikhil	Standard Writing Competition by BIS on 06/10/2023	BIS- Hyderabad
25	K Shiva Kumar	Standard Writing Competition by BIS on 06/10/2023	BIS- Hyderabad
26	D Nithin Kumar	Standard Writing Competition by BIS on 06/10/2023	BIS- Hyderabad
27	B Prashanth	Standard Writing Competition by BIS on 06/10/2023	BIS- Hyderabad
28	B Naveen Kumar	Standard Writing Competition by BIS on 06/10/2023	BIS- Hyderabad
29	R Anudeep	Standard Writing Competition by BIS on 06/10/2023	BIS- Hyderabad
30	B N Sai Santhosh	Standard Writing Competition by BIS on 06/10/2023	BIS- Hyderabad
31	B Pranay	Standard Writing Competition by BIS on 06/10/2023	BIS- Hyderabad
32	B Bhanu Prakash	Standard Writing Competition by BIS on 06/10/2023	BIS- Hyderabad
33	D Venkat	Standard Writing Competition by BIS on 06/10/2023	BIS- Hyderabad
34	B Rajashekar	Standard Writing Competition by BIS on 06/10/2023	BIS- Hyderabad
35	G Ganesh	Standard Writing Competition by BIS on 06/10/2023	BIS- Hyderabad
36	J Nithin	Standard Writing Competition by BIS on 06/10/2023	BIS- Hyderabad
37	G Madhusudhan	Standard Writing Competition by BIS on 06/10/2023	BIS- Hyderabad
38	E Manoj Kumar	Standard Writing Competition by BIS on 06/10/2023	BIS- Hyderabad
39	R Hemanth	Standard Writing Competition by BIS on 06/10/2023	BIS- Hyderabad
40	P Harikrishna	Standard Writing Competition by BIS on 06/10/2023	BIS- Hyderabad
41	D Sairam	1-day National Level Event on 09/02/23	BIS- Hyderabad
42	V Jayanth Sakar	1-day National Level Event on 09/02/23	BIS- Hyderabad
43	B Harshini Goud	1-day National Level Event on 09/02/23	BIS- Hyderabad
44	K Bhuvana Chandra	1-day National Level Event on 09/02/23	BIS- Hyderabad
45	V Ravi	1-day National Level Event on 09/02/23	BIS- Hyderabad
46	B Harshitha Goud	1-day National Level Event on 09/02/23	BIS- Hyderabad

47	A Roopa Chandrika	1-day National Level Event on 09/02/23	BIS- Hyderabad
48	B Sai Varun	1-day National Level Event on 09/02/23	GCET
49	K Bhanu Chander	1-day National Level Event on 09/02/23	GCET
50	L Rishi Deshmukh	1-day National Level Event on 09/02/23	GCET
51	K Archana	1-day National Level Event on 09/02/23	GCET
52	K Nikhil Kumar	1-day National Level Event on 09/02/23	GCET
53	N Sai Vishal	1-day National Level Event on 09/02/23	GCET
54	P Santhosh Kumar	1-day National Level Event on 09/02/23	GCET
55	N Harika	1-day National Level Event on 09/02/23	GCET
56	R Sai Chetan	1-day National Level Event on 09/02/23	GCET
57	N Srikanth Reddy	1-day National Level Event on 09/02/23	GCET
58	T Naresh	1-day National Level Event on 09/02/23	GCET
59	P Brahmam	1-day National Level Event on 09/02/23	GCET
60	K Bhavya Shri	1-day National Level Event on 09/02/23	GCET
61	K Sai Karthik	1-day National Level Event on 09/02/23	GCET
62	V Harivardhan Reddy	1-day National Level Event on 09/02/23	GCET
63	Sk. Abidur Rahman	1-day National Level Event on 09/02/23	GCET
64	P Thirupathaiah	1-day National Level Event on 09/02/23	GCET
65	N Rajendar	1-day National Level Event on 09/02/23	GCET
66	L Kamal Kumar	1-day National Level Event on 09/02/23	GCET
67	G Dhanush	1-day National Level Event on 09/02/23	GCET

STUDENT'S PARTICIPATION (A.Y.2022-23)			
S. No.	Student Name	Event Name with Date	Place/College
1	V. Jayanth Sakar	2 nd prize-Basketball-April 2023	GCET
2	D Sai Ram	2 nd Prize-Poster Presentation- 04/04/2023	GCET
3	Balaram Deeravath	GATE 2023	-
4	Ajmeera Sandeep	GATE 2023	-
5	Ajmeera Sandeep	Tech Quiz-Flipkart GRiD 4.0	GCET
6	Ajmeera Sandeep	QUIZOHOLIC-3.0	GCET
7	Tummeti Sai Kumar Reddy	GRE - 6/9/2022	-
8	A. Bhuvana Chandra	Bhaswara-2023	GCET
9	Komaragiri Anirudh	Revit Software training(04-07-22 to 14.07.22)	GCET in collaboration with CANTER CADD
10	Pravallika Bellamkonda	Revit Software training(04-07-22 to 14.07.22)	GCET in collaboration with CANTER CADD
11	Chitupolu rithvik	Revit Software training(04-07-22 to 14.07.22)	GCET in collaboration with CANTER CADD
12	Meena	Revit Software training(04-07-22 to 14.07.22)	GCET in collaboration with CANTER CADD
13	D sai kumar	Revit Software training(04-07-22 to 14.07.22)	GCET in collaboration with CANTER CADD
14	D. Akash	Revit Software training(04-07-22 to 14.07.22)	GCET in collaboration with CANTER CADD
15	Aishwarya Dusa	Revit Software training(04-07-22 to 14.07.22)	GCET in collaboration with CANTER CADD
16	Goutham Reddy	Revit Software training(04-07-22 to 14.07.22)	GCET in collaboration with CANTER CADD
17	Sathvika Gaddam	Revit Software training(04-07-22 to 14.07.22)	GCET in collaboration with CANTER CADD
18	Bharath Reddy jakkula	Revit Software training(04-07-22 to 14.07.22)	GCET in collaboration with CANTER CADD
19	K Sai vijay kashyap	Revit Software training(04-07-22 to 14.07.22)	GCET in collaboration with CANTER CADD
20	Bhargava Ram kodali	Revit Software training(04-07-22 to 14.07.22)	GCET in collaboration with CANTER CADD
21	Nampally Swetha	Revit Software training(04-07-22 to 14.07.22)	GCET in collaboration with CANTER CADD
22	Panjala Sathish Goud	Revit Software training(04-07-22 to 14.07.22)	GCET in collaboration with CANTER CADD
23	Anand	Revit Software training(04-07-22 to 14.07.22)	GCET in collaboration with CANTER CADD
24	Manikanth Reddy	Revit Software training(04-07-22 to 14.07.22)	GCET in collaboration with CANTER CADD
25	P.srinivas	Revit Software training(04-07-22 to 14.07.22)	GCET in collaboration with CANTER CADD

26	Rasagarala Omkar	Revit Software training(04-07-22 to 14.07.22)	GCET in collaboration with CANTER CADD
27	Srijay J	Revit Software training(04-07-22 to 14.07.22)	GCET in collaboration with CANTER CADD
28	T.Sai rohit ram	Revit Software training(04-07-22 to 14.07.22)	GCET in collaboration with CANTER CADD
29	VallepuKumar swamy	Revit Software training(04-07-22 to 14.07.22)	GCET in collaboration with CANTER CADD
30	V Sandeep Reddy	Revit Software training(04-07-22 to 14.07.22)	GCET in collaboration with CANTER CADD
31	Yamjala vijay bhargav	Revit Software training(04-07-22 to 14.07.22)	GCET in collaboration with CANTER CADD
32	Kanduri Sumanth	Revit Software training(04-07-22 to 14.07.22)	GCET in collaboration with CANTER CADD
33	Chandrakanth	Revit Software training(04-07-22 to 14.07.22)	GCET in collaboration with CANTER CADD
34	Achini Vinay Kumar	Revit Software training(04-07-22 to 14.07.22)	GCET in collaboration with CANTER CADD
35	A.vineeth	Revit Software training(04-07-22 to 14.07.22)	GCET in collaboration with CANTER CADD
36	Janga Ajay	Revit Software training(04-07-22 to 14.07.22)	GCET in collaboration with CANTER CADD
37	Banoth Vamshi	Revit Software training(04-07-22 to 14.07.22)	GCET in collaboration with CANTER CADD
38	Laxmi Narayana	Revit Software training(04-07-22 to 14.07.22)	GCET in collaboration with CANTER CADD
39	Ch. Sirisha	Revit Software training(04-07-22 to 14.07.22)	GCET in collaboration with CANTER CADD
40	Manikanta	Revit Software training(04-07-22 to 14.07.22)	GCET in collaboration with CANTER CADD
41	Praveen kumar	Revit Software training(04-07-22 to 14.07.22)	GCET in collaboration with CANTER CADD

STUDENT'S PARTICIPATION (A.Y.2021-22)			
S. No.	Student Name	Event Name with Date	Place/College
1	J Arun Reddy	Bhaswara - Cad-A-Thon - 28/4/2022	GCET
2	A. Sandeep and J Arun Reddy	Bhaswara - Poster Presentation - 28/4/2022	GCET
3	Ch.Sanjay and J Arun Reddy	Bhaswara - Quiz Competition - 28/4/2022	GCET
4	L. Sai Rohit	Short Film Incubation - Workshop - 09/04/2022	-
5	K.Sai Rohit	Unnat Bharat Abhiyan 2021-Video Competition for Covid-19 Awareness	-
6	K. Bhavyashri	Bhaswara - 1 st prize in Bridge Making - 28/4/2022	GCET
7	K.Bhavyashri	Bhaswara - 3 rd Prize - Cad-A-Thon - 28/4/2022	GCET
8	K.Bhavyashri	Bhaswara - 3 rd Prize - Technical Quiz - 28/4/2022	GCET
9	V Jayanth Sakar	Mathematics Project Presentation - 15/06/2021	GCET

CRITERION 5	Faculty Information and Contributions	200
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Name of the Faculty Member	Qualification			Association with the Institution	Designation	Date on which Designated as Professor/ Associate Professor	Date of Joining the Institution	Department	Specialization	Academic Research			Currently Associated (Y/N) Date of Leaving (In case Currently Associated is ("No"))	Nature of Association (Regular/Contract)
	Degree (highest degree)	University	Year of attaining higher qualification							Research Paper Publications	Ph.D. Guidance	Faculty Receiving Ph.D. during the Assessment Years		

Table B.5

Note: Please provide details for the faculty of the department, cumulative information for all the shifts for all academic years starting from current year in above format in Annexure - II.

Student-Faculty Ratio (SFR) (20)

(To be calculated at Department Level)

No. of UG Programs in the Department (n): _____

No. of PG Programs in the Department (m): _____

No. of Students in UG 2nd Year= **u1**

No. of Students in UG 3rd Year=

u2 No. of Students in UG 4th

Year= **u3** No. of Students in PG

1st Year= **p1** No. of Students in

PG 2nd Year= **p2**

No. of Students = Sanctioned Intake + Actual admitted lateral entry students

(The above data to be provided considering all the UG and PG programs of the department)

S=Number of Students in the Department = UG1+UG2+UG3+PG1+PG2

F = Total Number of Faculty Members in the Department (excluding first year faculty)

Student Faculty Ratio (SFR) = S / F

5.1 Student-Faculty Ratio (SFR) (20)

YEAR	CAY (2023-24)	CAYm1 (2022-23)	CAYm2 (2021-22)
u1.1	60+18=78	60+22=82	60+11=71
u1.2	60+22=82	60+11=71	120+35=155
u1.3	60+11=71	120+35=155	120+14=134
UG1	u1.1+ u1.2+ u1.3 =231	u1.1+ u1.2+ u1.3 =308	u1.1+ u1.2+ u1.3 =360
p1	-	-	-
P2	-	-	-
PG1	NIL	NIL	NIL
Total No. of Students in the Department (S)	231	308	360
No. of Faculty in the Department (F)	16	17	17
Student Faculty Ratio (SFR)	SFR1=S1/F1=14.43	SFR2=S2/F2=18.11	SFR3=S3/F3=21.17
Average SFR	SFR=(14.43+18.11+21.17)/3=17.9 (16)		

Table B.5.1

Marks to be given proportionally from a maximum of 20 to a minimum of 10 for average SFR between 15:1 to 25:1, and zero for average SFR higher than 25:1. Marks distribution is given as below:

< = 15	-	20 Marks
< = 17	-	18 Marks
< = 19	-	16 Marks
< = 21	-	14 Marks
< = 23	-	12 Marks
< = 25	-	10 Marks
> 25.0	-	0 Marks

The contractual faculty (doing away with the terminology of visiting/adjunct faculty, whatsoever) who have taught for 2 consecutive semesters in the corresponding academic year on full time basis shall be considered for the purpose of calculation in the Student Faculty Ratio.

Provide the information about the regular and contractual faculty as per the format mentioned below:

	Total number of regular faculty in the department	Total number of contractual faculty in the department
2023-24	16	-
2022-23	17	-
2021-22	17	-

Table 5.1.1

5.2 Faculty Cadre Proportion (20)

The reference Faculty cadre proportion is 1(F1):2(F2):6(F3)

F1: Number of Professors required = $1/9 \times$ Number of Faculty required to comply with 20:1 Student-Faculty ratio based on no. of students (N) as per 5.1

F2: Number of Associate Professors required = $2/9 \times$ Number of Faculty required to comply with 20:1 Student-Faculty ratio based on no. of students (N) as per 5.1

F3: Number of Assistant Professors required = $6/9 \times$ Number of Faculty required to comply with 20:1 Student-Faculty ratio based on no. of students (N) as per 5.1

Year	Professors		Associate Professors		Assistant Professors	
	Required F1	Available	Required F2	Available	Required F3	Available
2023-24	1.28	1	2.55	1	7.66	14
2022-23	1.71	1	3.42	1	10.26	15
2021-22	2	1	4	2	12	14
Average Numbers	RF1=1.66	AF1=1	RF2=3.32	AF2=1.33	RF3=9.97	AF3=14.33

$$\text{Cadre Ratio Marks} = \left[\left[\frac{\text{AF1}}{\text{RF1}} + \left[\frac{\text{AF2} \times 0.6}{\text{RF2}} + \frac{\text{AF3} \times 0.4}{\text{RF3}} \right] \right] \right] \times 10 = 14.16$$

Table B.5.2

- If AF1 = AF2= 0 then zero marks
- Maximum marks to be limited if it exceeds 20

Example: Intake = 60 (i.e. total no. of students= 180); Required number of Faculty: 9;

RF1= 1,RF2=2 and RF3=6

Case 1: AF1/RF1= 1; AF2/RF2 = 1; AF3/RF3 = 1; Cadre proportion marks = $(1+0.6+0.4) \times 10 = 20$

Case 2: AF1/RF1= 1; AF2/RF2 = 3/2; AF3/RF3 = 5/6; Cadre proportion marks = $(1+0.9+0.3) \times 10 =$ limited to 20

Case 3: AF1/RF1=0; AF2/RF2=1/2; AF3/RF3=8/6; Cadre proportion marks = $(0+0.3+0.53) \times 10 = 8.3$

5.3 Faculty Qualification (20)

FQ = $2.0 \times [(10X + 4Y)/F]$ where x is no. of regular faculty with Ph.D., Y is no. of regular faculty with M. Tech., F is no. of regular faculty required to comply 20:1 Faculty Student ratio (no. of faculty and no. of students required are to be calculated as per 5.1)

	X	Y	F	FQ = $2.0 \times [(10X + 4Y)/F]$
CAY	4	12	11.52	15.27
CAYm1	4	13	15.4	11.94
CAYm2	3	14	18	9.55
Average Assessment				12.25

Table B.5.3

5.4 Faculty Retention (10) = 06 (Percentage of faculty retention-64.70%)

No. of regular faculty members in CAYm1=17

CAY=16

S.No.	Academic Year	Number of faculty
1	2023-24	16
2	2022-23	17
3	2021-22	17

Item (% of faculty retained during the period of assessment keeping CAYm2 as base year)	Marks
>= 90% of required Faculty members retained during the period of assessment keeping CAYm2 as base year	10
>=75% of required Faculty members retained during the period of assessment keeping CAYm2 as base year	08
>= 60% of required Faculty members retained during the period of assessment keeping CAYm2 as base year	06
>= 50% of required Faculty members retained during the period of assessment keeping CAYm2 as base year	04
< 50% of required Faculty members retained during the period of assessment keeping CAYm2 as base year	0

Table B.5.4

5.5 Faculty competencies in correlation to Program Specific Criteria (10)

The under graduate programme in B.Tech Civil Engineering requires expertise and experience of faculty members in various specializations covering the entire sphere of CE domains, to teach the courses related to different domains or specializations. Faculty members are encouraged to update their knowledge in the identified domains by way of attending FDPs/ STTPS and through certified online courses offered by NPTEL/ MOOC/ Coursera.

In an effort to pass on the expertise and experience of senior faculty members to junior teachers, a novel concept of Group Heads has been introduced to make the Teaching-Learning-Process more effective. All the theory and laboratory courses of the curriculum related to CE branch are broadly categorized into the following SIX groups/domains:

- Structural Engineering
- Geotechnical Engineering
- Water Resource Engineering
- Environmental Engineering
- Surveying and Geomatics
- Transportation Engineering

A senior Professor is nominated as a Group Head for each of the identified groups. All the department faculty members depending up on their specialization and the courses they handle are mentored by their respective group heads in terms of

- Delivery of the content in classrooms
- Finding the curriculum gaps in a course and arranging guest lecturers for filling the gaps
- Preparation of assignments and tutorial problems
- Preparation of laboratory manuals
- Preparation of midterm question paper as per the required cognitive levels of Bloom's taxonomy
- Providing guidance in research areas

Faculty members of the department are mapped to these concerned groups based on their M.Tech./Ph.D. Specializations, Area or Research and Publications. The competencies of faculty members can be gauged in terms of the publications in the relevant field, experience in teaching and the research work that is carried out in the identified areas.

S.No	Name of the specialized group	Subjects	Faculty handling	Experience(Yrs)		Competency			
				Teaching	Industry /Research	Specialization	Research Publications	Course developed	FDPs/Workshops organized/attended
1	Structural Engineering	Engineering Mechanics: Statics and Dynamics	G.Sampath Kumar	9 Years		Structural Engineering	2	Yes	Yes
2		Mechanics of Materials	G.Sampath Kumar	9 Years		Structural Engineering	2	Yes	Yes
3		Building Materials, Construction and Planning	V.Navaneetha	8 Years		Structural Engineering	1	Yes	Yes
4		Structural Analysis	Dr.V.V.Praveen Kumar	6 Years	4.5 Years	Structural Engineering	11	Yes	Yes
5		Concrete Technology	Dr.V.V.Praveen Kumar	6 Years	4.5 Years	Structural Engineering	11	Yes	Yes
6		Computer Aided Drafting of Buildings lab	G.Vimala	3 Years		Structural Engineering	1	Yes	Yes
7		Design of Reinforced Concrete Structures	D.Varun Kumar	7.3 Years		Structural Engineering	5	Yes	Yes
8		Design of Steel Structures	G.Sampath Kumar	9 Years		Structural Engineering	2	Yes	Yes
10		Modern Construction Materials	Dr.V.V.Praveen Kumar	6 Years	4.5 Years	Structural Engineering	11	Yes	Yes
12		Estimation and Costing	V.Navaneetha	8 Years		Structural Engineering	1	Yes	Yes
13		Health Monitoring and	P.Supriya	8 Years		Structural Engineering	7	Yes	Yes

		Retrofitting of structures							
14		STAAD Lab	G.Sampath Kumar	9 Years		Structural Engineering	2	Yes	Yes
15		Structural Drafting Lab	D.Varun Kumar	7.3 Years		Structural Engineering	5	Yes	Yes
16	Geotechnical Engineering	Geotechnical Engineering	V.Abdul Raffi	20 Years		Geotechnical Engineering	1	Yes	Yes
17		Geotechnical Engineering Lab	V.Abdul Raffi	20 Years		Geotechnical Engineering	1	Yes	Yes
18		Foundation Engineering	V.Abdul Raffi	20 Years		Geotechnical Engineering	1	Yes	Yes
19	Environmental Engineering	Environmental Engineering	V.Navaneetha	8 Years		Structural Engineering	1	Yes	Yes
20		Environmental Engineering Lab	V.Navaneetha	8 Years		Structural Engineering	1	Yes	Yes
21	Transportation Engineering	Transportation Engineering	Dr.R.Prasanna Kumar	26 Years		Transportation	22	Yes	Yes
22		Highway Engineering and Concrete Technology Lab	M.Srujan Kumar	6 Years		Engineering	3	Yes	Yes
23		Pavement Analysis and Design	G.Raju	8 Years		Transportation	5	Yes	Yes
24		Railway Engineering	M.Srujan Kumar	6 Years		Engineering	3	Yes	Yes
25		Pavement Analysis and Design Lab	G.Raju	8 Years		Transportation	5	Yes	Yes
26	Surveying and Geomatics	Surveying and Geomatics	V.Goutham	8 Years	3 Years	Geomatics	4	Yes	Yes
27		Surveying and Geomatics Lab	V.Goutham	8 Years	3 Years	Geomatics	4	Yes	Yes
28		Advanced	V.Goutham	8 Years	3 Years	Geomatics	4	Yes	Yes

		Surveying							
29	Water Resource Engineering	Fluid Mechanics	Reena Rana	5 Years		Irrigation & Water Resources Management	1	Yes	Yes
30		Hydraulics and Hydraulic Machinery	Reena Rana	5 Years		Irrigation & Water Resources Management	1	Yes	Yes
31		Fluid Mechanics and Hydraulic Machinery Lab	Reena Rana	5 Years		Irrigation & Water Resources Management	1	Yes	Yes
32		Hydrology and Water Resources Engineering	Reena Rana	5 Years		Irrigation & Water Resources Management	1	Yes	Yes
33		Irrigation Engineering and Hydraulic structures	G.Sampath Kumar	9 Years		Structural Engineering	2	Yes	Yes

5.6 Innovations by the Faculty in Teaching and Learning:

Introduction:

The key role of a teacher is to teach, which can be understood as meaning to facilitate learning of some target curriculum. Teaching is therefore intimately tied to notions of learning and there is a sense that if students do not learn then whatever the teacher is doing does not deserve the label of 'teaching'. The use of innovative methods in educational institutions has the potential not only to improve education, but also to empower people, strengthen governance and galvanize the effort to achieve the human development goals for the country.

Traditional Teaching Method: In the pre-technology education context the teacher is the sender, the educational material is the information and the student is the receiver of the information. In terms of the delivery medium, the educator can deliver the message via the "chalk-and-talk" method and LCD projector transparencies. This learning perspective is a popular technique, which has been used for decades as an educational strategy in all institutions of learning. Basically teacher controls the instructional process, the content is delivered to the entire class and the teacher tends to emphasize factual knowledge.

Innovative Teaching Methods: Following are some of the innovative methods of teaching that are initiated and implemented by the faculty for improving the Teaching-Learning-Process.

1. Collaborative Learning
2. Through Display of Working Models
3. Facilitating through Group Learning
4. Teaching through Value Added Courses
5. Providing Experiential Learning
6. Through Guest Lectures, Industrial Visits, Fieldtrips
7. Using ICT, explaining complex concepts through animation
8. Continuous Interaction with student

Teaching through using models



In the course of Climate change and adaptation while explaining the concept of flood control management to the students of IV year of CE, the sponge city model demonstrated to the students to get them a better understanding about the flood control management.

Name of the faculty: D.Varun Kumar

Through Workshops



A one week workshop on “REVIT Architecture” was conducted to the students of III year and IV year in association with Canter CAD.

Through Guest lectures



A Guest lecture was conducted by the department of Civil Engineering on the occasion of “Engineers day” on 15th September 2023. The guest Er.Suryaprakash CEO of Satyavani Consultancy was invited, he gave lecture on importance of Civil Engineering to the students of Civil.

Through Field Visits



A Field visit was arranged to the students of II year to the Girls hostel campus of Geethanjali College of Engineering and Technology. Reinforcement detailing of RCC elements like beams, columns, slabs and stairs explained.

Under Professional Body



A workshop was conducted by the “Beauro of Indian Standards” to the students of Civil on the occasion of “Worlds standards day 2023”. Guest lecturer and essay writing events were conducted as the part of workshop.

5.7 Faculty as participants in Faculty development/training activities/STTPs (15)

- A Faculty scores maximum five points for participation
- Participation in 2 to 5 days Faculty/ Faculty development program: 3 Points
- Participation >5 days Faculty/ Faculty development program: 5 points

Name of the Faculty	Max. 5 per Faculty		
	2022-23	2021-22	2020-21
Dr. R. Prasanna Kumar	3		5
Dr.V.V.Praveen Kumar	3	3	
D Divya Vani			3
V. Navodaya		5	5
V. Anusha		5	5
G. Raju	3	5	5
P. Supriya	3	5	5
D. Ramachander			5
S. Gowtham			5
K. Divya			5
S. Hari Kiran			3
K. Priyanka			3
B. Kowshik Reddy			3

V. Abdul Raffi	5	5	5
G Sampath Kumar			5
D Varun Kumar		5	5
S. Tirupati Rao			3
Dr. N. Mahendra	3		3
K.Keerthi	3	5	5
V.Navaneetha	3	3	5
N Kranthi Kumar	5		
Dr. K. SriLakshmi	5		
M.Srujan Kumar	5	3	
K.Rupa Sri		5	
Sum	35	49	83
RF= Number of Faculty required to comply with 20:1 Student-Faculty ratio as per 5.1	15.44	18	21.65
Assessment = $3 \times (\text{Sum}/0.5 \text{ RF})$ (Marks limited to 15)	13.06	15	15
Average assessment over last three years (Marks limited to 15) =			14.35

Table B.5.7

5.8 Research and Development (75)

5.8.1 Academic Research (20)

Academic research includes research paper publications, Ph.D. guidance, and faculty receiving Ph.D. during the assessment period.

- Number of quality publications in refereed/SCI Journals, citations, Books/Book Chapters etc. (15)

Research Publications	
AY	Publications in Journals
2022-23	5
2021-22	0
2020-21	2

- List of Patents

Sl. No.	Inventor/s Name	Patent Application No.	Status of Patent (Published / Granted)	Title of the Patent	Patent Filed Date (DD/MM/YYYY)	Patent Published Date / Granted Date (DD/MM/YYYY)	Patent Publication Number / Patent Granted Number
1	Dr. R. Prasanna Kumar	202241073807 A	Published	Recycled Aggregate as Constituents of Base and Sub-Base Layers for Rural Roads	12/20/2022	12/30/2022	202241073807 A
2	Dr. R. Prasanna Kumar	2022/03337	Granted	A SYSTEM FOR POROUS FLOW APPROACH TO MODELLING MIXED TRAFFIC	3/22/2022	8/31/2022	2022/03337

3	Dr. R. Prasanna Kumar	202341057300A	Published	Effect of Metakaolin and Quarry Dust in Lightweight Aggregate Concrete	26/08/2023	01/12/2023	202341057300A
3	Ms. V. Navneetha	202341054802 A	Published	Stabilisation of Black cotton Soil using Terrasil, Cement and Flyash.	16/08/2023	01/09/2023	202341054802 A
4	Ms. Vimala	202241030585 A	Published	Structured Transmission Towers Vibrations of latticed steel Conductive cable	27/0/2022	17/06/2022	202241030585 A

• Ph.D. guided /Ph.D. awarded during the assessment period while working in the institute (5)

5.8.2 Sponsored Research (20)

- Funded research from outside:

(Provide a list with Project Title, Funding Agency, Amount and Duration) Funding Amount (Cumulative during CAYm1, CAYm2 and CAYm3):

Amount > 50 Lakh – 20 Marks,

Amount > 40 and \leq 50 Lakh – 15 Marks, Amount > 30 and \leq 40 Lakh – 10 Marks, Amount \geq 15 and \leq 30 Lakh – 5 Marks, Amount < 15 Lakh – 0 Marks

5.8.3 Development activities (15)

Provide details:

- Product Development
- Research laboratories
- Instructional materials
- Working models/charts/monograms etc.

5.8.4 Consultancy (from Industry) (20)

(Provide a list with Project Title, Funding Agency, Amount and Duration)

Funding Amount (Cumulative during CAYm1, CAYm2 and CAYm3): Amount >10 Lacs – 20 Marks,

Amount \leq 10 and \geq 8 Lakh – 15 Marks, Amount < 8 and \geq 6 Lakh – 10 Marks, Amount < 6 and \geq 4 Lakh – 5 Marks, Amount < 4 and \geq 2 Lakh – 2 Marks, Amount < 2 Lakh – 0 Mark

5.9 Faculty Performance Appraisal and Development System (FPADS) (10)

Faculty members of Higher Educational Institutions today have to perform a variety of tasks pertaining to diverse roles. In addition to instruction, Faculty members need to innovate and conduct research for their self-renewal, keep abreast with changes in technology, and develop expertise for effective implementation of curricula. They are also expected to provide services to the industry and community for understanding and contributing to the solution of real life problems in industry. Another role relates to the shouldering of administrative responsibilities and co-operation with other Faculty, Heads-of-Departments and the Head of Institute. An effective performance appraisal system

for Faculty is vital for optimizing the contribution of individual Faculty to institutional performance.

The assessment is based on:

- A well-defined system for faculty appraisal for all the assessment years (5)
- Its implementation and effectiveness (5)

A well-defined system for faculty appraisal for all the assessment years (5)

Geethanjali College of Engineering and Technology

Department of Civil Engineering

Faculty Performance Appraisal for the Academic Year 2022-23

Name of the Faculty Member:

Designation:

Leave Availed						missions (Early Going/Late Coming) availed	number of days – extended hours worked with the approval of the concerned HoD/Group Head/CoE (so mention total number of extended hours worked)
CLs	IPLs	ELs	CCLs - accumulated	CLs - used	number of days on 'Loss of Pay'		

PART A - TEACHING (Total Score: 100)

1. Theory/Lab Courses Taught(Assessment: $\geq 50 < 60\%:12$, $\geq 60 < 70\%:18$, $\geq 70 < 80\%:24$, $\geq 80 < 90\%:30$, $\geq 90: 40$)

(Theory Courses taught during the last 2 semesters should be considered)

Semester (I/ II)	Name of the Course	Number of Periods Taken	Course success index (successful students)	Pass percentage	Course Attainment Level	Assessment score (1-40 scale)
Average Assessment Score (Maximum of 40)						

2. On an average how many assignments did you give per course (Assessment: 2 to 3: 2, More than 3 :5) :

(Average Assessment Score should be obtained by taking the average of the individual assessment scores obtained in each subject of a semester subject to a maximum of 5)

3. On an average how many 'tutorials/case studies' did you conduct per course (2 to 3 tutorials : 2, More than 3 : 5) :

(Average Assessment Score should be obtained by taking the average of the individual assessment scores obtained in each subject of a semester subject to a maximum of 5)

4. Project guidance/supervision

B. Tech (Assessment:5 points per project and 5 additional points for best project awarded in any competition/in the form of publication)

(Average Assessment Score should be obtained by taking the average of the individual assessment scores obtained in each Project guided subject to a maximum of 10)

Note: May not be applicable for the faculty taking only first year courses. In such cases section 1 shall be evaluated for 50 points.

No.	Roll numbers	Names of the students	Mini/major project	Title of the project	In-house or external	Assessment Score
Average Assessment Score (Maximum of 10)						

5. a. Association with Senior Faculty (Assessment: Concerned Professor will assess for a maximum of 10 points) –

No.	Name of the Professor	Name of Theory or Lab Course	Class with semester	Give Brief report on attainment of learning outcome – submit evidence	Assessment score
Average Assessment Score (Maximum of 10)					

b. Professors (Assessment: Guidance given by the Concerned Professor to other faculty, for a maximum of 10 points) –

No.	Name of the Faculty	Name of Theory or Lab Course	Class with semester	Give Brief report on guidance given – submit evidence	Assessment score
Average Assessment Score (Maximum of 10)					

6. Course file/Lab manual Prepared (Assessment: a maximum of 5 point per course/lab) - Maximum of 10 points

No.	Name of Laboratory	Title of the experiment	Changes brought in	Approved by Group head /HOD with date	Assessment score

7. Students' Feedback - Course End Survey - Maximum of 10 Points

Courses Taught (Assessment: $\geq 60 < 70\%$: 4, $\geq 70 < 80\%$: 6, $\geq 80 < 90\%$: 8, ≥ 90 : 10)

(Courses taught/conducted during the last 2 semesters should be considered)

Semester (I/II)	Name of the Course	Feedback Score Obtained	Percentage of Feedback	Assessment score (0-10 scale)
Average Assessment Score (Maximum of 10)				

8. Students' Feedback - Teaching - Learning Process

Courses Taught (Assessment: $\geq 60 < 70\%$: 4, $\geq 70 < 80\%$: 6, $\geq 80 < 90\%$: 8, ≥ 90 : 10)

(Courses taught/conducted during the last 2 semesters should be considered)

Semester (I/II)	Name of the Course	Feedback Score Obtained	Percentage of Feedback	Assessment score (0-10 scale)
Average Assessment Score (Maximum of 10)				

PART B –RESEARCH AND CONSULTANCY (Total Score: 50)

1. Ph. D/Post-doc program pursuing (Course work: 1, Pre-PhD: 1, Research Reviews: 1, Submission: 3 points, Award: 5 marks) – For all faculty eligible to pursue PhD.

Name of the program	University	Name of supervisor/co-supervisor	Year of registration	Progress of the work	Assessment Score
Assessment Score (Maximum of 5)					

2. Ph. D Guidance (Assessment: Thesis submitted=3, Thesis awarded =5)

No.	Name of the Student	Supervisor/Co-supervisor	University registered	Year of registration	Assessment score
Average Assessment Score (Maximum of 5)					

3. Books/chapters published (Assessment: 1 per chapter, 2 per Indian book and 3 per International book published) - Maximum of 5 points

Sl. No	Title of the book/book chapters	Name and address of the publisher	Category of publication (international/national)	Month & year of publication	ISSN no.	Assessment score

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4. Patents granted/published(Assessment: published : 3, granted : 5 points per patent) - Maximum of 10 points

Sl. No	Patent Number	Title of the Patent	Name(s) of the Inventor(s)	Month & year	Assessment score

5. Sponsored research projects (externally funded) carried-out/carrying: (Assessment: less than 5 lakhs = 3 points, 5-10 lakhs = 5 points 10-20 lakhs = 8 points, more than 20lakhs = 10points) – Maximum 10 points

No	Title of the project	Funding agency	Amount	Duration of project	Date of commencement	Assessment score

6. Consultancy carried-out/carrying: (Assessment: $\geq 2 < 5$ lakhs :2 points, ≥ 5 lakhs : 5) – Maximum 5 points

No	Title of the project	Funding agency	Amount	Duration of project	Date of commencement	Assessment score

7. Publications:

International Journals (IJ)/ National Journals (NJ)/ International Conferences (INC)/ National Conferences (NC)

(Assessment: 2 points per publication) - Maximum of 10 points

Sl. No.	Category: IJ/ NJ/ INC/NC	Title of the paper	Name of the Journal/ Conference	Volume number, ISSN/DOI	Page numbers	Month & Year	Impact factor / indexed by SCOPUS/ SCI/WOS	Journal / Conference No. (if recognized by UGC)	Assessment score
1									

PART C – PROFESSIONAL DEVELOPMENT (Total Score: 40)

1. Membership in professional bodies (Assessment: 1 point per professional body) - Maximum of 2 points

No	Name of the Professional body	Membership number	Category of Membership (life/annual)	Assessment score

2. Recognition from any professional body/reputed institutions which utilize your services (Assessment: 1 point per recognition) - Maximum of 2 points

No.	Role	Name of the organization	Duration/Date	Present your contribution in few sentences	Assessment score

(Role: Such as BOS member, subject expert in SCMs, keynote speaker, conference chair/co-chair, reviewer of Publications in conference/journal etc.)

3. Collaboration/MoU arranged with other organizations (Assessment: 1 point per collaboration/MoU arranged)- Maximum of 2 points

Sl. No.	Name of the organization	Name of the activity	Duration and dates	Assessment score

4. FDPs/Workshops/Seminars/Training programs attended (Assessment: 3 days : 1 points, 1 Week : 2 points, 2 weeks :3 points, Summer school of 2 weeks : 5 points) - Maximum of 5 points

Name of the FDP/Workshop/Training program	Place	Organizer	Duration	Fee/month/year	Assessment score

5. FDPs/Seminars/Workshops/Conferences conducted (Assessment: 2 or 3 days :3 points, 1 Week : 5 points, 2 Weeks : 10 points, International Conference: 10 points, National Conference: 5 points) - Maximum of 10 points

Name of the event	Title of the program	Number of participants	Location and dates	Assessment score

6. Invited talks/guest lecturers conducted with speakers from institutes of repute (Assessment:1 point per talk or Guest lecturers arranged) - Maximum of 3points

No.	Resource person with address	Topic	Targeted audience	Duration	Year/month/year	Assessment score

7. Invited talks/guest lecturers given in institutes of repute (Assessment: 1 point per talk) - Maximum of 2 points

No.	Name of the event	Topic	Targeted audience	Venue	Duration	Year/month/year	Assessment score

8. Conferences attended (Assessment: 2 points per International and 1 per National Conference) - Maximum of 3 points

Name of the conference	Venue	Organizer	Duration	Year/month/year	Assessment score

9. Field trips arranged (Assessment: 1 point per trip) - Maximum of 3 points

No.	Organization visited	Number of students	Year/semester	Assessment score

10. Internships arranged (Assessment: 1 point per industry) - Maximum of 3 points

No.	Organization visited	Number of students	Year/semester	Assessment score

11. Online course registration (Such as NPTEL, MOOCS) (Assessment: 3 point per course) - Maximum of 5 points

No.	Name of the Course	Offered by	Date of registration	Assessment score

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PART D - ADMINISTRATION (Total Score: 45)

1. Administrative/additional roles (Assessment: 3 points per role in the department level, 5 points per role in the college level, 8 points for Deans and 10 points for HoD) - Maximum of 10 points

No.	College/Department/ Group level	Role	Give a Brief Description on your contribution	Assessment score

(Role: Such as Course coordinator, Time-table in-charge, CRC coordinator etc., Convener or Co-convener of FDP/Workshop/ Conference etc, in-charges of various criterion for SAR preparation, Lab Masters of JNTUH, Alumni Coordinator etc.)

2. Association with In-charges (Assessment: Concerned in-charge will assess for a maximum of 5 points)

No.	Name of the in-charge	Category AICTE/ NBA/ NAAC / FFC or Specify Other	Nature of Work given	Give a Brief Description	Assessment score
Average Assessment Score (Maximum of 5)					

(Faculty will be assessed by in-charge faculty under whom they have worked for AICTE/ NBA/NAAC/FFC related works)

3. Student mentoring (Assessment: 2 point per student for improvement brought in attendance / performance) - Maximum of 10 points

Sl. No.	Roll number	Name of the student	Year of study	Improvements brought	Assessment score
1					
2					
3					
4					

4. Organizing Co-curricular/Extra-curricular student events (Assessment: 1 point per event) - Maximum of 2 points

No.	Name of the event	Name(s) of the other Faculty involved	Role(s) Played	Duration, with dates	Assessment score

5. Guidance given to the students in encouraging them to participate in co-curricular activities (Assessment: 1 point per event) - Maximum of 3 points

No.	Name of the event	Name(s) of the students involved	Role(s) Played by faculty in the guidance given	Duration, with dates	Student achievement	Assessment Score

6. Any steps taken for resource/revenue generation. Give details (Whether applied for any Consultancy Works etc.)(Maximum 5 points)

7. Additional contribution which are not covered above, if any (2 points)

8. List your suggestions for improving the academic standards/procedures of the department. (2 points)

9. List any suggestions for improving the performance of the students (2 points)

10. List any suggestions related to administrative standards in the department and college. (2 points)

11. How do you think GCET can help you to enrich your knowledge/multidisciplinary skills? (2 points)

12. List areas of

- i. Strengths
- ii. Weaknesses
- iii. New skills/techniques learnt or acquired
- iv. Need of additional development/training by the department/college in improvement of your quality of work

TOTAL SCORE:

Name and Signature of the Faculty

(Note: Necessary Proofs should be attached)

GROUP HEAD'S ASSESSMENT- Maximum of 15 points

0-4 : Unsatisfactory performance

- 4.1-6 : Does not meet the expected level of performance
- 6.1-9 : Meets the expected level of performance
- 9.1-12 : Exceeds the expected level of performance
- 12.1-15 : Meritorious performance

- 1. General attitude :
- 2. Teaching :
- 3. Research :
- 4. Service :
- 5. Timely completion of given tasks:

TOTAL:

Name and Signature of Group Head

HOD'S ASSESSMENT- Maximum of 25 points

- 0-8 : Below average
- 8.1-12 : Average
- 12.1-16 :Above average
- 16.1-20 : Good
- 20.1-25 :Excellent.

- 1. Initiative and drive exhibited :
- 2. Availing of leave/permissions :
- 3. Interpersonal skills :
- 4. Domain knowledge :
- 5. Balanced attitude :
- 6. Quality of Work :
- 7. Feedback from students based on CRC (any action taken earlier):
- 8. Class control :
- 9. Timely completion of given tasks :
- 10. Attire and Appearance :
- 11. Punctuality :

Additional Points for Professors Occupying Key administrative Roles: Maximum of 50 Points
 (For HoDs, Deans, CoEs: 50, Group Heads: 30, AICTE/ NBA/ FFC/IQAC/FS/Incubation Coordinators: 20)

TOTAL:

Overall Assessment/Rating (on a scale of 275 points):

Faculty's Self	Group head's	HOD's	Total	Grade/Rating
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assessment(x) out of 235	assessment(y) out of 15	assessment(z) out of 25	assessment(x+y+z)out of 275	(1-275 scale)

Performance Rating	Assistant Professor	Associate Professor	Professor
Below Average	<110	<130	<150
Average- Above Average	110 to 120	130 to 140	150 to 170
Good	121 to 130	141 to 150	171 to 200
Excellent	>130	>150	>200

Suggestions for improvement:

- 1.
- 2.
- 3.

Name and Signature of HoD

Principal's Observations and Remarks:

Signature of the Principal

Secretary's Observations and Remarks:

Signature of the Secretary

Implementation

- Faculty Appraisal Form is for an overall assessment of 275 marks. Faculty member has to make self assessment for 235 marks which will be verified by Group Head and Head of the Department. Group Head would assess the faculty mentee for 15 marks while the Head of the Department would assess for 25 marks.
- Every faculty member at the end of each academic year needs to submit the self appraisal form keeping in view of his/her academic contribution to the department/institution during the assessment year. Results in the courses that the faculty taught during the I and II semesters, research and administrative contributions made to the department/ college shall be taken into consideration while filling the appraisal form. Faculty member has to do self assess for 235 marks.
- Filled-in Appraisal form should be submitted to the Group Head, which will be scaled to Head of the Department for further course of action. The Group Head will assess the faculty for 15 marks and HoD for 25 marks. Then the form will be forwarded to Principal and Secretary for further course of action.
- Score obtained by each faculty would be taken into consideration to assess the performance and for sanction of the increment.

5.10 Visiting/Adjunct/Emeritus Faculty etc. (10)

Adjunct faculty also includes Industry experts. Provide details of participation and contributions in teaching and learning and /or research by visiting/adjunct/Emeritus faculty etc. for all the assessment years:

Provision of visiting/adjunct faculty (1)

Minimum 50 hours per year interaction with adjunct faculty from industry/retired professorsetc.

(9)

(Minimum 50 hours interaction in a year will result in 3 marks for that year; 3marks x 3years=9mark

CRITERION 6	Facilities and Technical Support	80
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6.1. Adequate and well-equipped laboratories and technical manpower (40)

S. No.	Name of the Laboratory	No. of students per Setup (Batch Size)	Name of the Important equipment	Weekly utilization status (All the courses for which the lab is utilized)	Technical Manpower support		
					Name of the technical staff	Designation	Qualification
1.	Mechanics of Materials lab	2	Computerized Universal Testing machine, Rockwell cum brinell hardness testing machine, Spring testing machine, Torsion testing machine, Pendulum impact tester, Compression testing machine	17.14%	G. Bal Reddy	Lab Assistant	ITI
2.	Surveying and Geomatics Lab	2	Total station, Theodolite, GPS, Dumpy level, Auto-level	17.14%	D. Praveen Kumar	Lab Assistant	B. Tech.
3.	Fluid Mechanics and Hydraulic Machinery lab	2	Pelton Turbine, Francis Turbine, Kaplan Turbine, Water Hammer, Muti Stage Centrifugal Pump, Single Stage Centrifugal Pump	17.14%	G. Bal Reddy	Lab Assistant	ITI

4.	Engineering Geology Lab	2	Electrical Resistivity Meter, Polarized Petrological Microscope, Structural Geological Models Set	17.14%	D. Praveen Kumar	Lab Assistant	B.Tech.
5.	Computer Aided Drafting of Buildings Lab	1	Hardware: Desktop systems OS: Windows 10, Software: Licensed AutoCAD	17.14%	D. Praveen Kumar	Lab Assistant	B.Tech.
6.	Geotechnical Engineering Lab	2	Unconfined Compressive Strength, C.B.R, Tri-axial, Vane Shear, Direct Shear, Consolidation Apparatus, Oven, Compaction apparatus, Sand Replacement Method, Sieve set with shaker	17.14%	B. Raveendra	Lab Assistant	ITI

7.	Environmental Engineering lab	2	Hot air oven, Muffle Furnace, BOD Incubator, COD Digester, Titration Equipment & Setup, PH Meters, Turbidity meters, Conductivity Meters, Dissolved Oxygen Analyser, Spectrophotometer, Jar Test Apparatus, Vertical Autoclave	17.14%	B. Raveendra	Lab Assistant	ITI
8.	Highway Engineering and Concrete Technology Lab	2	Cement Autoclave, Flow Table test Apparatus, Compression Testing Machine, Flexure testing machine, Splitting tensile testing machine, Compression Testing Machine, Specific gravity & Water absorption test setup, Abrasion Test setup, Ductility Test setup, Marshal Stability Testing Machine, Oven	17.14%	B. Prasada Rao	Lab Assistant	ITI

9.	Structural Drafting Lab	1	Hardware: Desktop systems OS: Windows 10, Software: Licensed AutoCAD	17.14%	D. Praveen Kumar	Lab Assistant	B.Tech.
10.	STAAD Lab	1	Hardware: Desktop systems OS: Windows 10, Software: Licensed STAAD Pro.	17.14%	D. Praveen Kumar	Lab Assistant	B.Tech.
11.	Pavement Analysis and Design lab	1	Hardware: Desktop systems OS: Windows 10, Software: Licensed Open Roads Designer	17.14%	D. Praveen Kumar	Lab Assistant	B.Tech.
12.	Statistical Applications in Civil Engineering	1	Computer Systems - i5/8GB/512GB with gcc compiler installed	16%	L. Renuka	Programmer	B.Tech

Table B.6.1: List of Laboratories along with Major equipment

6.2. Laboratories Maintenance and overall ambiance (10)

Maintenance:

- Safety measures are displayed in each laboratory and students are educated about the same at the beginning of each semester.
- Qualified Technical Staff are available for maintenance.
- Servicing of equipment in each laboratory is done during the semester breaks or as and when required.
- Any major repairs of equipment beyond the scope of technical staff are outsourced.
- Obsolete and irreparable equipment is weeded out.
- A register for “Lab equipment Repair/ Maintenance” is kept in each lab to track the breakdown time of equipment.

Overall ambience:

- The infrastructure and added facilities in the laboratories create the right ambience for the students for conducting experiments within the stipulated time.
- Internal audits are carried out periodically by inspection teams, consisting of senior professors of other departments that help in improving the maintenance and ambience.
- All equipment in the labs is marked with unique identification code.
- Department has fully furnished and well-equipped laboratories, which shall cater to all curriculum requirements of UG courses.
- A list of Do's and Don'ts along with the experiments is displayed in the respective laboratories.
- Laboratory workbooks are given to students well in advance before the commencement of semester. Lab manuals are prepared by the lab-instructors and maintained in every lab.
- Labs are provided with proper storage places for storing of material. In addition to the conventional white/blackboards, LCD Projectors are available in computer laboratories.
- All the laboratories are provided with sufficient ventilation, and are kept open throughout the day for carrying out, major and minor projects and also to facilitate interested students to carry out experiments related to Project-based learning.
- The college is having four 615KVA UPS, 240 V DC along with batteries is used in case of power failure in the labs provided with computers.

The college is having 2 generators: 380 KVA and 200 KVA capacities.



Mechanics of Materials Laboratory:

This laboratory enables the students of II year CE to gain practical experience in assessing the strength and quality of building materials like Mild steel, Brick, wood, copper, aluminum, cast Iron & Brass.

Major facilities/ equipment:

Computerized Universal Testing machine, Torsion Testing machine, Compression Testing machine, Pendulum impact tester.



Surveying & Geomatics Laboratory:

This laboratory enables the students of II year to gain practical experience in measuring areas, volumes, and angles. Perform leveling, use advanced surveying instruments like Total Station and Hand-held GPS.

Major facilities/equipments:

Total stations, Theodolites, GPS, Dumpy level's, Auto-level's.



Fluid Mechanics & Hydraulic Machinery Laboratory:

This laboratory enables the students of II year to gain practical experience in measuring the rate of flow through pipes and channels, force exerted by the jet on vanes, loss of energy due to friction, sudden contraction and hydraulic jump. As well as students able to measure the efficiency of hydraulic machines.

Major facilities/equipment:

Pelton turbine, Francis Turbine, Kaplan Turbine, Water Hammer, Hydraulic Jump.



Highway Engineering & Concrete Technology Laboratory:

This lab enables the students of III year to have practical experience on finding the properties of cement, Fresh concrete, Hardened concrete, properties of road construction materials coarse aggregate and bitumen.

Major facilities/equipment:

Flexure testing machine, Split-Tensile Testing machine, Ductility equipment, Marshall Stability testing machine.



Engineering Geology Laboratory:

This lab enables the students of II Year to gain practical experience of Minerals & Rocks. Draw geological sections and interpret geological aspects such as folds, faults and unconformities, to suggest groundwater location in any locality.

Major facilities/equipment:

Polarized Petrological Identification microscope, Clinometer

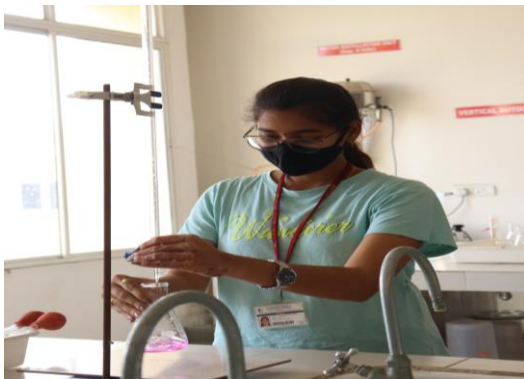


Geotechnical Engineering laboratory:

This laboratory facilitates the students of 3rd and 4th years to gain practical knowledge of testing soils to identify the index and engineering properties of soils, which are used for design of geotechnical components. Final year students can perform project works related to ground improvement techniques.

Major Equipment:

CBR, Standard and modified Proctor tests, Soil classification, shear tests etc.

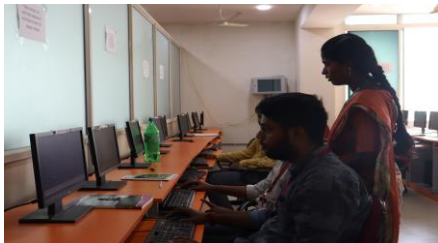


Environmental Engineering Laboratory:

This lab enables the students of III Year to gain practical experience on testing of water and wastewater samples and to analyze the results and verify if the standards are met or not.

Major facilities/equipment:

Spectrophotometer, Jar Test Apparatus, BOD Incubator, COD Digester, Muffle furnace, Nephelometers, Dissolved Oxygen Analyzers etc.



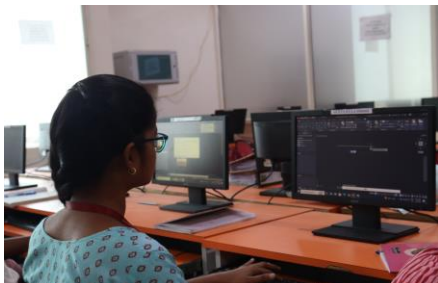
Pavement Analysis & Design Laboratory:

This lab enables the students of IV year to plan, design & manage Roadway Projects. It includes tools for 3D Modeling Simulation, Visualization & Analysis to optimize Road Design and construction process.



STAAD Laboratory:

This lab enables the students of IV year to Analyze different types of Beams and frames of Buildings used for Analysis and Design of different structural components like Beams, Columns, Slabs.



Structural Drafting Laboratory:

This lab enables the students of III year to understand the Detailing of different Structural Components and Draft them.

Computer Aided Drafting of Buildings Lab :

This lab enables the students of II year to practice and develop plans of Single & Multi Storey Buildings and also draw elevation and section for the Buildings.

6.3. Safety measures in laboratories (10)

General Safety measures:

- Fire extinguishers and fire hydrants are installed in each floor of each block at various places.
- Medical center with a trained nurse and ambulance is available during college hours.
- Proper grounding and earth are provided in each lab.
- Computer labs are provided with UPS (Uninterrupted Power Supply) to prevent any damage caused by power fluctuations

S. No.	Name of the Laboratory	Safety measures
1.	Surveying & Geomatics lab	<ol style="list-style-type: none">1. Handle arrows, ranging rods, prism rods carefully while carrying them to the field, as they have the sharp pointed ends.2. Do not hit or throw any instruments from one place to another in the field.3. Remove the Batteries from Total station at the end of day's work.4. Operate the instruments/equipment only under the supervision of faculty/ lab technician if you are not familiar in handling them.5. Students should wear Lab Uniform, shoes and cap.
2.	Mechanics of Materials lab	<ol style="list-style-type: none">1. Work in the laboratory only under the supervision of faculty/lab technician.2. Students should wear aprons and shoes before entering the Lab.3. Handle the equipment with care.4. Maintain distance with the machines while performing the experiment.5. Ensure your hands are away from Charpy/Izod testing machine.6. Handle the dial gauges with proper care.7. Ensure that jaws are tight before beginning the tension, shear and torsion tests.

3.	Engineering geology lab	<ol style="list-style-type: none"> 1. Work in the laboratory only under the supervision of faculty/lab technician. 2. Students should wear aprons and shoes before entering the Lab. 3. Handle the specimens and equipment carefully. 4. Knife should be used carefully in proper directions. Do not play with knife. 5. Carefully handle the Electric resistivity meter while using, as it is an electrical device. 6. Minerals and Rock specimens should be handled carefully. 7. Mineral thin sections should be handled carefully.
4.	Environmental engineering lab	<ol style="list-style-type: none"> 1. Work in the laboratory only under the supervision of faculty/lab technician. 2. Wear apron and shoes before using the laboratory equipment and chemicals. 3. Handle glassware and chemicals carefully. 4. Never smell or taste any chemical. 5. Do not add water to acids. Instead, always add acid to water. 6. Do not pipette out acids and other reagents by mouth. 7. Handle glassware away from the body while transferring chemical solutions. 8. Do not touch Hot air oven, Muffle furnace and COD Digestor when in operation. 9. Use crucible tongs to remove crucibles from Hot air oven and Muffle furnace. 10. Turnoff all heating apparatus and water taps when not in use. 11. Do not throw solid debris into the sink as it blocks the drains.

5.	Fluid Mechanics and Hydraulic Machinery lab	<ol style="list-style-type: none"> 1. Work in the laboratory only under the supervision of faculty/lab technician. 2. Students should wear aprons and shoes before entering the Lab. 3. Handle the equipment with care. 4. Students should not touch the shaft of Pelton turbine while it is running. 5. Closing and opening of Valves should be done gradually. 6. Never fill the storage tanks beyond their capacity as overflow of water will make the floor slippery. 7. Care should be taken while using tachometer for reciprocating pump & Kaplan turbine.
6.	Highway Engineering and Concrete Technology Lab	<ol style="list-style-type: none"> 1. Work in the laboratory only under the supervision of faculty/lab technician. 2. Students should wear aprons and shoes before entering the Lab. 3. Take care while handling the equipment and operating the machinery. 4. Maintain distance from the loading frame when testing the materials in CTM and Impact testing machine. 5. Maintain distance with the machines while performing the experiment. 6. Ensure that knobs of abrasion drums are tightened while performing the experiment. 7. Use gloves while mixing the materials/performing experiments on bituminous materials. 8. Do not touch hot air oven during operation. 9. Do not touch any equipment having moving parts while it is operating.

7.	Geotechnical Engineering Lab	<ol style="list-style-type: none"> 1. Work in the laboratory only under the supervision of faculty/lab technician. 2. Students should wear aprons and shoes before entering the lab. 3. Maintain distance with the machines while performing the experiment. 4. Do not touch hot air oven during operation. 5. Use gloves while operating oven. 6. Don't throw the used soils in the washbasin. 7. Do not touch any equipment having moving parts while it is operating. 8. Handle mercury carefully while using. 9. Take care while handling the equipment and operating the machinery.
8.	CADB/SD/PAD/ST AAD Lab	<ol style="list-style-type: none"> 1. Do not use 'C:' drive on computer for any data storage. Instead, create a folder with your Roll No. in 'D:' drive and save all your work here. 2. Do not try to access the software's if you are not familiar handling them. 3. Do not open any irrelevant internet sites. 4. Do not upload, delete or alter any software in the system. 5. Handle the Computer Desktop and its accessories carefully. 6. Usage of external USB devices is strictly prohibited in the lab. 7. Student must use the allotted system throughout the semester. 8. Leave footwear and bags in the Racks provided outside the lab.

Table B.6.3: Safety measures in laboratories

6.4. Project laboratory (20)

Project lab with the following facilities is made available in the department for the students to carry out their final year Major Project.

1. Computers with STAAD Pro. Open Roads, QGIS, AutoCAD.
2. Total Stations.
3. Non-Destructive Equipment.
4. Electrical Resistivity Meter.
5. Benkelmen Beam Deflection Equipment.
6. Core Cutter Equipment.

CRITERION 7	Continuous Improvement	75
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7.1. Actions taken based on the results of evaluation of each of the COs, POs & PSOs

Program outcomes (POs) and Program Specific Outcomes (PSOs) serve as measurable indicators of effectiveness of a program. POs and PSOs can be taken as benchmarks for monitoring and evaluating the performance of the program. They enable stakeholders, policymakers, and the public, to assess whether programs are achieving their intended objectives or not.

Attainment of POs and PSOs tracked over a period of time, facilitates identification of areas of success and areas that need improvement, leading to iterative refinements in program design, teaching learning process and evaluation of the program that help further improvement of the program.

Outcome Based Education (OBE) facilitates tracking the progress of a program with respect to improvements brought in the attainment of POs and PSOs. If the expected attainments of POs and PSOs are not achieved, a thorough analysis shall be carried out to identify the grey areas that have resulted in the lower attainments of POs and PSOs. Remedial measures are to be taken to bring required improvement in the attainments. Towards this, the following measures have been taken:

POs and PSOs are computed for the batches of 2019-2023 and 2018-2022. In the pursuit of continuous improvement, certain measures were identified and adopted as mentioned below:

- Identified the POs and PSOs, in which the desired target could not be achieved for a particular graduated batch. Subsequently, identified the courses, whose attainments are low, which have a strong bearing in their contribution towards the attainment of POs and PSOs.
- However, in some cases, even if the desired target has been achieved for a particular PO/PSO, identified the courses, whose course outcomes have not been attained, but the attainment of PO/PSO is satisfactory because of the substantial contribution of other courses' attainments to that PO/PSO, although targeted course outcomes have not been attained in few courses.
- The action plan for the subsequent academic year is recommended for those courses in which the target attainments have not been achieved.
- The improvements in the attainment of these courses are monitored for the subsequent batches.
 - To achieve higher attainment levels of POs and PSOs as a part of continuous improvement, specific course content is augmented with various academic activities such as workshops, certificate courses, guest lectures, case studies, etc.
 - Problem and field-based activities have been planned and executed to improve the attainment of such courses.
 - In addition, interactions and talks by industry experts and business leaders' have also been conducted for increased student engagement in learning, thus leading to improved learning outcomes and attainments.

All the above have resulted in higher attainment of COs and lead to improved attainment of POs and PSOs as well.

POs and PSOs Attainment Levels and Actions for improvement -

POs	Target Level	Attainment Level	Observations
PO1: Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.			
PO1	2.10	2.34	<p>An overall target is attained. 63 courses out of 67 courses offered to this batch of students, are mapped to this PO. In the following courses which are mapped to this PO, the attainment is below the target level.</p> <p>Fluid Mechanics Strength of Materials -II Hydraulics and Hydraulic Machinery Geotechnical Engineering Strength of Materials –I</p>
			<p>It has been observed that the students could not recall fundamental concepts of mathematics and mechanics which are required for better comprehension of the above mentioned courses.</p>
<p>Action:</p> <ol style="list-style-type: none"> 1. It has been suggested to revisit the fundamentals of Mathematical and Engineering mechanics that are required for a better comprehension of the above mentioned courses before teaching the said course. 2. The course instructor has also been suggested to discuss a few problems along with their application related to these courses. The practice of just in time teaching of various applications of mathematics to engineering problems may be adopted. 3. Guest lectures are conducted with experts from industry to boost the application oriented technical knowledge. 4. Students are encouraged to participate in technical events where they can apply both basic and engineering knowledge. 			

PO2: Problem analysis: Identify, formulate, review research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics,			
PO2	2.10	2.17	An overall target is attained. 52 courses out of 67 courses offered to this batch of students, are mapped to this PO. In the following courses, the attainment is below the target level. Fluid Mechanics Strength of Materials -II Engineering Hydrology Geotechnical Engineering Strength of Materials -I Design of Reinforced Concrete Structures
			It is observed that the students could not have proper practice of problems in mathematical oriented subjects.
Action:			
<ol style="list-style-type: none"> 1. Assignments are given to students in each course to make them to identify, analyse and formulate the solution from the concept involved in it. 2. Tutorial classes are conducted to make the students to analyse and solve complex engineering problems by applying the principles of mathematics and sciences. It is expected that the problem solving capability of the students will be improved. 3. Problems were selected from old GATE exam papers and discussed with students. 4. Engineering concepts required for an in depth comprehension of the above mentioned courses before teaching the said course are reviewed and refreshed. 			
PO3: Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.			
PO3	2.10	2.33	An overall target is attained. 49 courses out of 67 courses offered to this batch of students, are mapped to this PO. In the following courses, the attainment is below the target level. Strength of Materials -II Hydraulics and Hydraulic Machinery Engineering Hydrology Geotechnical Engineering Strength of Materials -I Design of Reinforced Concrete Structures
			Student's inadequacy in fundamental concepts of mathematics and analytical skills required for the above courses. Basic knowledge of design is not well understood.
Action:			
<ol style="list-style-type: none"> 1. More Tutorial sessions are conducted for subjects where analytical and design concepts are involved. 2. Students are taken to regular field visits for better comprehension of design courses. 			

PO4: Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.			
PO4	2.10	2.33	An overall target is attained. 45 courses out of 67 courses offered to this batch of students, are mapped to this PO. In the following courses, the attainment is below the target level. Fluid Mechanics Strength of Materials -II Engineering Hydrology Hydraulics and Hydraulic Machinery Strength of Materials -I
			It was observed that the students could not have the proper understanding of basic concepts in structural analysis and fluid mechanics.
Action:			
<ol style="list-style-type: none"> 1. Assignments based on problem solving solutions are given. 2. Students are encouraged to attend more number of inter/intra college seminars, workshops, symposium, Paper/Poster presentations, conferences, to do projects in latest trending areas and demonstrate in State/National level project competitions. 			
PO5: Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.			
PO5	2.10	2.45	An overall target is attained. 31 courses out of 67 courses offered to this batch of students, are mapped to this PO. Target achieved for all subjects
PO6: The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.			
PO6	2.10	2.38	An overall target is attained. 42 courses out of 67 courses offered to this batch of students, are mapped to this PO. In the following courses, the attainment is below the target level. Geotechnical Engineering Engineering Hydrology Surveying Transportation Engineering Environmental Engineering
			Students lack the understanding the basic knowledge to assess societal, health, safety, legal and cultural issues.

Action :		
<ol style="list-style-type: none"> 1. Arranged lectures to bring an awareness of societal problems and the role of engineers to tackle the same. 2. As a part of NSS activities, students are conducting computer training classes and awareness programs on Engineering education and how to face societal problems, to school children in nearby villages of the college. 3. During induction program for first year students, Guest talks are arranged by experts in various fields to enable the students to improve their personality in various aspects. 		

PO7: Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO7	2.10	2.27	<p>An overall target is attained. 31 courses out of 67 courses offered to this batch of students, are mapped to this PO. In the following courses, the attainment is below the target level.</p> <p>Geotechnical Engineering Engineering Hydrology Environmental Engineering</p>
			<p>It is observed that low attainment of this PO in the above courses is due to the low understanding of students regarding Integration with Environment and Sustainability and lack complexity of Topics - such as air pollution control techniques or advanced geotechnical analysis methods etc.</p>

Action:		
<ol style="list-style-type: none"> 1. Arranging awareness camps on societal and environmental issues under NSS Student Branch and other clubs. 2. Students were encouraged to include environmental relate disuses in their projects. 3. Professional courses like Green Building Systems and Climate Change and Adaptations are introduced into the curriculum, so that the students will be able to state of the art knowledge of, and need for sustainable construction technology. 		

PO8: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norm of the engineering practice.

PO8	2.10	2.33	<p>An overall target is attained. 29 courses out of 67 courses offered to this batch of students, are mapped to this PO. In the following courses, the attainment is below the target level.</p> <p>Hydraulics and Hydraulic Machinery Geotechnical Engineering Design of Reinforced Concrete Structures Surveying</p>
			<p>It is observed that low attainment of this PO in the above courses is due to the inadequate understanding of the standard procedures to be used in the above courses and lack of exposure to courses dealing with professional Ethics.</p>

Action:			
1. The courses such as professional ethics have been introduced into the curriculum so that students will be able to commit to professional ethics and responsibilities of the engineering			
PO9: Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.			
PO9	2.10	2.45	An overall target is attained. 31 courses out of 67 courses offered to this batch of students, are mapped to this PO. Target achieved for all subjects
PO10: Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.			
PO10	2.10	2.54	An overall target is attained. 25 courses out of 67 courses offered to this batch of students, are mapped to this PO. Target achieved for all subjects
PO11: Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.			
PO11	2.10	2.46	An overall target is attained. 11 courses out of 67 courses offered to this batch of students, are mapped to this PO. Target achieved for all subjects
PO12: Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change			
PO12	2.10	2.32	An overall target is attained. 65 courses out of 67 courses offered to this batch of students, are mapped to this PO. In the following courses, the attainment is below the target level. Fluid Mechanics Strength of Materials -II Engineering Hydrology Geotechnical Engineering Strength of Materials -I Design of Reinforced Concrete Structures
			Students are unable to relate the importance of continuing education and further learning towards professional development. Lack of interest in students to update their knowledge and skills.
Action 1:			
1. Mentored the students on the importance of lifelong learning that leads to their professional development and change their socio-economic conditions there by facilitating them for community and societal development.			
2. Students are motivated to go for Industrial visits and do internship program to facilitate them to engage in independent and life-long learning.			

PSO1: Apply knowledge in core areas of Civil Engineering such as Structural, Geotechnical, Water Resources, Transportation and Environmental Engineering to Civil Engineering practice.			
PSO 1:	2.10	2.29	An overall target is attained. 54 courses out of 67 courses offered to this batch of students, are mapped to this PSO. In the following courses, the attainment is below the target level. Geotechnical Engineering Strength of Materials -I Surveying Transportation Engineering
Action:			
<ol style="list-style-type: none"> 1. More problems are solved during tutorial sessions. 2. Supporting labs are conducted correlating to the theoretical concepts for better comprehension. 3. Organized guest lecture on quality management in construction. 			
PSO2: Utilize Civil Engineering principles that are appropriate to produce detailed drawings, design reports, quantity and cost estimates, specifications, contracts and other documents appropriate for the design, construction, operations and maintenance of Civil Engineering projects.			
PSO 2:	2.10	2.29	An overall target is attained. 39 courses out of 67 courses offered to this batch of students, are mapped to this PSO. In the following courses, the attainment is below the target level. Fluid Mechanics Engineering Hydrology Strength of Materials -II Hydraulics and Hydraulic Machinery Geotechnical Engineering Strength of Materials -I Surveying Design of Reinforced Concrete Structures
Action:			
<ol style="list-style-type: none"> 1. Industrial/Field visits are organized to expose students to practical application of the above courses. 2. Organized guest lecture on water resource engineering and advancements of admixtures on concrete. 			
PSO 3 Shall interact and collaborate with stakeholders; execute quality construction works applying Civil Engineering tools namely, Total Station, Global Positioning System (GPS), ArcGIS, AutoCAD, STAAD and other necessary tools.			
PSO 3	2.10	2.53	An overall target is attained. 20 courses out of 67 courses offered to this batch of students, are mapped to this PSO. In the following courses, the attainment is below the target level. Surveying Transportation Engineering
Action :			
Various software's were purchased and students were provided training in software modules to carry out innovative projects.			

Table B.7.1: POs & PSOs Attainment Levels and Actions for improvement for the Batch 2019-23

7.2 Academic Audit and actions taken thereof during the Period of Assessment

(Academic Audit system/process and its implementation in relation to Continuous Improvement)

Geethanjali College of Engineering and Technology has the practice of conducting the academic audit each year, for reviewing the progress of the institute/ department in various academic and administrative matters of interests. The objective of academic audit is to encourage programs and the institution to evaluate the quality processes and standards based on predetermined benchmarks. The auditing includes the assessment of course delivery as per the curriculum, co-curricular and extra-curricular activities of students, monitoring of the academic activities referring to the academic calendar, internal assessments, attainment of the Program outcomes, student welfare and grievances etc.

The Internal Quality Assurance Cell (IQAC) has started administering external audit in the college since the academic year 2018-19 by inviting senior academicians, with one for each department from other autonomous reputed colleges. Over and above, a former Vice Chancellor/Principal of a reputed college is invited as the chairperson of the external audit team. The main objective of the academic audit is indicated below:

Objective

To ensure good academic governance leading to improved student learning thus facilitating professional career development of students, faculty and staff for institutional sustainability. The questionnaire used is identically same as the one used for accrediting an UG programme by National Board of Accreditation as per its following criteria.

- a) Proper dissemination of information to all stake holders.
- b) Program curriculum and teaching learning process.
- c) Attainment of course outcomes and program outcomes.
- d) Students' performance.
- e) Faculty contributions in terms of teaching, research and consultancy.
- f) Department and institutional facilities, technical and administrative support.
- g) Continuous improvement of the program.
- h) First year academics.
- i) Students support systems in terms of mentoring facilities for self-learning career guidance training and placements.
- j) Governance Institutional support and financial resources.

On the day of the audit, each member of the committee will visit the relevant department to verify the data and files as per the questionnaire supplied which is usually mailed, preferably a week before the

scheduled date of the audit. Chairman of the committee will look at the first year academics and central facilities. At the end of the audit an exit meeting is conducted with all the members of the audit committee and institutional senior faculty including Principal, Deans, Heads of the departments and IQAC team. Each member of the audit committee shall mention the SWOC of each program and give their recommendations for further improvements. Subsequently Chairman of the audit committee shall also specify SWOC analysis carried out towards the first year academics and institutional facilities and support conducive for learning with his/her recommendations. Finally the Chairman prepares a report attaching each program report evaluated by the concerned member and hands it over to the Principal, who directs the IQAC in-charge to forward it to the respective heads of the departments for corrective actions.

Action Taken Report (ATR) shall be submitted by the respective HoDs based on the suggestions given by the committee. The questionnaire for the academic audit is given below

Academic Audit Report for the Academic Year: 2022-2023

GEETHANJALI COLLEGE OF ENGINEERING AND TECHNOLOGY
Cheeryal(V), Keesara (M), Medchal (D), Telangana state – 501 301

Civil

ACADEMIC AND ADMINISTRATIVE AUDIT REPORT

* Grade: A: Very Good, B: Good, C: Adequate, D: deficient

AY 2022-23

S. No	Criterion	Status		Grade	Exhibits observed	Remarks of Audit Team
		As assessed by department/institution	As observed by Audit Team			
I.	Vision, Mission and PEOs,					
	1. Are vision and mission statements of the department available?	Yes	Yes	A		
	2. Are department vision and mission statements consistent with institute statements?	Yes	Yes	B		
	3. Are the PEOs available?	Yes	Yes	A		
	4. Does the department follow a defined process for defining vision, mission and PEOs with the participation of all stakeholders-internal and external stake holders?	Yes	Yes	B		V, M Approval of External stakeholders is required

	5. Are the vision, mission and PEOs made available on college website, department notice boards, HoD's chamber, laboratories, lab manuals, course files, and curriculum books etc?	Yes	Yes	A		
	6. Are the PEOs consistent with the mission of the department indicated in matrix form with proper justification of correlation parameters?	Yes	Yes	B		
	Program curriculum and Teaching-Learning (T and L) Process					
	Program Curriculum					
	1. Does a defined process exist for design of program curriculum?		Yes	B		Internal BOS minutes of meeting must be documented
II.	2. Are the structure and components of curriculum well balanced and appropriate (as per AICTE Guidelines)?		Yes	A		
	3. Is a valid process followed for mapping of curriculum with POs and PSOs?		Yes	B		Explanation is required to justify the mapping.
	4. Is Employability a major consideration in the overall development of the curriculum		Yes	A		
	B. Teaching – Learning Process					
	1. Is an Academic Calendar prepared and adhered to?	Yes	Yes	A		No dates on question paper (Internal)
	2. Is evidence of pedagogical initiatives taken, such as collaborative learning, ICT supported teaching etc available?	Yes	Yes	B		

3. Does a process exist to identify bright and weak students?	Yes.	yes	B		Remedial classes for the backlog students is recommended.
4. Does the department have measures to encourage bright students with more complex tasks and motivate weak students to perform better?	Yes.	yes	B		
5. Does a process exist to allocate teaching load to faculty in the department?	Yes.	yes	B		
6. Do faculty in the department practice innovative TL practices such as <ul style="list-style-type: none"> • Collaborative Learning Yes/No • Interaction with student in and outside of class obtaining Feedback Yes/No • Group Learning, Developing Professional Competences. Yes/No • Teaching through value added courses Yes/No • Experiential Learning that facilitates development of Problem-Solving Skills in the students through project based learning Yes/No • Facilitating interaction with various experts in the field through Guest Lectures, Industrial Visits, Field trips thereby making them familiar with occupational awareness. Yes/No 	Yes.	yes	C		
	Yes	-	C		
	Yes.	-	C		
	Yes	yes	B		
	NO	yes	C		
	Yes	yes	B		

7. Is student feedback on T and L process collected and acted upon?	Yes.	yes	B		
8. Do the experiments in laboratory support higher level of Bloom's Taxonomy?	I	yes	C		
9. Is continuous assessment in the laboratory done systematically?	Yes	yes	B		
10. Is a well-defined process followed in the design and validation of question papers as well as for scheme of evaluation of mid-term and semester end examinations?	Yes	yes	B		
11. Are questions mapped with course outcomes, and Blooms Taxonomy levels?	Yes	yes	B		
12. Do the assignments given to students facilitate attainment of COs as well as higher levels of Bloom's Taxonomy?	Yes.	NO	D		Blooms level for Assignment questions also
13. Is a well-defined process followed for identification of student projects and allocation of guide(s)?	Yes	yes	C		
14. Are the projects relevant to the POs and PSOs and do they contribute to their attainments?	Yes.	yes	B		
15. Is a well-defined process followed for monitoring and evaluation of the projects and for assessing individual and team performance?	Yes	yes	C		

	16. Are efforts made to encourage students to develop working prototypes based on projects and/or to publish papers?	Yes.	-	D		
	17. Particulars of industry supported laboratories established, if any. Is impact analysis of industry interaction made and if, so, is action taken based on the results of the analysis?	NO-	-	D		
	18. Are students encouraged to undergo internships or summer training? If so, what is the minimum duration of internship?	4 weeks	Yes	B		
	19. Is student feedback taken on the internship experience?	Yes	Yes	B		
	20. Is Impact analysis of internship made and action taken on the basis of the results of the analysis?	Yes	-	D		
	21. Average number of days from the date of last semester-end examination till the declaration of results	Yes. 1 month	-	-		Exam Branch
	22. Average percentage of student complaints / grievances about evaluation against total number of students appeared in the examination during last academic year	2% 10%	-	-		Exam Branch
III.	Course Outcomes and Program Outcomes					
	1. Are COs defined for every course?	yes	Yes	B		

	2. Are COs embedded in syllabus?	yes	yes	B		
	3. Are course articulation matrix, program articulation matrix tables prepared?	yes	yes	B		
	4. Is appropriate assessment process for attainment of course outcomes followed including data collection, verification, analysis and decision making?	yes	yes	C		
	5. Is a well-defined process followed for determining attainment of POs and PSOs?	yes	yes	B		
	6. Are the records of computation of attainment of POs and PSOs maintained?	yes	yes	B		
	Students' Performance					
IV	1. Enrollment ratio	$\frac{4}{60} = 6.66\%$	6.6%	D		
	2. Percentage of students who graduate the program in four years, without repeat of any course?	$\frac{37}{122} = 30.33\%$	22%	D		
	3. Percentage of students graduating the program with backlogs within 4 years?	$\frac{64}{122} = 52.45\%$	52%	D		
	4. Mean CGPA of students (who were promoted to 3 rd year) at the end of 2 nd year	5.74	5.74	D		
	5. Percentage of students placed in companies through on and off-campus recruitment.	$\frac{48}{122} = 39.34\%$	39.34%	D		
	6. Percentage of final year students admitted to higher studies	$\frac{4}{122} = 3.27\%$	3.27% Proof check is required (Actual) 3.2%	D		→ placement office. Internship offers are not under placements

7. Number of students turned entrepreneurs in Engineering and Technology	01	1	D		
8. Number of Professional societies/chapters in the department	01 (IGS)	-	D		
9. Number of Engineering events organized at institute at:					
a. Institute Level	11	11			
b. State Level	NIL		D		
c. National Level	04	4			
d. International Level	NIL				
10. Does the department publish technical magazines and Newsletters?	yes (news letter)	Yes	C		
11. Are students associated in the above publications?	yes	NO	D		
12. Number of students who participated in inter-institute events					
• Within state	25	2	D		
• Outside state	02	-			
• Number of prizes/ awards received in the events.	NIL	-			
V A. Faculty Information and Contribution					
1. Student faculty ratio	18:11	-	-		First year faculty must be adjusted with dept. faculty
2. Faculty cadre proportion	13:39	-	-		
3. Number of Faculty with PhD qualification	4	4	-		

4. Number of Faculty with PG Degree qualification	13	15	B		
5. Faculty retention (%) in the Current Academic Year?	70.58	70%	A		
6. Number of research publications of faculty in the year	5+1	7	D		
7. Number of faculty who participated in FDPs, and duration of the programs.	9	9	D		
B. Research and Development					
1. Number of quality research publications in refereed/Scopus indexed journals.	5+1	5	D		
2. Number of faculty awarded PhD during the current academic year	-	-	D		
3. Sponsored research (funded) undertaken and its value in Lakhs of Rupees.	-	-	D		
4. Number of development activities undertaken by faculty: <ul style="list-style-type: none"> • Product development • Working models 	-	-	D		
5. Consultancy services offered and their value in Lakhs of Rupees.	-	-	D		
6. Does a well-defined faculty performance appraisal and development system exists and implemented?	Yes	Yes	C		
VI Facilities & Technical Support					
1. Are well-equipped labs and technical supporting staff	Yes	Yes	A		

	available?					
	2. Are labs well maintained?	Yes	Yes	A		
	3. Are safety measures followed in the lab?	Yes	Yes	A		
	4. Is a project laboratory together with necessary facilities available in the department?		-	-		
	Continuous Improvement					
VII	1. Are short falls and weaknesses in the program identified from the analysis of POs and PSOs attainment?		-	-		In progress
	2. Are action plans to bridge the shortfalls prepared and implemented? If so, what is the impact of the said implementation with respect to previous academic year?		-	-		In progress
	3. Does a criterion exist for conducting academic and administrative audit?	Yes	Yes	-		
	4. Frequency of audit	Yearly once	once/year	-		
	5. Are actions taken based on audit report?	Yes	Yes	-		
	6.					
	a. Percentage of placements in current Academic Year	$\frac{48}{125} = 37\%$	check for actual			
b. Percentage of placements in the previous Academic Year	$\frac{45}{125} = 36\%$					
c. Is there any improvement?	Yes					
						Paid Internships do not come under placement offers.

7.	a. Median salary offered to students in the current academic year <i>2019-23</i>		(2019-23) 3.2 LPA			
	b. Median salary offered to students in the previous academic year <i>2018-22</i>		(2018-22) 3.5 LPA			
	c. Is there any improvement?					
8.	a. Best rank of the students admitted in the current academic year		-			Admission office
	b. Best rank of the students admitted in the previous academic year		-			
	c. Is there any improvement?					

9.	a. Highest rank (in the qualifying examination) of student admitted in the current Academic Year		-			Admission office
	b. Highest rank (in the qualifying examination) of student admitted in the previous Academic year?		-			
	c. Is there any improvement?					
VIII	First Year Academics					
	1. First year student faculty ratio					
	2. Number of faculty teaching first year, with PhD qualification					

Strengths, if any

1. Laboratories are well maintained with all the required facilities.
2. V, M, PEDs, Pos, PSOs are disseminated at all the places.
3. Structure/Courses, curriculum is well balanced and appropriate.

Weaknesses, if any

1. Bloom's level for tutorials/Assignments questions ~~are~~ ^{are} to be mentioned.
2. Internal BOS mem is required (to be documented).
3. ICT tools other than ~~the~~ smart board is suggested.

Concerns, if any

1. Explanation of CO-PO mapping for all the courses is required.
2. Remedial classes are required for the back log students.
3. Rubrics for project continuous assessment/evaluation can be done.

Deficiencies, if any

1. Faculty & student publications needs to be improved
2. Impact analysis on Internships, Projects (Industry), placement ~~plans~~ ^{training}, etc.
3. Co and extra curricular activities of students need further improvement.

Recommendations, if any

1. Encourage faculty/ students to develop writing models based on Projects
2. Industry supported Laboratories
3. Consultancy services.

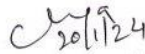
Brief report, if any

External academic and ^{administrative} audit ~~report~~ is conducted in the department of Civil Engg. All the faculty are well qualified and the laboratories are well equipped ^{with} all the facilities. files are well maintained with documentary evidences.

Suggestions for improvising the academic quality:

1. Action taken report on course outcomes and program outcomes.
2. Indirect assessment to validate PEO's
3. Course file consisting of attainment of all outcomes.

Signature of audit committee member:


20/11/24

Name of the audit committee member:

Dr. C. Lavanya

Affiliation of the audit committee member:

Professor & Dean IQAC
Department of Civil Engg.
GRIET, Bachupally, Hyderabad.

Action Taken Report on Academic Audit for A.Y. 2022-23

Geetanjali College of Engineering and Technology
Department of Civil Engineering
Action taken Report on the 'Academic and Administrative Audit'
for A.Y: (2022-23)

External Member	Dr C Lavanya, Prof & Dean IQAC, GRIET, Hyderabad.
Date:	20.01.2024

Good Practices
1. Smart boards in class rooms 2. Value added courses 3. Internship for minimum of one month
Strengths
1. Laboratories are well maintained with all the required facilities 2. Vision, Mission, PEO's and PSO's are disseminated at all the places 3. Structure / course curriculum is well balanced and appropriate
Weakness
1. Blooms level for tutorials / Assignments questions are to be mentioned 2. Internal BOS MOM is required (to be documented) 3. ICT tools other than smart board are suggested.
Concerns
1. Explanation of CO-PO mapping for all the courses is required 2. Remedial classes are required for the backlog students 3. Rubrics for project continuous assessment / Evaluation can be done
Deficiencies
1. Faculty and student publication needs to be improved 2. Impact analysis on internships, projects (industry), placement trainings 3. Co and extracurricular activities of students need further improvement
Recommendations
1. Encourage faculty / students to develop working models based on projects 2. Industry supported laboratories 3. Consultancy services
Suggestions for improving the academic quality
1. Action taken report on course outcomes and program outcomes 2. Indirect assessment to validate PEO's 3. Course file consisting of % attainment of all outcomes

Action Taken Report of the 'Academic and Administrative Audit' conducted

For the A.Y: (2022-23)

Department of Civil Engineering

S No	Observation made by the team	Action taken	Remarks
Concerns			
1	Vision, Mission needs approval of external stakeholders	Feedback will be taken from external stake holders as suggested.	
2	In the mid question papers date are not mentioned	This is the practice being followed at the college level. However, it will be discussed in the College Academic Committee meeting and an appropriate decision will be taken.	
3	For weak and backlog students, remedial classes are advised.	Remedial classes are already being conducted	
4	Consultancy services	MoUs signed with two reputed Construction industries and consultancy services offered by the department are expected to improve from this year.	
5	Research publications	All the faculty members are strongly encouraged to publish Scopus indexed journals. Incentives are also being given for them.	
6	Rubrics for project continuous assessment / Evaluation can be done	Available and documented	
7	Explanation of CO-PO mapping for all the courses is required	The justification of CO-PO mapping of all the courses in the Program is well known to all the course instructors. It is discussed in the faculty meetings before the revision of curriculum design.	
Weakness			
1	Blooms level for tutorials / Assignments questions are to be mentioned	Blooms level for tutorials assignment questions will be included.	

2	Internal BOS MOM is required (to be documented)	Will be documented as suggested.	
3	ICT tools other than smart board are suggested.	LCD Projectors also available in labs and Will be further improved as suggested.	

Recommendations

1	Encourage faculty / students to develop working models based on projects	Initiated efforts to develop the working models with the help of students	
2	Industry supported laboratories	We are making MOUs with some reputed industries through which we will make efforts to establish the same	

V.V. Praveen Kumar
HOD-CED

Academic Audit Report for A.Y. 2021-22

Civil Engg Dept.
Prof. R. Srinivasa Kumar

GEETHANJALI COLLEGE OF ENGINEERING AND TECHNOLOGY
Cheeryal(V), Keesara (M), Medchal (D), Telangana state -501 301

CEED
A- 91-100
B- 75-90
C- 60-74
D- <60

ACADEMIC AND ADMINISTRATIVE AUDIT REPORT AY 2021-22

* Grade: A: Very Good, B: Good, C: Adequate, D: deficient

S. No	Criterion	Status		Grade	Exhibits observed	Remarks of Audit Team
		As assessed by department/institution	As observed by Audit Team			
I.	Vision, Mission and PEOs,					
A	1. Are vision and mission statements of the department available?	yes	yes	A	shown	
	2. Are department vision and mission statements consistent with institute statements?	yes	yes	A	shown	
	3. Are the PEOs available?	yes	yes	A	shown	
	4. Does the department follow a defined process for defining vision, mission and PEOs with the participation of all stakeholders-internal and external stake holders?	yes	yes	B	shown partially	Feed back from stakeholders Need more proof. for 3rd yr. you related academic activities.

	5. Are the vision, mission and PEOs made available on college website, department notice boards, HoD's chamber, laboratories, lab manuals, course files, and curriculum books etc?	Yes	yes	A	Shown curricula files	
	6. Are the PEOs consistent with the mission of the department indicated in matrix form with proper justification of correlation parameters?	Yes	Need feedback Summary			2017-2020 need report
Program curriculum and Teaching-Learning (T and L) Process						
Program Curriculum						
II. A	1. Does a defined process exist for design of program curriculum?	Yes	yes	A	shown file	
	2. Are the structure and components of curriculum well balanced and appropriate (as per AICTE Guidelines)?	Yes	yes	A	Shown file 2020	need file link
	3. Is a valid process followed for mapping of curriculum with PEOs and PSOs?	Yes	yes	A	Shown Need file	Shown upto 2016-2017 Need 2017 onwards PFC
	4. Is Employability a major consideration in the overall development of the curriculum	Yes	yes	A 93	Shown lab & web file	Need 2017 onwards * Cantilera. Trans file ✓
B. Teaching – Learning Process						
	1. Is an Academic Calendar prepared and adhered to?	Yes	yes	A	Shown scheduled T.O.S. T.T. Almanac	
	2. Is evidence of pedagogical initiatives taken, such as collaborative learning, ICT supported teaching etc available?	Yes	yes	A		in file 2. feedback env

3. Does a process exist to identify bright and weak students?		yes	A	shown	
4. Does the department have measures to encourage bright students with more complex tasks and motivate weak students to perform better?		yes	A		1. BSE chosen books given 2. remedial class 3. PBL
5. Does a process exist to allocate teaching load to faculty in the department?	yes	yes	A		work load allotment
6. Do faculty in the department practice innovative TL practices such as					
• Collaborative Learning <input checked="" type="checkbox"/> Yes/No		yes			Exit
• Interaction with student in and outside of class obtaining Feedback <input checked="" type="checkbox"/> Yes/No					Feedback
• Group Learning, Developing Professional Competences. <input checked="" type="checkbox"/> Yes/No		yes			PBL
• Teaching through value added courses <input checked="" type="checkbox"/> Yes/No		yes			Time-table
• Experiential Learning that facilitates development of Problem-Solving Skills in the students through project based learning <input checked="" type="checkbox"/> Yes/No		yes			
• Facilitating interaction with various experts in the field through Guest Lectures, Industrial Visits, Field trips thereby making them familiar with occupational awareness. <input checked="" type="checkbox"/> Yes/No		yes		✓	only 2 lectured 20-21 & FDP 20-22
7. Is student feedback on T and L process collected and	yes	yes	A		conveying etc. to faculty

3

acted upon?					
8. Do the experiments in laboratory support higher level of Bloom's Taxonomy?	yes	yes	A		Proof that exp. find & think deep
9. Is continuous assessment in the laboratory done systematically?	yes	yes	A		day to day evaluation done
10. Is a well-defined process followed in the design and validation of question papers as well as for scheme of evaluation of mid-term and semester end examinations?	yes	yes			question paper well evaluated
11. Are questions mapped with course outcomes, and Blooms Taxonomy levels?	yes	yes			B.P.
12. Do the assignments given to students facilitate attainment of COs as well as higher levels of Bloom's Taxonomy?	yes	yes		shown	
13. Is a well-defined process followed for identification of student projects and allocation of guide(s)?	yes	yes	A+	shown	
14. Are the projects relevant to the POs and PSOs and do they contribute to their attainments?	yes	yes	✓	-	not del.
15. Is a well-defined process followed for monitoring and evaluation of the projects and for assessing individual and team performance?	yes	yes			Review Report
16. Are efforts made to encourage students to develop working prototypes based on projects and/or to	yes	yes			Make & Test

* Need more 4

	publish papers?					1 page shown
	17. Particulars of industry supported laboratories established, if any. Is impact analysis of industry interaction made and if, so, is action taken based on the results of the analysis?	+ Yes	NO			No specific lab established.
	18. Are students encouraged to undergo internships or summer training? If so, what is the minimum duration of internship?	Yes	yes	A		10 days 1 month (Summer pop)
	19. Is student feedback taken on the internship experience?	Yes	yes	A		shown
	20. Is Impact analysis of internship made and action taken on the basis of the results of the analysis?	Yes	yes	A		Some candidates are failed if abroad *
	21. Average number of days from the date of last semester-end examination till the declaration of results	1 month	yes	A		1 month
	22. Average percentage of student complaints / grievances about evaluation against total number of students appeared in the examination during last academic year	Nil				* Revision = No go Re counting
III.	Course Outcomes and Program Outcomes					
A	1. Are COs defined for every course?	Yes	yes.			
	2. Are COs embedded in syllabus?	Yes	yes.			
	3. Are course articulation matrix, program articulation	Yes				

	matrix tables prepared?		yes	A		given course file
	4. Is appropriate assessment process for attainment of course outcomes followed including data collection, verification, analysis and decision making?	yes	yes	A		Excell
	5. Is a well-defined process followed for determining attainment of POs and PSOs?	yes	yes	A		Excell
	6. Are the records of computation of attainment of POs and PSOs maintained?	yes	yes	A		Show
	Students' Performance					
* IV C	1. Enrollment ratio (2021-22)	36.66%	$(22/60 \times 100)$	36.66	.	22+
	2. Percentage of students who graduate the program in four years, without repeat of any course? (2018) = III	33.33%		33.33	.	$\frac{37}{111} \times 100 = 33.33\%$
	3. Percentage of students graduating the program with backlogs within 4 years?	45.94%		45.94		$\frac{51}{111} \times 100$ Need imp
	4. Mean CGPA of students (who were promoted to 3 rd year) at the end of 2 nd year	4.79		4.79		* Need imp
	5. Percentage of students placed in companies through on and off-campus recruitment.	41.4		41.4%		Show $\frac{46}{111} \times 100 = 41.4\%$
	6. Percentage of final year students admitted to higher studies	2.702		2.7%		Show $\frac{3}{111} \times 100 = 2.7\%$
	7. Number of students turned entrepreneurs in Engineering and Technology	1		0.9%		Show $\frac{1}{111} = 0.9\%$
	8. Number of Professional societies/chapters in the	Nil		Nil		not present

	department				
	9. Number of Engineering events organized at institute at:				
	a. Institute Level	2 EL	2 EL - B		5 Brochure shown shown.
	b. State Level	1 FDP	1 FDP - A		
	c. National Level	+			
	d. International Level	1 Bhaswan - college ent.	- A		
	10. Does the department publish technical magazines and Newsletters?	Yes	Yes A		shown
	11. Are students associated in the above publications?	Yes	Yes A		Need info (03 paper)
	12. Number of students who participated in inter-institute events				
	• Within state	5	5	B.	Five student only participat * Need info
	• Outside state	Nil	Nil		
	• Number of prizes/ awards received in the events.	3	3		
V	A. Faculty Information and Contribution				
* B	1. Student faculty ratio	15:1	16.63	A	(65+63+65+63+60) = 316 / 24
	2. Faculty cadre proportion	P: A: M: Asst	2:3:18	0:1:18	316 / 19 = 16.63
	3. Number of Faculty with PhD qualification	04	11+1+12		
	4. Number of Faculty with PG Degree qualification	19	19	A	
	5. Faculty retention (%) in the Current Academic Year?	84.21	84.21	B	2021 - 19 2022 - 16 = 16/19 * 100
	6. Number of research publications of faculty in the year	01	01	D	*

(copies)

	7. Number of faculty who participated in FDPs, and duration of the programs.	17	15			>5 days
	B. Research and Development					
	1. Number of quality research publications in refereed/Scopus indexed journals.	01	01			Scopus
	2. Number of faculty awarded PhD during the current academic year	0	0			
	3. Sponsored research (funded) undertaken and its value in Lakhs of Rupees.	0	0			
	4. Number of development activities undertaken by faculty: • Product development • Working models	0	0			
	5. Consultancy services offered and their value in Lakhs of Rupees.	0	0			
	6. Does a well-defined faculty performance appraisal and development system exists and implemented?	Yes	yes	A		exists.
VI	Facilities & Technical Support					
*	1. Are well-equipped labs and technical supporting staff available?	Yes	yes	A.		
	2. Are labs well maintained?	Yes	yes	A		
	3. Are safety measures followed in the lab?	Yes	yes	A		
	4. Is a project laboratory together with necessary	No	NIL			

8

	facilities available in the department?	NIL	NIL			
VII	Continuous Improvement					
	1. Are short falls and weaknesses in the program identified from the analysis of POs and PSOs attainment?	yes	yes	A.		Summary report of subject attainment
	2. Are action plans to bridge the shortfalls prepared and implemented? If so, what is the impact of the said implementation with respect to previous academic year?	yes	yes	B		1. Guest lecture 2. Tutorial classes 3. *Need more
	3. Does a criterion exist for conducting academic and administrative audit?	yes	yes	A		shown
	4. Frequency of audit	1 year	yes	B		* 2 times is good
	5. Are actions taken based on audit report?	yes	yes*	B		* need models. * Res D
	6.					
	a. Percentage of placements in current Academic Year	→ Yes 20%	→ $\frac{45}{123} = 36\%$			Need Improvement
	b. Percentage of placements in the previous Academic Year	→	→ $\frac{32}{144} = 22\%$	B		
	c. Is there any improvement?	→	yes = 14%			
	7.					
	a. Median salary offered to students in the current academic year	3 lacs	3 lacs			Need Input Not done
	b. Median salary offered to students in the previous academic year		→ 2 lacs	B		

c. Is there any improvement?			yes	1.20 ph in average		
8.						
a. Best rank of the students admitted in the current academic year			→			
b. Best rank of the students admitted in the previous academic year			→			
c. Is there any improvement?						

9.						
a. Highest rank (in the qualifying examination) of student admitted in the current Academic Year			→			
b. Highest rank (in the qualifying examination) of student admitted in the previous Academic year?			→			
c. Is there any improvement?						

VIII

First Year Academics

1. First year student faculty ratio						
2. Number of faculty teaching first year, with PhD qualification						
3. Number of faculty teaching first year with PG qualification						
4. Percentage of students who qualified for promotion to 2 nd year from end examinations of first year						
5. Mean CGPA/percentage of students (who were						

	promoted to Second year) at the end of First year.					
	6. Is a proper assessment process used for determining the attainment of course outcomes?					
	7. Is a proper assessment process used for determining the attainment of relevant POs and PSOs					
	8. Are records of computation of attainment of COs of all first-year courses available?					
	9. Are records of computation of attainment of relevant POs & PSOs of all first-year courses available?					
	10. Are actions taken based on the results of evaluation of POs and PSOs?					
IX	Student Support Systems					
	A. Mentoring System					
	1. Is a comprehensive mentoring system at individual level in place for professional guidance, career advancement and all-round development?		mentoring yes		shown	1. 1 mentor/20 stud. 2. 1 class in charge.
	2. Is the mentoring system implemented? If yes, Number of students per mentor		yes 20/m.			1hr/mentoring hr. weekly.
	3. Is the mentoring system effective?		A++			m-joining/candidate.
	B. Student feedback on faculty and facilities.					
	1. Does a student feedback system exist?		yes			2 times/semester
2. Are the records of action taken on the results of feedback (on faculty) analysis available?		yes	B++		on calling done.	

3. Is the feedback system effective?					
4. Are records of action taken on feedback on facilities available?		yes		Summary shown	CRC class
C. Facilities for Self-Learning					
1. Does the department provide scope for self-learning?		yes			NFTL
2. Are all required facilities, materials, for learning beyond syllabus etc. provided to the students?		yes	B		Library
3. Are the facilities effectively utilized by the students?		yes		data has been	Logbook
D. Career guidance, Training and Placement					
Career Guidance					
1. Does the college have a Career Guidance or Counseling Cell?		yes			
2. If yes, how many students have been utilizing these services?		All			
3. How many Career Guidance programs have been conducted in each year?		2			
4. How many number of students attended these career guidance programs?		45 no			
5. Are students counseled for higher studies?		yes			
6. Does the College have Academic links/ collaborations/MoU, etc with other institutes of higher learning?		yes			Center (A.D.) CAD C-well
Training and Placements					

1. Does the college conduct any pre placement training for students' placements?		yes			
2. Is effective placement policy framed and implemented?					
3. If yes, then specify the number of hours, areas in which training is imparted.					
4. Does the placement cell maintain the record of job opportunities available for students?					
5. Did the college organize any company/Industrial visits or guidance camp for students?		2 visits 1. C complex 2. PNC			
6. If yes, number of such visits/camps organized					
7. Are the students provided computers and Internet to search for job, to download application forms or to register for placements drive of the companies etc?		yes			printer on change
8. Does the college subscribe to magazines like Employment News, Rojgar Samachar etc? If yes, give names of magazines.		yes 1. 2. 3.			
9. Does the college have a system of registering students at the Employment office of the GoI?		?			
NSS Activities/Student Clubs/Alumni Association					
1. Are clubs and NSS effectively functioning?		yes			
2. Do students conduct and participate in annual co-curricular and extra-curricular activities.		yes go			1. Robotics 2. Math club 3. etc.

	If yes, please mention % of students participate in such activities:					
	3. Does the college have a registered and functional Alumni Association? If yes, give number of students enrolled		Yes 25 th Dec.			
	4. Specify Activities of Alumni Association		(Alum meets yes)			
X	Governance, Institutional Support and Financial Resources					
	A. Governance, Institutional Support					
	1. Are vision and mission statements of Institution available on college website, Principal's Chamber, Library, Conference rooms etc?					
	2. Are the vision and mission statements appropriately defined and relevant?					
	3. Is institutional strategic plan (5 years) available?					
	4. Is there an implementation plan towards achieving the strategic objectives?					
	5. Is the strategic plan monitored effectively?					
	6. Is a Governing Body duly constituted and its meetings held regularly?					
	7. Are service rules, policies, procedures, functions and responsibilities published and uploaded on the website?					
	8. Are Minutes of Meetings of Governing Body and					

Strengths, if any

1. well maintained ^{equipped} labs., Quality of Question papers.
2. CO-PO attainment
3. Feedback system. (Identified bright/weak students) → mentoring system.
4. Good Departmental library facility
5. Good faculty with co-operation

Weaknesses, if any

1. Student Faculty ratio. > 16
2. Research & development
3. Consultancy
4. Lower quality of students (Ranks are high)

Concerns, if any

1. No desktops given to each faculty.
2. Encouragement to improve in attendance for Tutorial/compensating classes
3. placements
4. Less no. of Admitted students in 2022.

Deficiencies, if any

1. Student's performance.
2. No professor ratified.
3. No sponsored projects/consultancy projects.

Recommendations, if any

1. R & D activities should be explored with ~~the~~ concerned Institutions/MOU's
2. Consultancy / sponsored projects with ATMC @ other
3. Conduct more number of guest lectures (say 1 per month); 2 Training program/yr.

Brief report, if any

I visited the Civil Engg Dept and Labs. The concerned faculty have shown decent evidences for the criteria. The summary of assigned grades for each criteria as given below: I=A; II=A; III=~~A~~; IV=C; V=B; VI=A; VII=B* ; (80%)
The no. of faculty attended FDP is good. The % placement is increasing but need atleast 5.
The CRC practice is good. The training programs offered to the students are good.
The process of calculation of co-go attainment is satisfactory.
The process of collaborative learning with specific research institutions should be envisaged. The average pass percentage should be improved.

Suggestions for improving the academic quality:

1. Paper publications / Students should be improved.
2. Establish Professional Societies / Chapters.
3. Organise National Seminars & increase participation of students / faculty.
4. Subscribe more e-journals & encourage faculty to present their research papers.

Signature of audit committee member:

R. Srinivasa Kumar 17/12/2022

Name of the audit committee member:

Prof. R. Srinivasa Kumar

Affiliation of the audit committee member:

Professor → Director (Est & Edcl) Osmania University, Hyd.
CED Ph. 949112424

Action Taken Report on Academic Audit for A.Y. 2021-22

12.01.2023

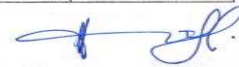
Geethanjali College of Engineering and Technology
(Autonomous)

Department of Civil Engineering

Action Taken Report of the External Academic Audit conducted for AY 2021-22

S.No	Observation Made by the Audit Team	Action Taken	Remarks
1.	<u>A: Concerns</u> No desktops given to each faculty	We will request management to facilitate some of systems, mean while faculty will use the huge number of desktops available in the computer labs, during free slots of laboratories.	
2.	Improvement of attendance for tutorials - / compensatory classes.	We will motivate them by telling the consequences of missing such classes through classes teachers and mentors.	
1.	<u>B:Weaknesses</u> Number of students who participated in inter-institute events <i>outside the state</i>	This number is nil in the present year. Students are not shown interest to go out due to COVID problems, This time we will motivate them and make them to participate in more numbers.	
2.	Number of development activities undertaken by faculty : working models	This number is nil in the present year. We will motivate the faculty and bright students to develop such models once we get sponsorship or budget from	

		the institute.	
3	Is a project laboratory together with necessary facilities available in the department?	Since it involves with huge budget, we will initiate to get research funded projects, as the department got NBA accredited recently. We will establish laboratory with the research funding as well as from the institute funding.	
1.	C: Recommendations No sponsored projects / Consultancy projects	Senior faculties who are having research exposure will be requested to focus more on this area to get funded projects.	



HOD-CED

Academic Audit Report for A.Y. 2020-21

GEETHANJALI COLLEGE OF ENGINEERING AND TECHNOLOGY
 Cheeryal(V), Keesara (M), Medchal (D), Telangana state - 501 301

ACADEMIC AND ADMINISTRATIVE AUDIT REPORT

21/20.21

* Grade: A: Very Good, B: Good, C: Adequate, D: deficient

S. No	Criterion	Status		Grade	Exhibits observed	Remarks of Audit Team
		As assessed by department/ institution	As observed by Audit Team			
	Vision, Mission and PEOs,					
I.	1. Are vision and mission statements of the department available?	Yes	✓✓	B	Vision does, procedure adopted	
	2. Are department vision and mission statements consistent with institute statements?	Yes	✓	B		
	3. Are the PEOs available?	Yes	✓	✓Yes		
	4. Does the department follow a defined process for defining vision, mission and PEOs with the	Yes	✓	✓Yes		

	participation of all stakeholders-internal and external stake holders?		✓	B		
	5. Are the vision, mission and PEOs made available on college website, department notice boards, HoD's chamber, laboratories, lab manuals, course files, and curriculum books etc?	Yes	✓	Yes.		
	6. Are the PEOs consistent with the mission of the department indicated in matrix form with proper justification of correlation parameters?	Yes	✓	C		consistently reviewed some may correlate not well ✓ not fields, can be better
Program curriculum and Teaching-Learning (T and L) Process						
Program Curriculum						
II.	1. Does a defined process exist for design of program curriculum?	Yes	✓	good B		
	2. Are the structure and components of curriculum well balanced and appropriate (as per AICTE Guidelines)?	Yes	✓	moderate C		

3. Is a valid process followed for mapping of curriculum with PEOs and PSOs?	Yes	✓	B		Slightly adjust weights
4. Is Employability a major consideration in the overall development of the curriculum	Yes	✓ Employability	B.		Reigate
B. Teaching - Learning Process					
1. Is an Academic Calendar prepared and adhered to?	Yes	✓	B.		Some details due to pandemic
2. Is evidence of pedagogical initiatives taken, such as collaborative learning, ICT supported teaching etc available?	Yes	Tutorials - collaborative	C.		Not All CR are digital Can make All CR digital
3. Does a process exist to identify bright and weak students?	Yes	✓ good	B.		Teacher with 100% marks + Attendance + 100% (OK) / 100%
4. Does the department have measures to encourage bright students with more complex tasks and motivate weak students to perform better?	Yes	?	C.		Pandemic
5. Does a process exist to allocate teaching load to faculty in the department?	Yes	✓ good	A.		
6. Do faculty in the department practice innovative TL practices such as	Yes	Self-lead Practical based or			P

<ul style="list-style-type: none"> • Collaborative Learning Yes/No • Interaction with student in and outside of class obtaining Feedback Yes/No • Group Learning, Developing Professional Competences. Yes/No • Teaching through value added courses Yes/No • Experiential Learning that facilitates development of Problem-Solving Skills in the students through project based learning Yes/No • Facilitating interaction with various experts in the field through Guest Lectures, Industrial Visits, Field trips thereby making them familiar with occupational awareness. Yes/No 	<p>Yes</p> <p>Yes</p> <p>✓</p> <p>Review E-tels ✓</p> <p>✓ only some students.</p>		<p>C.</p> <p>C.</p> <p>C.</p> <p>B</p> <p>C.</p> <p>B</p>		<p>Can involve more number of students.</p>
<p>7. Is student feedback on T and L process collected and acted upon?</p>	<p>Yes</p>	<p>✓ good</p>	<p>B.</p>		
<p>8. Do the experiments in laboratory support higher level of Bloom's Taxonomy?</p>	<p>Yes</p>	<p>adequate</p>	<p>C.</p>		
<p>9. Is continuous assessment in the laboratory done systematically?</p>	<p>✓</p>	<p>✓</p>	<p>B</p>		

10. Is a well-defined process followed in the design and validation of question papers as well as for scheme of evaluation of mid-term and semester end examinations?	Yes	✓	C.		
11. Are questions mapped with course outcomes, and Blooms Taxonomy levels?	Yes	✓ good	B.		
12. Do the assignments given to students facilitate attainment of COs as well as higher levels of Bloom's Taxonomy?	Yes	✓	C.		
13. Is a well-defined process followed for identification of student projects and allocation of guide(s)?	Yes	✓ after the 1st Mid Semster	C.		adequate
14. Are the projects relevant to the POs and PSOs and do they contribute to their attainments?	Yes	✓	C.		
15. Is a well-defined process followed for monitoring and evaluation of the projects and for assessing individual and team performance?	Yes	✓	B.		3 students
16. Are efforts made to encourage students to develop working prototypes based on projects and/or to publish papers?	Yes		A.		for funding they have had prototype 17/40%
17. Particulars of industry supported laboratories established, if any.	No	NO	-		

	Is impact analysis of industry interaction made and if, so, is action taken based on the results of the analysis?	no		-	
	18. Are students encouraged to undergo internships or summer training? If so, what is the minimum duration of internship?	Yes	100% ✓ Yes	B	
	19. Is student feedback taken on the internship experience?	Yes		B	Re-factors ✓
	20. Is Impact analysis of internship made and action taken on the basis of the results of the analysis?	No	(N)	-	
	21. Average number of days from the date of last semester-end examination till the declaration of results	3 - 4 weeks	digital eval.	C	Can do this 2 weeks Can do with 2 weeks.
	22. Average percentage of student complaints / grievances about evaluation against total number of students appeared in the examination during last academic year	5 - 10%	✓	-	
Course Outcomes and Program Outcomes					
III.	1. Are COs defined for every course?	Yes	✓	C	Subjects can improve to learn better.
	2. Are COs embedded in syllabus?	Yes	✓	Yes	
	3. Are course articulation matrix, program articulation matrix tables prepared?	Yes	✓	Yes	CO-PO matrix need to be in the syllabus to put in syllabus files

	4. Is appropriate assessment process for attainment of course outcomes followed including data collection, verification, analysis and decision making?	Yes	/	C	sample data	Advise to More from try to the grading of Attainment
	5. Is a well-defined process followed for determining attainment of POs and PSOs?	Yes	/	C.		
	6. Are the records of computation of attainment of POs and PSOs maintained?	Yes	/	B.		
	Students' Performance					
	1. Enrollment ratio	55/60	/	-		
	2. Percentage of students who graduate the program in four years, without repeat of any course?	42/139=30.21%		-		depend on stud int. But try to improve ..
	3. Percentage of students graduating the program with backlogs within 4 years?	89/139=64.02%	/	-		
	4. Mean CGPA of students (who were promoted to 3 rd year) at the end of 2 nd year	5.42	/	-		
	5. Percentage of students placed in companies through on and off-campus recruitment.	32/144=22.22%	/	-		
	6. Percentage of final year students admitted to higher studies	08/144=5.55%	/	-		with the increasing.
	7. Number of students turned entrepreneurs in Engineering and Technology	Nil	/	-		
IV						

8. Number of Professional societies/chapters in the department	02 (IGBC, ISTE)	✓			IGBC chaps.
9. Number of Engineering events organized at institute at: a. Institute Level b. State Level c. National Level d. International Level	1 with lead.				only
10. Does the department publish technical magazines and Newsletters?	Yes	monthly		good. B.	good. Pl. add small writing for journal & student
11. Are students associated in the above publications?	No				Make them write short essays.
12. Number of students who participated in inter-institute events • Within state • Outside state • Number of prizes/ awards received in the events.	04 07 ✓				due to pandemic
V A. Faculty Information and Contribution					
1. Student faculty ratio	16.57			B.	✓
2. Faculty cadre proportion	2 (Prof.)+ 3 (Assoc.pro) + 14 (Assis.pro)	/		B	/
3. Number of Faculty with PhD qualification	4			B	

4. Number of Faculty with PG Degree qualification	15	✓	-		
5. Faculty retention (%) in the Current Academic Year?	74.16	✓	C		
6. Number of research publications of faculty in the year	4		C.		can improve (sel)
7. Number of faculty who participated in FDPs, and duration of the programs.	14	✓	B		
B. Research and Development					
1. Number of quality research publications in refereed/Scopus indexed journals.	1		D		can improve. should improve.
2. Number of faculty awarded PhD during the current academic year	0		-		
3. Sponsored research (funded) undertaken and its value in Lakhs of Rupees.	0	✓	D.		Can try ✓
4. Number of development activities undertaken by faculty: • Product development • Working models	0		-		
5. Consultancy services offered and their value in Lakhs of Rupees.	0.3		-		land survey
6. Does a well-defined faculty performance appraisal and development system exists and implemented?	Yes		B		API based

Facilities & Technical Support					
VI	1. Are well-equipped labs and technical supporting staff available?	Yes	/	B	
	2. Are labs well maintained?	Yes	/	B	
	3. Are safety measures followed in the lab?	Yes		B	Fire extinguishers, mask.
	4. Is a project laboratory together with necessary facilities available in the department?	No (Additional equipment & softwares are available in existing labs to perform project work)		-	
Continuous Improvement					
VII	1. Are short falls and weaknesses in the program identified from the analysis of POs and PSOs attainment?	Yes		C	Individual CO Shortfalls were addressed
	2. Are action plans to bridge the shortfalls prepared and implemented? If so, what is the impact of the said implementation with respect to previous academic year?	Yes		-	No shortfalls observed. Needs set the bar high. Individual COs deficiency addressed by expert lecture we can forward syllabus
	3. Does a criterion exist for conducting academic and administrative audit?	Yes	/	✓	/
	4. Frequency of audit	1 per year	/	-	
	5. Are actions taken based on audit report?	Yes	/	/	

Strengths, if any

1. Availability of committed faculty trained at reputed institutions such as NITs.
2. Good laboratories with latest equipment.
- 3.

Weaknesses, if any

1. Churn in the faculty \rightarrow could destabilize the set processes.
2. Intake of not so bright students.
- 3.

Concerns, if any

1. ~~There is a significant gap in the faculty strength. The faculty members are not fully trained in the required areas.~~
2. ~~The infrastructure is not up to the mark.~~
- 3.

Deficiencies, if any

1. All the class rooms need to be digitally enabled (Projectors in all the CRs).
- 2.
- 3.

Recommendations, if any

1. Pl. equip classrooms with projectors.
2. After the pandemic improve physical interactions with CIVIL Engg companies.
- 3.

Brief report, if any

Followed by a brief report by the HoD, faculty of the department presented various files pertaining to the audit items. The dept follows set procedure for URS, MISs, POs, AEOs, PSOs etc. The dept also follows set procedure for teaching learning process, starting from subject allocation, to evaluation process. Checked some mid. scripts evaluated. As these scripts are shared with students lets, it's better to mark mistakes, suggestions etc on the script by the faculty so that the student realises what was wrong in his answers. The dept has bright faculty therefore it should encourage externally funded projects and good quality (Sci/Scopus/Else) publications.

Suggestions for improvising the academic quality:

1. Improve project based learning such as making a laboratory project for ^{with} groups of 2-3 compulsory for each lab.
2. Include more CIVIL Engg software in the laboratory courses to improve employability.
3. The above measures can also improve interest levels of less studious students.

Signature of audit committee member:

K. V. Seetharam

Name of the audit committee member:

DR K. V. SEETHARAM.

Report of Academic Audit of
Githanjali College of Engg & Technology

11
A.Y. 2020-21

Date 8th Jan. 2022

Academic Audit of Githanjali College of Engg & Tech. was conducted on 8th Jan 22 along with Departmental Experts by

1. Visiting the Departments, Central facilities, Laboratories
2. Verifying all Academic / Admn. records, Course Files, Reports, Files & Statistics presented by HOD's / Deans / Principal
3. Individual Reports by Departmental Experts are enclosed.
4. Overall summary, observations, recommendations concurred are listed below:
 - * Infrastructure is excellent. Classroom, Labs are well maintained / well equipped
 - * Computational facilities / required softwares are available for students / faculty
 - * Teaching learning Process / Students Faculty ratio is satisfactory
 - * Academic / Administrative discipline is maintained. Records are properly maintained
 - * Professional Society activities, / extra curricular activities / Counselling / Feedback mechanism are satisfactory
 - * Qualified & sincere faculty, dynamic & effective leadership visible.
 - * Many hardware (working models) projects are implemented by students. Encourage this..
 - * Various students / clubs are active

(Contd..)

(2)

- * Academic Autonomy is not fully, effectively implemented.
 - * Quality of Question papers/evaluation/assessment process needs drastic improvement.
 - * Quality of B Tech / M Tech thesis not Satisfactory.
 - * Instt should prepare well defined strategy plan by individual staff / individual Dept which will lead to clear road map for Instt.
 - * Research publications / Consultancy / sponsored projects by faculty needs drastic improvement.
 - * Use of ICT to be improved
 - * Strengthen Alumni Network
 - * Aim for 'Quality' placement-
 - * Strengthen inter disciplinary Academic activities / projects
 - * Concentrate on 'Project Based / Activity based / Self Study based Learning.'
 - * Concentrate on 'Skill Development' programmes
 - * Increase number of E-Class rooms with Smart Boards.
 - * Involve students in Instt-Development Activities
 - * Focus on Life Long Learning & Character / personality Development.
 - * Create Question Bank / Tutorial Q Bank / Viva Q Bank for effective assessment / stress on Continuous evaluation through Quiz, Group Discussions, Seminars, Vivas with transparent evaluation.
 - * Involve all stake holders in major decision making.
- (Contd...)

- * Evolve full proof procedure to recruit young, talented, sincere & dedicated Faculty. Update the faculty with state of the Art Technology & Teaching Methodology (in current situation).
- * Upgrade the Laboratories with state of the Art Equipments & Software.
- * Move emphasis of 'Character' Development & Professional Ethics, Moral Values, Importance of Art & Culture, through Lectures from experts & Group discussions, social activities. Give extra credits for this work. (May be Non Audit).
- * 'Credit Based Grading' should be implemented in 'Letter & spirit' with cafeteria Approach, giving more choice to students about 'What/when/how' they want to 'Learn'. (Less Teaching, more Learning).
- * Expts in Lab should be more design/testing oriented rather than simply 'measurements'. Link the expts to the theory taught.
- * "WHY" we learn the topic/course should be explained by teacher in the beginning.
- * Cultivate habit of 'Good Reading' among Students. Considering the reports by Departmental Experts & my own observations the overall grading of the College stands at B+ with 70% score.

V.M. Pandharipande
9th Jan 2022
(Prof V. M. PANDHARIPANDE)

To: Principal
Gitanjali College of Engg & Tech.

Action Taken Report on Academic Audit for A.Y. 2020-21

19/01/2022

**Geethanjali College of Engineering and Technology
(Autonomous)**

Department of Civil Engineering

Action Taken Report of the External Academic Audit conducted for AY 2020-21

S.No	Observation Made by the Audit Team	Action Taken	Remarks
	<u>Weaknesses</u>		
1.	Churn in the faculty could destabilize the set processes.	Faculty members are encouraged, motivated and also given incentives for publications. College also sponsors faculty for attending FDPs/STTPs etc.,	Hence destabilization of the process won't happen.
2.	Intake of not so bright students	In view of the increased intake in CSE and allied branches, decreased employment opportunities in core branches of Engineering, the quality of intake is low. Similar situation is prevailing all over the country with respect to quality of intake in core branches of engineering.	
1.	<u>B: Deficiencies</u> All the class rooms need to be	Yes, Efforts are made to provide projectors in all the class rooms.	

[Signature]
19/01

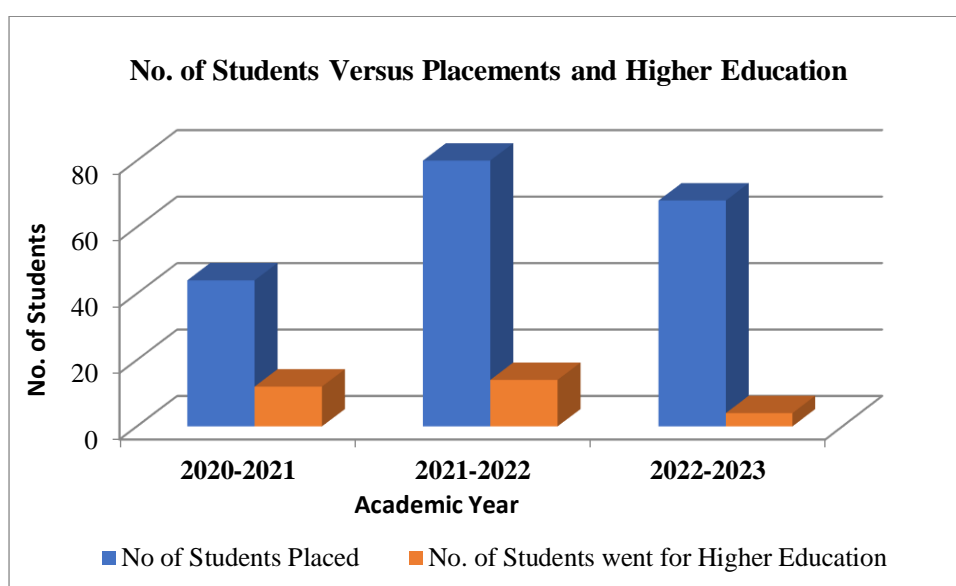
	digitally enabled. (projectors in all the class rooms)		
1.	Recommendations Equip all the class rooms with projectors.	Yes, Efforts are made to provide projectors in all the class rooms	
2.	After the pandemic, Improve physical interaction with Civil Engineering companies.	Will be planned and implemented after the pandemic is over.	
	Suggestions for improvising the academic quality		
1.	Improve Project Based Learning (PBL) such as making a laboratory project with a group of two to three compulsory for each lab.	We are planning to increase number of projects in PBL and more efforts will be made in this direction.	
2.	Include more Civil Engineering software in the laboratory courses to improve employability.	In the revised curriculum MX roads software is introduced as part of Pavement Analysis and Design Lab. Training is given to students on GIS software beyond curriculum.	

*Review
19/10/2020*

7.3 Improvement in Placement, Higher Studies and Entrepreneurship (10)

a. Placement and Higher Studies

S.No.	Academic Year	No of Students Placed	No. of Students went for Higher Education	No. of student Entrepreneurs
1	2020-2021	44	12	0
2	2021-2022	80	14	1
3	2022-2023	68	4	0



b. Quality of Placements: Minimum, Maximum, Average and Median Salary

Placement SALARY Summary (LPA)					
S. No.	Academic Year	Minimum Salary	Maximum Salary	Average Salary	Median Salary
1	2019-2020	1.22	3.4	2.0	2.0
2	2020-2021	1.44	4.19	2.84	3
3	2021-2022	1.44	4.19	2.84	3
4	2022-2023	1.44	5	3.13	3.2

Observations:

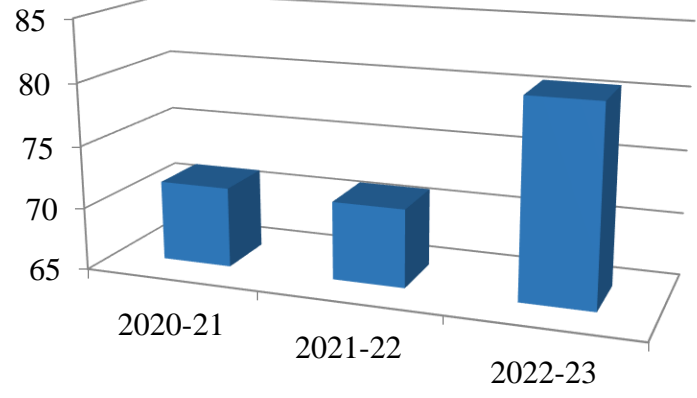
1. Number of students getting placed is increased
2. The median salary offered per annum is increasing consistently which indicates that the quality of placements has been increased over these years.
3. The average salary offered per annum is increasing consistently which indicates that the quality of placements has been increased over these years

7.4 Improvement in the quality of students admitted to the program (20)

Item		2020-2021	2021-2022	2022-2023	2023-2024
National Level Entrance Examination (Not Applicable)	No of students admitted	-	-	-	-
	Opening Score/Rank	-	-	-	-
	Closing Score/Rank	-	-	-	-
State/University/Institute Level Entrance Examination/Others (EAMCET)	No of students admitted	55	22	04	0
	Opening Score/Rank	43633	54409	60903	33940
	Closing Score/Rank	80293	121290	124340	156434
Name of the Entrance Examination for Lateral Entry or lateral entry details (ECET)	No of students admitted	35	11	22	13
	Opening Score/Rank	218	116	154	89
	Closing Score/Rank	2553	633	605	3273
Average percentage of marks in CBSE/Any other Board Result of admitted Students (Physics, Chemistry & Mathematics)	Average Inter marks	71.42	71.24	80.65	72.94

Table B.7.4. Quality of students admitted to the program

Average CBSE/12th board result of admitted Students



FIRST YEAR ACADEMICS (50)

8.1. First Year Student-Faculty Ratio (FYSFR) (5)

Assessment = $(5 \times 20) / \text{Average FYSFR}$ (Limited to Max. 5)

Data for first year courses to calculate the FYSFR:

Table 8.1

Year	Number of Students (approved intake strength)	Number of Faculty members (considering fractional load)	FYSFR	Assessment = (5*20)/Average FYSFR (Limited to max 5)
2021-22	1080	92	12	5
2022-23	1080	82	13	5
2023-24	1200	88	14	5
Average	1120	87	13	5

8.2. Qualification of Faculty Teaching First Year Common Courses (5)

Assessment of qualification = $(5x + 3y)/RF$, x = Number of Regular Faculty with Ph.D, y = Number of Regular Faculty with Post-graduate qualification RF = Number of faculty members required as per SFR of 20:1, Faculty definition as defined in 5.1

Table 8.2

Year	X	Y	RF	Assessment of Faculty Qualification (5X+3Y)/RF
2021-22	23	42	54	4.00
2022-23	27	38	54	4.00
2023-24	41	37	60	5.00
Average				4.33

• Faculty Details

S. No.	Dep t.	Name	PAN No.	Qualific ation	Date of receiving Highest Degree	Area of Specializati on	Designat ion	Date of Joining	23-24	22-23	21-22	Reg ular / Con tact	Date of leavin g
1	Phys ics	Dr. G. Neeraja Rani	ABMPN9307N	MSc. Ph.D	17-02-1995	Physics	Professor & Head	11-06-2014	100	100	100	Regul ar	
2		Dr. A. S. Madhusudan Rao	AFLPA0835M	MSc. Ph.D	29-03-2014	Physics	Professor	10-04-2023	100	100	0	Regul ar	
3		Dr. J. Anjaiah	AFEPJ0244E	MSc. Ph.D	20-10-2005	Physics	Professor	01-10-2005	100	100	100	Regul ar	
4		Dr.J.Shankar	AGQPJ0848P	MSc. Ph.D	16-04-2012	Physics	Professor	01-06-2016	100	100	100	Regul ar	
5		Dr.B.Mamatha	ASPPB3101J	MSc. Ph.D	30-10-2015	Physics	Assoc. Prof	29-04-2016	100	100	100	Regul ar	
6		Dr.SK. Mohammed Ali	AKBPM7096F	MSc. Ph.D	29-09-2016	Physics	Assoc. Prof	01-08-2013	100	100	100	Regul ar	
7		Dr. Raju Panthagani	CCLPP7682Q	MSc. Ph.D	16-06-2017	Physics	Assoc. Prof	09-09-2017	100	100	100	Regul ar	
8		Dr. M. Kanaka Durga	AIYPM5316P	MSc. Ph.D	12-07-2017	Physics	Assoc. Prof.	08-09-2021	100	100	100	Regul ar	
9		Dr. S.Rajesham	EKUPS1725N	MSc. Ph.D	05-03-2024	Physics	Asst. Prof	12-08-2011	100	100	100	Regul ar	
10		Dr. V. Manjula	ALRPV7321G	MSc. Ph.D	07-09-2022	Physics	Assoc. Prof	26-09-2013	100	100	100	Regul ar	
11		C. Kalyani	AQAPC0241R	M.Sc.	01-05-2008	Physics	Asst. Prof	01-08-2013	100	100	100	Regul ar	
12		A.Shiva Kumar	BDEPA4750K	M.Sc.	31-07-2006	Engineering Physics & Instrumentatio n	Asst. Prof	23-02-2016	100	100	100	Regul ar	
13		T.V. Prasanthi	CUHPP9661B	M.Sc.	01-07-2007	Physics	Asst. Prof	08-12-2014	100	100	100	Regul ar	
14		Dr. P. Sakuntala	DBFPS7735K	PhD	15-09-2021	Physics	Assoc. Professor	22-11-2022	100	100	0	Regul ar	
15		Dr. T. Suneetha	ANCPT9222E	PhD	04.11.2017	Physics	Asst. Prof	07.12.2023	50	0	0	Regul ar	

16		Dr. G. Srinivas	BHUPG9605B	PhD	19.10.2017	Physics	Asst. Prof	21.12.2023	50	0	0	Regul ar	
17	Math s	Dr. V.S. Triveni	BNVPS4741M	Ph.D	14-03-2013	Mathematics	Professor	30-06-2014	100	100	100	Regul ar	
18		Dr. SK.Nuslin Bibi	BUSPS8987H	Ph.D	27-12-2013	Mathematics	Assoc. Prof	01-07-2016	100	100	100	Regul ar	
19		Dr. N. Subhadra	AFUPN7648Q	M.Phil, PhD	03-02-2018	Mathematics	Professor	07-09-2007	100	100	100	Regul ar	
20		Dr. C. Gangadhar	CLZPG4975Q	Ph.D	01-10-2017	Mathematics	Assoc. Prof	03-08-2021	0	0	100	Regul ar	05-09-2022
21		Dr. T. Deepthi	AGUPT8370N	Ph.D	17-09-2018	Statistics	Assoc. Prof	01-09-2021	100	100	100	Regul ar	
22		Dr. Ajantha Rudra	ATYPR7898G	Ph.D	16-03-2019	Statistics	Asst. Prof.	16-08-2021	0	0	100	Regul ar	30-08-2022
23		Dr. P. Rahira	AUMPR6798N	PhD	22-08-2019	Mathematics	Assoc. Prof	19-05-2022	100	100	0	Regul ar	
24		Dr. P. Sarada Devi	DDRPP8109Q	PhD	02-02-2010	Mathematics	Assoc. Prof	01-09-2022	100	100	0	Regul ar	
25		Dr. N. Nagi Reddy	AFTPN6577P	PhD	29-09-2023	Mathematics	Assoc. Prof	01-10-2005	100	100	100	Regul ar	
26		Dr. A. Ramesh	AJYPA8527H	PhD	08-09-2022	Mathematics	Assoc. Prof.	29-06-2012	100	100	100	Regul ar	
27		Dr. P. Sailaja	AJCPP4727E	PhD	28-05-2023	Mathematics	Assoc. Prof	20-06-2013	0	100	100	Regul ar	13.09.2023
28		M. P. Molimol	CDPPM8099B	M.Sc.	24-10-2011	Mathematics	Asst. Prof	02-02-2015	100	100	100	Regul ar	
29		Dr. S.Lalitha	CJRPS5494L	M.Sc., M.Phil PhD	08-02-2024	Mathematics	Assoc. Prof	14-12-2016	100	100	100	Regul ar	
30		Dr. G. Padma	AQNPG3901F	M.Sc PhD	18.11.2023	Mathematics	Assoc. Prof	29-08-2018	100	100	100	Regul ar	
31		G. Durga Priyadarsini	AJAPG5954E	M.Sc.	30-06-2010	Mathematics	Asst. Prof	11-04-2022	100	100	0	Regul ar	
32		B. Linga Swamy	AFMPL6706P	M.Sc.	31-05-2008	Mathematics	Asst. Prof	27-10-2022	0	100	0	Regul ar	
33		Dr. M. Hemantha Lakshmi	BDAPM3312D	M.Sc PhD	20-06- 2022	Mathematics	Assoc. Prof.	31.08.2023	100	0	0	Regul ar	
34		Dr. B S S Prabhavathi	BPYPP0810H	M.Sc PhD	03-04- 2023	Mathematics	Asst. Prof	03.07.2023	100	0	0	Regul ar	

35		Dr. G. Srinivas	ALRPG2510P	M.Sc PhD	06.03.2006	Mathematics	Professor	28.08.2023	100	0	0	Regular	
36		Dr. G. Murali	ATYPG0942J	M.Sc PhD	10.01.2014	Mathematics	Professor	04.12.2023	50	0	0	Regular	
37		Mr. P. Kumara Swamy	BFXPP8582F	M. Sc.	28.07.2007	Mathematics	Asst. Professor	28.08.2023	100	0	0	Regular	
38		Ms. G. Kalpana	HHYPK3958R	M. Sc.	24-12- 2020	Mathematics	Asst. Professor	01.12.2023	100	0	0	Regular	
39		Dr. P. Venkata Raman	ASIPP7394J	M.Sc PhD	30-10- 2006	Mathematics	Professor	14.09.2023	50	0	0	Regular	31-01-2024
40	Chem	Dr.R.Sanjeev	AFUPR8379E	M.Sc PhD	20-09-2001	Chemistry	Professor	06-07-2016	100	100	100	Regular	
41		Dr.J.V.Madhuri	AIPJ6667L	M.Sc PhD	21-07-2006	Chemistry	Assoc. Prof	09-04-2015	100	100	100	Regular	
42		Dr. Anurag Gautam	BSBPG2159N	M.Sc PhD	18-08-2008	Chemistry	Assoc. Professor	04-01-2020	0	100	100	Regular	16-05-2023
43		Dr. K. Shashikala	DJIPS1905L	M.Sc.Ph.D	23-06-2018	Chemistry	Assoc. Prof	13-06-2012	100	100	100	Regular	
44		Dr. P. Sreedhar	ATDPP8450D	M.Sc.	17-11-2020	Physical Chemistry	Assoc. Prof	29-07-2009	100	100	100	Regular	
45		Dr. K. Santhosh Kumar	ATXPK4354R	M.Sc PhD	03-11-2017	Chemistry	Asst. Prof	16-08-2021	100	100	100	Regular	
46		Dr. A. Anil Kumar	AOJPA1002P	M.Sc PhD	16-06-2020	Chemistry	Asst. Prof	16-08-2021	100	100	100	Regular	
47		Dr. B. Sushrutha	BFNPB4851B	M.Sc PhD	26-07-2014	Chemistry	Asst. Prof	07-11-2022	100	100	0	Regular	
48		Dr. B. Srinu	BAQPB3931C	M.Sc PhD	09-06-2022	Chemistry	Asst. Prof	20-03-2022	100	100	0	Regular	
49		K. Satheesh	CSNPK7304Q	M.Sc.	03-08-2009	Organic Chemistry	Asst. Prof	25-11-2020	100	100	100	Regular	
50		K. Swarupa	BYPPK4920B	M.Sc.	01-04-2009	Organic chemistry	Asst. Prof	08-12-2014	0	50	100	Regular	
51		J. Bhargavi Lakshmi	ALBPL2701M	M.Sc.	01-04-2009	Applied Chemistry	Asst. Prof	20-02-2020	100	100	100	Regular	
52		M. Raju	CCQPM3012A	M.Sc.	20-10-2011	Organic chemistry	Asst. Prof	20-10-2012	0	50	100	Regular	01-06-2023
53		M. Murali	CRXPM1193G	M.Sc.	01-04-2012	Organic chemistry	Asst. Prof	28-11-2014	100	100	100	Regular	
54		Dr. K. Kamalakar	EREPK8871C	M.Sc PhD	21.09.2016	Chemistry	Asst. Prof.	07.02.2024	50	0	0	Regular	

55	Eng.	G. Karuna Kumari	AEWPG2000C	MA, M.Ed, PGDTE	01-01-1985	English Education	Professor	15-09-2014	0	100	100	Regular	03-04-2023
56		Dr. A. UmaDevi	ABAPA0190N	M A Ph.D	27-01-2010	English	Professor	27-06-2016	100	100	100	Regular	
57		Dr.B. Nagamani	AOJPB5155Q	M A Ph.D	24-08-2015	English	Professor	04-12-2013	100	100	100	Regular	
58		Dr. T. Sridevi	AIFPT4994H	M A Ph.D	13-12-2019	English	Assoc. Professor	24-11-2021	100	100	100	Regular	
59		Dr. Rajitha Nair	ASKPP0943M	M A Ph.D	08-11-2021	English	Assoc. Professor	03-03-2022	100	100	100	Regular	
60		Dr. Pramodini Patnaik	BSFPP4701F	M A Ph.D	16-05-2017	English	Assoc. Professor	06-12-2021	100	100	100	Regular	
61		Dr. C. Goverdhan	ABBPC4770B	M A Ph.D	05-08-2005	English	Assoc. Professor	31-01-2022	100	100	100	Regular	
62		Dr. K. Shoba Rani	AQDPK2336G	M A Ph.D	13-02-2020	English	Assoc. Prof.	19-10-2022	100	100	0	Regular	
63		P. Mercy Kavitha	ASRPP5893M	M.A	01-07-2004	English	Assoc. Prof	06-08-2007	100	100	100	Regular	
64		Y. Anil	ACSPY8107E	M.A	16-08-2011	English	Asst. Prof	19-08-2019	100	100	100	Regular	
65		Dr. M. Venkanna	AWVPV2225R	M A Ph.D	26.06.2018	English	Asst. Prof.	10-08-2021	0	0	100	Regular	15-07-2022
66		Dr. Yasir Ahmad Dar	FOGPD3875H	M A Ph.D	03-01-2022	English	Asst. Prof	06-02-2023	100	100	0	Regular	
67		V. R.Chary	AWWPV5943P	M.A.	10-08-2010	English	Asst. Prof	28-02-2020	0	0	100	Regular	25-01-2022
68		Md Sabir Hussain	BCRPH6358E	M.A M Phil	28-01-2015	English	Asst. Prof	15-02-2022	100	100	100	Regular	
69		T. Nagaraju	ASCPN0859Q	M.A	05-09-2012	English	Asst. Prof	21-02-2022	100	100	100	Regular	
70		G. Sunil	BIHPG3319L	M.A	01-04-2009	English	Asst. Prof	19-10-2012	50	100	100	Regular	31-01-2024
71		Dr. K. Yugandhar	ALBPK2380H	M A Ph.D	01-12-2010	English	Professor	17-08-2023	100	0	0	Regular	
72		Dr. Mudassir Ahmad Lone	AFTPL6220R	M A Ph.D	26.10.2021	English	Asst. Professor	05.08.2023	100	0	0	Regular	
73		Dr. K. Mariya Das	CSTPK2459N	M A Ph.D	17.12.2020	English	Asst. Professor	24.07.2023	100	0	0	Regular	

74		Dr. Imtiyaz Ahmad Dar	FKRPD5264F	M A Ph.D	23.05.2022	English	Asst. Professor	07.02.2024	50	0	0	Regular	
75		R. Ramesh	AULPR5065R	M.A	01-05- 1994	English	Asst. Professor	13-12-2023	50	0	0	Regular	
76	CSE	S. Sudha	BHRPS8177F	M.Tech	12-01-2012	Computer Science Engineering	Asst. Prof	12-11-2018	100	100	100	Regular	
77		G. Praveen Kumar	ALYPG6382L	M. Tech	10-12-2011	Computer Science Engineering	Assoc. Prof	24-06-2019	0	0	100	Regular	
78		M. Ravinder	BVWPM1053 M	M. Tech	01-12-2012	Computer Science Engineering	Asst. Prof	15-07-2015	0	0	100	Regular	16-06-2022
79		E. Swapna	NSXPS6508D	M. Tech	01-10-2019	Computer Science Engineering	Asst. Prof	08-01-2021	0	0	100	Regular	
80		B. Mamatha	CHXPB4378J	M. Tech	01-04-2015	Software Engineering	Asst. Prof	02-12-2015	0	0	100	Regular	
81		Daraqushan Fathima	AAFPP7788P	M.Tech	01-07-2007	Computer Science Engineering	Asst. Prof	02-11-2020	0	0	100	Regular	30-08-2022
82		K. Durga Kalyani	AXYPK7321F	M.Tech	10-01-2011	Software Engineering	Asst. Prof	20-02-2020	0	0	100	Regular	
83		S. Radha	CFLPS6718F	M. Tech	01-11-2010	Computer Science Engineering	Asst. Prof	01-06-2016	0	0	100	Regular	
84		A. Chandrakala	BGGPC4924E	M. Tech	01-04-2015	Computer Science Engineering	Asst. Prof	20-02-2020	0	0	100	Regular	
85		B. Neeraja	FSXPB8171H	M. Tech	01-04-2021	Computer Science Engineering	Asst. Prof	09-07-2021	100	100	100	Regular	
86		M. Akhila Reddy	DKZPM8732F	M. Tech	14-07-2021	Computer Science Engineering	Asst. Prof	07-07-2021	0	0	100	Regular	
87		C Ester Verma	APJPC4025R	M. Tech	18-12-2010	Software Engineering	Asst. Prof	16-11-2013	0	100	0	Regular	31-03-2023
88		P Lalitha	AJSPP2901L	M. Tech.	01-10-2010	Computer Science Engineering	Asst. Prof	20-06-2018	100	100	0	Regular	

89		K. Prathima	AVBPP2112N	M.Tech	30-11-2011	Computer Science Engineering	Asst. Prof	07-03-2022	100	100	0	Regular	
90		M. Vijay Bhasker Reddy	ASKPM4639D	ME	30-06-2006	Computer Science Engineering	Asst. Prof	08-04-2015	100	100	0	Regular	
91		W. Kavya	ADLPW8375L	M.Tech	05-10-2022	Computer Science Engineering	Asst. Prof	23-10-2021	100	100	100	Regular	
92		Ramavath B	ATXPR8959B	M.Tech	10-08-2010	Computer Science Engineering	Asst. Prof	31-01-2022	100	100	100	Regular	
93		M. Keerthi	AUOPM0024A	M.Tech	01-10-2012	Computer Science Engineering	Asst. Prof	01-04-2021	0	0	100	Regular	
94		D. Sudheer Reddy	ALGPD5551N	M.Tech	01-12-2012	DS & AIML	Asst. Prof	05-11-2021	0	0	100	Regular	
95		Divya Bharathi	DABPS3891B	M.Tech	20-05-2021	Computer Science Engineering	Asst. Prof	08-04-2021	0	0	100	Regular	23-06-2023
96		P. Shoba Rani	BEQPP2176B	M.Tech	01-12- 2011	Computer Science Engineering	Asst. Prof	02.05.2022	100	0	0	Regular	
97		D. Savitri Vishwa Jyothi	BVAPD8741H	M.Tech	01-03- 2013	Software Engineering	Asst. Prof	08.10.2021	100	0	0	Regular	
98		D. Beekya	ATQPD6042A	M.Tech	July, 2009	Computer Science Engineering	Asst. Prof	05.01.2023	100	0	0	Regular	
99	ME	P. Sudheer Rao	ASBPP2711L	M.Tech.	01-06-2006	Thermal Engineering	Assoc. Prof	11-06-2015	0	0	100	Regular	
100		P.Laxmi Reddy	AWUPP2192C	M.Tech.	01-12-2013	Thermal Engineering	Asst. Prof	02-06-2014	0	0	100	Regular	
101		N. Venkateswarlu	ADMPN8368H	M.Tech.	01-02-2000	Production Engineering	Asst. Prof	06-07-2021	100	100	100	Regular	
102		R. Mahipal Reddy	BRQPR9324A	M.Tech.	01-01-2016	Advanced Manufacturing Systems	Asst. Prof.	01-07-2016	100	100	100	Regular	
103		A.Sarath Kumar	BDIPA4187N	ME	01-11-2019	Advanced Design of Man.	Asst. Prof.	05-07-2021	0	0	100	Regular	24-01-2022

104		K. Venkatesh	BDSPK8522K	M.Tech.	20-10-2012	CAD/CAM	Asst. Prof.	02-06-2016	0	0	100	Regul ar	
105		J. Ashok Babu	AIFPJ6590D	M.Tech.	01-04-2017	CAD/CAM	Asst. Prof.	05-07-2021	0	0	100	Regul ar	
106		B. Bhaskar	ANPPB8966N	M.Tech.	01-03-2014	Thermal Engineering	Asst. Prof.	13-07-2015	0	0	100	Regul ar	30-08-2022
107		M. Ravi kumar	CIEPK2150B	M.Tech.	01-11-2016	Thermal Engineering	Asst. Prof.	12-06-2017	100	100	100	Regul ar	
108		J. Nithin Kumar	AKQPJ0754J	M.Tech.	01-01-2015	Advanced Manufacturing Systems	Asst. Prof.	25-08-2015	0	0	100	Regul ar	09-09-2023
109		Dr. S. Sapthagiri	CEQPS3843M	M.Tech. PhD	01-07-2018	Production Engineering	Asst. Prof.	05-12-2018	0	0	100	Regul ar	18.10.2023
110		A.Santosh	AWZPA6680P	M.Tech.	25-10-2015	Machine Design	Asst. Prof.	01-12-2015	100	100	100	Regul ar	
111		P. Sandeep Kumar	BMQPP1282A	M.Tech.	01-05-2010	Manufacturing Engineering	Asst. Prof.	28-12-2016	100	100	100	Regul ar	
112		Dr. R. Sudarshan	AIIPR2572F	M.Tech. PhD.	01-10-2022	Production Engineering	Assoc. Professor	15-06-2015	0	0	100	Regul ar	
113		B.Bhavsingh	ERTPB5820H	M.Tech.	25-10-2021	Engineering Design	Asst. Prof.	11-01-2022	0	0	100	Regul ar	
114		P. Mahesh	COMPP7993B	M.Tech.	22-09-2018	Engineering Design	Asst. Prof.	06-07-2021	100	100	100	Regul ar	
115		Dr. Ch. Suresh Vidhyasagar	BUWPV6205 M	M.Tech. PhD	12-07-2019	Nano Materials	Asst. Prof.	24-01-2022	0	0	100	Regul ar	31-10-2022
116		P.V.R.Girish	BVXPP3342M	M.Tech.	22-11-2012	CAD/CAM	Asst. Prof.	06-09-2014	100	100	100	Regul ar	
117		Ch. Praveen Srinivas	AVJPC3677P	M.Tech.	30-06-2016	Thermal Systems and Design	Asst. Prof.	11-01-2022	100	100	0	Regul ar	
118	CE	Dr. N. Mahendra	AJJPN1624K	M.Sc.Ph.D	22-11-2016	Geology	Asst. Prof.	01-11-2018	100	100	100	Regul ar	
119		G. Vimala	ANTPV8085G	ME	20-03-2020	Structural Engineering	Asst. Prof.	31-01-2022	0	100	100	Regul ar	
120		K. Keerthi	BQYPK5941B	M.Tech.	30-12-2015	Water & Environmental Technology	Asst. Prof.	18-02-2021	0	50	0	Regul ar	31-05-2023

121		Dr. K. Sri Lakshmi	ARAPK3933D	M.Sc.Ph.D	26.02.2022	Environmental Science & Technology	Asst. Prof	22.04.2022	100	0	0	Regular	
122		V Navneetha	AFNPV0633A	M.Tech	10-11-2014	Structural Engineering	Asst. Prof	25-02-2020	0	0	100	Regular	30-09-2022
123	EEE	K. Murali	BEMPK9461G	M.Tech	01-12-2012	Power Electronics	Asst. Prof	20-06-2019	100	100	100	Regular	
124		K. Jayakar Babu	DUUPK5979M	M.Tech.	01-11-2013	Power & Industrial Drives	Asst. Prof	21-12-2020	0	0	100	Regular	29-08-2022
125		Manjul Khare	AMZPG8189P	M.E (EPS)	01-05-2006	Electrical Power Systems	Asst. Prof	15-04-2015	0	0	100	Regular	01-11-2022
126		G Bhagath	AYHPG7788C	M.Tech,	01-12-2020	Electrical Power Systems	Asst. Prof	04-03-2022	100	100	100	Regular	
127		Md. Hafeezuddin	AUEPM3035B	M.E.	30-06-2015	Industrial Drives and Control	Asst. Prof	26-09-2022	0	100	0	Regular	
128		S. Poornachander Rao	CTQPS1013J	M. Tech	19-02-2013	Electrical Power Systems	Asst. Prof.	06-06-2014	100	100	0	Regular	
129		V. Rakesh	BYOPR9390F	M.Tech.	31-10-2014	Power Electronics	Asst. Prof	06-12-2014	100	100	0	Regular	
130		K. Nagaraju	AOFPN7558B	M.Tech.	30-11-2014	Electrical Power Systems	Asst. Prof	10-11-2016	100	100	0	Regular	
131		J. Kishore Babu	AVRPJ1040K	M.Tech.	01-12- 2013	Power Electronics	Asst. Prof	07.02.2024	100	0	0	Regular	
132	ECE	J Sravana	APEPJ8772M	M.Tech. (VLSISD)	01-12-2011	VLSI-SD	Asst. Prof	19-03-2022	0	0	50	Regular	15-05-2023
133		VV SVS Ramachandram	ABEPV4068N	M.Tech.	01-05-2016	VLSI-SD	Asst. Prof	14-02-2022	0	0	50	Regular	
134		N. Nagalakshumma	AHYPL0432E	M.Tech.	30-11-2011	VLSI-SD	Asst. Prof	06-07-2021	50	100	0	Regular	
135		B. Sumitra	BMYPB0077K	M.Tech.	30-09-2011	Embedded Systems	Asst. Prof	24-08-2022	0	100	0	Regular	

136		A R L Padmaja	AMKPA1276E	M.Tech	01-10-2016	Embedded Systems	Asst. Prof	11-11-2008	50	0	0	Regular	
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8.3. First Year Academic Performance (10)

Academic Performance = ((Mean of first year Grade Point Average of all successful students on a 10 point scale) or (Mean of the percentage of marks in first year of all successful students /10))X (Number of successful students /number of students appeared in the examination)

Academic Performance	2022-23	2021-22	2020-21
Mean of CGPA or Mean Percentage of all successful students (X)	7.14	4.94	4.21
Total No. of Successful Students (Y)	4	21	56
Total No. of Students appeared in the Exam (Z)	4	21	56
Academic Performance	7.14	4.94	4.21

Average API = (AP1+AP2+AP3)/3 = 5.43

Assessment=Average API: 5.43

8.4. Attainment of Course Outcomes of first year courses (10)

8.4.1 Describe the assessment processes used to gather the data upon which the evaluation of course outcomes of first is done (5)

(Example of data collection processes may include, but are not limited to, specific exam questions, laboratory tests, internally developed assessment exams, oral exams, assignments, presentations, tutorial sheets etc.)

Procedure for measuring the attainment of Course Outcomes (Cos) (From Academic Year 2022-2023 onwards)

For measuring the attainment of COs of a theory course, the **targets** for the attainment are fixed as indicated below:

- **Mid Paper -Subjective:** 60% of maximum marks
- **Assignments and Tutorials** (if any): 60% of maximum marks (3 marks out of 5)
- **Mid Paper -Objective:** 60% of maximum marks (6 marks out of 10) (Should consider all the students who attended the exam)
- **Semester End Examination:** 60% of maximum marks
- With the above fixed target levels, the attainment levels are specified as follows:

Semester End Exam	
Target is 60% of Max Marks	
Level 1	If 50% to 59% of Students attain the Average Marks
Level 2	If 60% to 69% of Students attain the Average Marks
Level 3	If more than 69% of Students attain the Average Marks

Mid-term Exams – Subjective, Objective and Assignments	
Target is 60% of Max Marks	
Level 1	If 60% to 69% of students attain the target
Level 2	If 70% to 79% of students attain the target
Level 3	If more than 80% of students attain the target

1. For Theory courses, in measuring the overall course attainment,

- 80% weightage is given for the direct measurement that includes attainments in mid-term examinations (both subjective and objective), semester end examinations, assignments and tutorials.
and
- 20% weightage is given for the Indirect measurement that includes Students' online feedback on TLP (10% weightage) and Course End Survey (10% weightage).

1.1. In the Direct Attainment

- 50% weightage is given for the Semester End Examination and
- 50% weightage is given for the internal marks that includes
 - Mid-term examinations subjective (20%),
 - Mid-term examinations objective (10%),
 - Assignments (10%) and
 - Projects and Presentations (10%).

1.2. Both mid-1 and mid -2 should be considered together in measuring the attainment levels.

Direct Attainment of CO =

0.2* Mid-term Subjective + 0.1* Mid-term Objective + 0.1* Assignment + 0.1* Projects+ 0.5* End Sem. Exam

Indirect Attainment of CO = 0.5* Course End Survey + 0.5* Feedback on TLP

Overall CO Attainment = 0.8* Direct Attainment Level + 0.2* Indirect Attainment Level

2. In the case of laboratory courses, 60% of marks awarded in internal (Mid Term) examinations and 40% of the marks awarded in semester End Examination are considered for attainment calculation.

Internal Attainment of CO= 0.15*Day to Day+0.1*Viva-Voce+0.1*Internal Practical Exam+0.25*Laboratory Project

Direct Attainment of CO = 0.6*Internal+ 0.4* End Semester Exam

Indirect Attainment of CO = 0.5* Feedback on TLP +0.5* CRC feedback

Overall CO Attainment = 0.8* Direct Attainment Level + 0.2* Indirect Attainment Level

NOTE:

- In the Mid Term or End semester Examinations of a particular Theory course, the question paper comprises two questions Question1 (Q1) or Question2 (Q2) from each unit of the syllabus.
- Each of the two may have sub parts also.
- A Student is supposed to answer any three out of six questions in case of mid-term examinations.
- The students who attempted questions based on COs will be considered for mid-term examinations.

For End Term Examinations

Case 1: If Student answers both Q1 and Q2, then the question awarded with more marks between the two will be considered for the calculation of attainment, making other one as 'NA' (Not Applicable).

Case 2: If Student fails to answer both Q1 and Q2, then one of the questions will be awarded zero marks (0) and other as ‘NA’.

➤ If student answers a question having two sub parts (a) and (b),

Case 1: If both (a) and (b) are mapped to same CO, the total marks awarded for that question will be sum of the marks allotted for (a) and (b) and will be considered for the calculation of attainment.

Case 2: If student answers any of the parts of a question only, the remaining unanswered part/s of the question will be awarded zero (0) marks.

**Procedure for measuring the attainment of Course Outcomes (Cos)
(From Academic Year 2019-2020 onwards)**

For measuring the attainment of COs of a theory course, the **targets** for the attainment are fixed as indicated below:

- **Mid Paper -Subjective:** 60% of maximum marks
- **Assignments and Tutorials** (if any): 60% of maximum marks (3 marks out of 5)
- **Mid Paper -Objective:** 60% of maximum marks (6 marks out of 10) (Should consider all the students who attended the exam)
- **Semester End Examination:** 60% of maximum marks
- With the above fixed target levels, the attainment levels are specified as follows:

Semester End Exam	
Target is 60% of Max Marks	
Level 1	If 40% to 49% of Students attain the Average Marks
Level 2	If 50% to 59% of Students attain the Average Marks
Level 3	If more than 59% of Students attain the Average Marks

Mid-term Exams – Subjective, Objective and Assignments	
Target is 60% of Max Marks	
Level 1	If 60% to 69% of students attain the target
Level 2	If 70% to 79% of students attain the target
Level 3	If more than 80% of students attain the target

1. For Theory courses, in measuring the overall course attainment,

- 75% weightage is given for the direct measurement that includes attainments in mid-term examinations (both subjective and objective), semester end examinations, assignments and tutorials.
and
- 25% weightage is given for the Indirect measurement that includes Students' online feedback on TLP (10% weightage), CRC (10% weightage) and Course End Survey (5% weightage).

1.1. In the Direct Attainment

- 60% weightage is given for the Semester End Examination and
- 40% weightage is given for the internal marks that includes
 - Mid-term examinations subjective (20%),
 - Mid-term examinations objective (10%),
 - Assignments (5%) and
 - Tutorials (5%).
 - If tutorials are not conducted in any course, a total of 10% weightage will be given to Assignments only.

1.2. Both mid-1 and mid -2 should be considered together in measuring the attainment levels.

Direct Attainment of CO =

0.2* Mid-term Subjective + 0.1* Mid-term Objective + 0.05* Assignment + 0.05* Tutorial+ 0.6* End Sem. Exam

Indirect Attainment of CO = 0.2* Course End Survey + 0.4* Feedback on TLP +0.4* CRC (Class review Committee) feedback

Overall CO Attainment = 0.75* Direct Attainment Level + 0.25* Indirect Attainment Level

2. In the case of laboratory courses, 60% of marks awarded in internal (Mid Term) examinations and 60% of the marks awarded in semester End Examination are considered for attainment calculation.

Direct Attainment of CO = 0.4* Mid-term Exam + 0.6* End Semester Exam

Indirect Attainment of CO = 0.2* Course End Survey + 0.4* Feedback on TLP +0.4* CRC feedback

Overall CO Attainment = 0.75* Direct Attainment Level + 0.25* Indirect Attainment Level

NOTE:

- In the Mid Term or End semester Examinations of a particular Theory course, the question paper comprises two questions Question1 (Q1) or Question2 (Q2) from each unit of the syllabus, with internal choice.
- Each of the two may have sub parts also.
- A Student is supposed to answer either Q1 or Q2.

Case 1: If Student answers both Q1 and Q2, then the question awarded with more marks between the two will be considered for the calculation of attainment, making other one as 'NA' (Not Applicable)

Case 2: If Student fails to answer both Q1 and Q2, then one of the questions will be awarded zero marks (0) and other as 'NA'.

- If student answers a question having two sub parts (a) and (b),

Case 1: If both (a) and (b) are mapped to same CO, the total marks awarded for that question will be sum of the marks allotted for (a) and (b) and will be considered for the calculation of attainment.

Case 2: If student answers any of the parts of a question only, the remaining unanswered part/s of the question will be awarded zero (0) marks.

8.4.2 Record the attainment of Course Outcomes of all first-year courses (5)

Program shall have set attainment levels for all first-year courses.

(The attainment levels shall be set considering average performance levels in the university examinations or any higher value set as target for the assessment years. Attainment level is to be measured in terms of student performance in internal assessments with respect the Cos of a subject plus the performance in the University examination)

2022-23 onwards:

- **For Theory Courses Internal Attainment: $0.4*S+0.2*O+0.2*A+0.2*P$**
- **For Lab Courses Internal Attainment: $0.15*Day\ to\ Day+0.1*Viva+0.1*Mid+0.25*P$**
- **Direct Attainment for Theory: $0.5* Internal\ Attainment+0.5*External\ Attainment$**
- **Direct Attainment for Lab: $0.6* Internal\ Attainment+0.4*External\ Attainment$**
- **Indirect Attainment: $0.5*TLP+0.5*CES$**
- **Overall CO Attainment: $0.8*Direct\ Attainment +0.2*Indirect\ Attainment$**

2019-20 onwards:

- **For Theory Courses Internal Attainment: $(0.5*S+0.25*O+0.125*A +0.125*T) / (0.5*S+0.25*O+0.25*A +0*T)$**
- **For Lab Courses Internal Attainment: $0.5*Day\ to\ Day+0.5* Mid$**
- **Direct Attainment: $0.4* Internal\ Attainment+0.6*External\ Attainment$**
- **Indirect Attainment: $0.4*TLP+0.4*CRS+0.2*CES$**
- **Overall CO Attainment: $0.75*Direct\ Attainment +0.25*Indirect\ Attainment$**

Table 8.4.2.a refers CO attainment values for the academic year 2022-23

Course/ Attainment	Course Codes	Internal	External	Direct	CES	TLP	Indirect	Overall Attainment
20PH11002(EP)	C101	1.72	2.60	2.16	3.00	3.00	3.00	2.33
20MA11001(BEM)	C102	1.96	1.60	1.78	3.00	3.00	3.00	2.02
20CS11001(PPS I)	C103	1.28	0.00	0.64	3.00	3.00	3.00	1.11
20ME11002(EG)	C104	2.60	0.20	1.40	3.00	3.00	3.00	1.72
20CE11001(EMSD)	C105	2.40	2.60	2.50	3.00	3.00	3.00	2.60
20PH11L02(EP lab)	C106	3.00	3.00	3.00	3.00	3.00	3.00	3.00
20CS11L01 (PPS I Lab)	C107	3.00	3.00	3.00	2.80	2.00	2.40	2.88
20EN12001(Eng.)	C108	1.60	2.40	2.00	3.00	3.00	3.00	2.20
20MA12001(MVC)	C109	1.88	1.80	1.84	2.60	3.00	2.80	2.03
20CS12001(PPS II)	C110	2.00	2.00	2.00	3.00	3.00	3.00	2.20
20CH12001(EC)	C111	1.28	1.20	1.24	3.00	3.00	3.00	1.59
20CE12001(E Geo)	C112	2.16	0.20	1.18	2.60	3.00	2.80	1.50
20EN12L01 (ELCS Lab)	C113	2.56	3.00	2.73	3.00	3.00	3.00	2.79
20CS12L01 (PPS II Lab)	C114	3.00	3.00	3.00	3.00	3.00	3.00	3.00
20CH12L01 (EC Lab)	C115	3.00	3.00	3.00	3.00	3.00	3.00	3.00
20CE12L01 (E Geo Lab)	C116	3.00	3.00	3.00	3.00	3.00	3.00	3.00
20ME11L01 (EWS)	C117	3.00	3.00	3.00	2.80	3.00	2.90	2.98

Table 8.4.2.b refers CO attainment values for the academic year 2021-22

Course/ Attainment	Course Codes	Internal	External	Direct	CES	TLP	CRC	Indirect	Overall Attainment
20PH11002 (EP)	C101	1.70	1.80	1.76	3.00	3.00	3.00	3.00	2.07
20MA11001(BEM)	C102	1.30	0.00	0.52	3.00	3.00	3.00	3.00	1.14
20CS11001 (PPS-I)	C103	2.00	1.00	1.40	3.00	3.00	3.00	3.00	1.80
20CE11001 (EMSD)	C104	0.75	2.80	1.98	3.00	3.00	3.00	3.00	2.24
20ME11002 (EG)	C105	3.00	1.80	2.28	3.00	3.00	3.00	3.00	2.46
20PH11L02 (EP Lab)	C106	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
20CS11L01 (PPS-I Lab)	C107	3.00	2.00	2.40	3.00	3.00	3.00	3.00	2.55
20EN12001 (Eng.)	C108	1.35	1.80	1.85	3.00	3.00	3.00	3.00	2.14
20MA12001 (MVC)	C109	1.45	0.00	0.58	3.00	3.00	3.00	3.00	1.19
20CS12001 (PPS-II)	C110	2.05	0.00	0.82	3.00	3.00	3.00	3.00	1.37
20CH12001 (EC)	C111	0.85	1.20	1.06	3.00	3.00	3.00	3.00	1.55
20CE12001 (Eng. Geo)	C112	1.00	2.80	2.08	3.00	3.00	1.80	2.52	2.19
20EN12L01 (ELCS Lab)	C113	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
20CS12L01 (PPS-II Lab)	C114	1.50	3.00	2.40	3.00	3.00	3.00	3.00	2.55
20CH12L01 (EC Lab)	C115	1.50	3.00	2.40	3.00	3.00	3.00	3.00	2.55
20CE12L01 (Eng. Geo Lab)	C116	3.00	2.00	2.40	3.00	3.00	2.20	2.68	2.47
20ME11L01 (EWS)	C117	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00

Table 8.4.2.c refers CO attainment values for the academic year 2020-21

Course/ Attainment	Course Codes	Internal	External	Direct	CES	TLP	CRC	Indirect	Overall Attainment
20PH11002(EP)	C101	1.65	1.20	1.38	3.00	3.00	2.00	2.80	1.74
20MA11001(BEM)	C102	0.85	1.00	0.94	3.00	3.00	2.00	2.60	1.36
20CS11001(PPS-I)	C103	0.75	1.40	1.14	3.00	3.00	1.80	2.76	1.55
20ME11002(EG)	C104	2.75	1.80	2.18	2.80	3.00	2.00	2.92	2.37
20CE11001(EMSD)	C105	1.50	2.00	1.80	3.00	3.00	3.00	3.00	2.10
20PH11L02(EP Lab)	C106	2.50	3.00	2.80	3.00	3.00	2.00	2.80	2.80
20CS11L01(PPS-I Lab)	C107	3.00	3.00	3.00	3.00	3.00	2.20	2.84	2.96
20ME11L01(EW)	C108	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
20EN12001(English)	C109	1.18	2.80	2.15	3.00	3.00	2.00	2.80	2.32
20MA12001(MVC)	C110	1.50	0.00	0.60	3.00	2.50	2.00	2.40	1.05
20CS12001(PPS-II)	C111	2.25	2.20	2.22	3.00	3.00	2.60	2.92	2.40
20CH12001(EC)	C112	1.15	2.20	1.74	3.00	2.00	1.80	2.36	1.90
20CE12001(E. Geo)	C113	1.15	3.00	2.28	3.00	2.00	1.00	2.20	2.26
20EN12L01(ELCS lab)	C114	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
20CS12L01(PPS-II Lab)	C115	3.00	2.20	2.52	3.00	3.00	2.60	2.92	2.62
20CH12L01 (EC Lab)	C116	3.00	3.00	3.00	3.00	3.00	2.00	2.80	2.95
20CE12L01 (E. Geo. Lab)	C117	3.00	2.00	2.40	3.00	3.00	2.00	2.80	2.50

Table 8.4.2.d Course Outcomes of First Year Courses

I Year I Sem	
Course Name: Basic Engineering Mathematics	
Years of study: 2020-21, 2021-22, 2022-23	
Course Outcomes:	
At the end of the course completion, student will be able to:	
C102.1	Write the matrix representation of a set of linear equations and analyze solutions of a system of equations.
C102.2	Deduce eigenvalues and eigenvectors of a matrix and apply the same to reduce quadratic form into a canonical form through linear and
C102.3	Identify the type of differential equation and use the appropriate method to solve the same.
C102.4	Apply differential equations to solve engineering problems particularly, electrical circuits and simple harmonic motion.
C102.5	Solve ordinary differential equations of second and higher order using Laplace Transform techniques.

I Year II Sem	
Course Name: Multivariable Calculus	
Years of study: 2020-21, 2021-22, 2022-23	
Course Outcomes:	
At the end of the course completion, student will be able to:	
C102.1	Apply the method of Lagrange Multipliers to solve such constrained optimization problems, evaluate improper integrals
C102.2	Compute surface areas and volumes of revolutions of curves using definite integrals, multiple (Double and Triple) integrals and apply the
C102.3	Calculate scalar potential for a vector and directional derivative of a scalar point function.
C102.4	Compute length of a curve, area between the surfaces and volumes of solids using vector integrations.
C102.5	Apply method of separation of variables to solve problems like one dimensional wave and heat equations that arise in engineering branches

- Refer Annexure I for Course Outcomes of all First Year Courses.

8.5. Attainment of Program Outcomes from first year courses (20)

8.5.1. Indicate results of evaluation of each relevant PO and /or PSO, if applicable (15)

The relevant program outcomes that are to be addressed at first year need to be identified by the institution.

Program Outcome attainment levels shall be set for all relevant POs and/or PSOs through first year courses.

(Describe the assessment processes that demonstrate the degree to which the Program Outcomes are attained through first year courses and document the attainment levels. Also include information on assessment processes used to gather the data upon which the evaluation of each Program Outcome is based indicating the frequency with which these processes are carried out)

- The relevant Program Outcomes and/or Program Specific Outcomes to be addressed from B. Tech I year Courses were identified by the Departmental Advisory Committee of Computer Science Engineering.
- The respective Course Coordinators along with the faculty teaching the first year Courses have fixed the CO-PO and/or PSO correlation levels based on the contribution of a course along with its outcome(s) to a PO and/or PSO. Accordingly, each Course is correlated to the relevant PO and/or PSO and the correlation levels are fixed on points of 1(Slight), 2(Moderate) and 3(Substantial).
- In the assessment process, the attainment level of each course is computed as per the process outlined in Item No. 8.4.1. Using the Course Outcome Attainment Level, the Program Outcomes Attainment Level is computed through the following relation:

$$\begin{aligned} & (\text{Sum}(\text{CO1 mapping to PO and or PSO} * \text{Overall CO1 attainment}) \\ & + (\text{CO2 mapping to PO and or PSO} * \text{Overall CO2 attainment}) \\ & + (\text{CO3 mapping to PO and or PSO} * \text{Overall CO3 attainment}) + \dots) / (\text{Sum}(\text{CO1 mapping to PO and or PSO}) \\ & + (\text{CO2 mapping to PO and or PSO}) + (\text{CO3 mapping to PO and or PSO}) \dots) \end{aligned}$$

PO Attainment: Mention first year details from table 8.5.1

Table 8.5.1.a refers Course – PO Matrix for the academic year 2022-23

PO/COURSE	Course Codes	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
20PH11002(EP)	C101	3	3	-	-	-	-	-	-	2	-	-	2
20MA11001(BEM)	C102	3	2.4	2.4	-	-	2	-	-	-	-	-	2.8
20CS11001(PPS I)	C103	3	2	-	2	2	-	-	2	2	-	-	2
20ME11002(EG)	C104	3	3	-	-	-	-	-	-	2	-	-	-
20CE11001(EMSD)	C105	2.8	1.8	-	-	-	-	-	-	-	-	-	2
20PH11L02(EP lab)	C106	3	2	-	-	-	-	-	-	2	-	-	2
20CS11L01(PPS I Lab)	C107	3	3	-	-	-	-	-	-	2	-	-	2
20EN12001(Eng.)	C108	-	-	-	-	-	-	-	-	3	3	-	-
20MA12001(MVC)	C109	3	3	2.6	-	-	2	-	-	-	-	-	2.8
20CS12001(PPS II)	C110	3	2	-	-	2	-	-	-	2	-	-	2
20CH12001(EC)	C111	3	2	2	-	-	2	2	-	-	-	-	2
20CE12001(E Geo)	C112	2.8	-	-	3	-	2.6	2	-	2.4	1.4	-	2.8
20EN12L01(ELCS)	C113	-	-	-	-	-	-	-	-	3	3	3	-
20CS12L01(PPS II Lab)	C114	3	2	-	-	-	-	-	-	2	-	-	2
20CH12L01(EC Lab)	C115	2	2	2	-	-	-	-	1	2	-	-	2
20CE12L01(E Geo Lab)	C116	2.8	-	-	1.2	-	2.6	1.2	-	2.4	1.4	-	2.8
20ME11L01(EWS)	C117	2	2	2.6	1.8	1.8	1.25	1	-	2	1.8	-	2

Table 8.5.1.b refers Course – PO Attainment for the academic year 2022-23

PO/COURSE	Course Codes	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
20PH11002(EP)	C101	2.33	2.33	-	-	-	-	-	-	2.33	-	-	2.33
20MA11001(BEM)	C102	2.02	2.06	2.06	-	-	2.02	-	-	-	-	-	1.99
20CS11001(PPS I)	C103	1.11	1.11	-	1.11	1.11	-	-	1.11	1.11	-	-	1.11
20ME11002(EG)	C104	1.72	1.72	-	-	-	-	-	-	1.72	-	-	-
20CE11001(EMSD)	C105	2.59	2.58	-	-	-	-	-	-	-	-	-	2.60
20PH11L02(EP lab)	C106	3.00	3.00	-	-	-	-	-	-	3.00	-	-	3.00
20CS11L01(PPS I Lab)	C107	2.88	2.88	-	-	-	-	-	-	2.88	-	-	2.88
20EN12001(Eng.)	C108	-	-	-	-	-	-	-	-	2.20	2.20	-	-
20MA12001(MVC)	C109	2.03	2.03	2.02	-	-	2.03	-	-	-	-	-	2.05
20CS12001(PPS II)	C110	2.20	2.20	-	-	2.20	-	-	-	2.20	-	-	2.20
20CH12001(EC)	C111	1.59	1.59	1.59	-	-	1.59	1.59	-	-	-	-	1.59
20CE12001(E Geo)	C112	1.50	-	-	1.50	-	1.50	1.50	-	1.50	1.50	-	1.50
20EN12L01(ELCS)	C113	-	-	-	-	-	-	-	-	2.79	2.79	2.76	-
20CS12L01(PPS II Lab)	C114	3.00	3.00	-	-	-	-	-	-	3.00	-	-	3.00
20CH12L01(EC Lab)	C115	3.00	3.00	3.00	-	-	-	-	3.00	3.00	-	-	3.00
20CE12L01(E Geo Lab)	C116	3.00	-	-	3.00	-	3.00	3.00	-	3.00	3.00	3.00	3.00
20ME11L01(EWS)	C117	2.98	2.98	2.98	2.98	2.98	2.98	2.98	-	2.98	2.98	-	2.98
Average		2.33	2.34	2.33	2.15	2.10	2.19	2.27	2.06	2.44	2.49	2.88	2.37

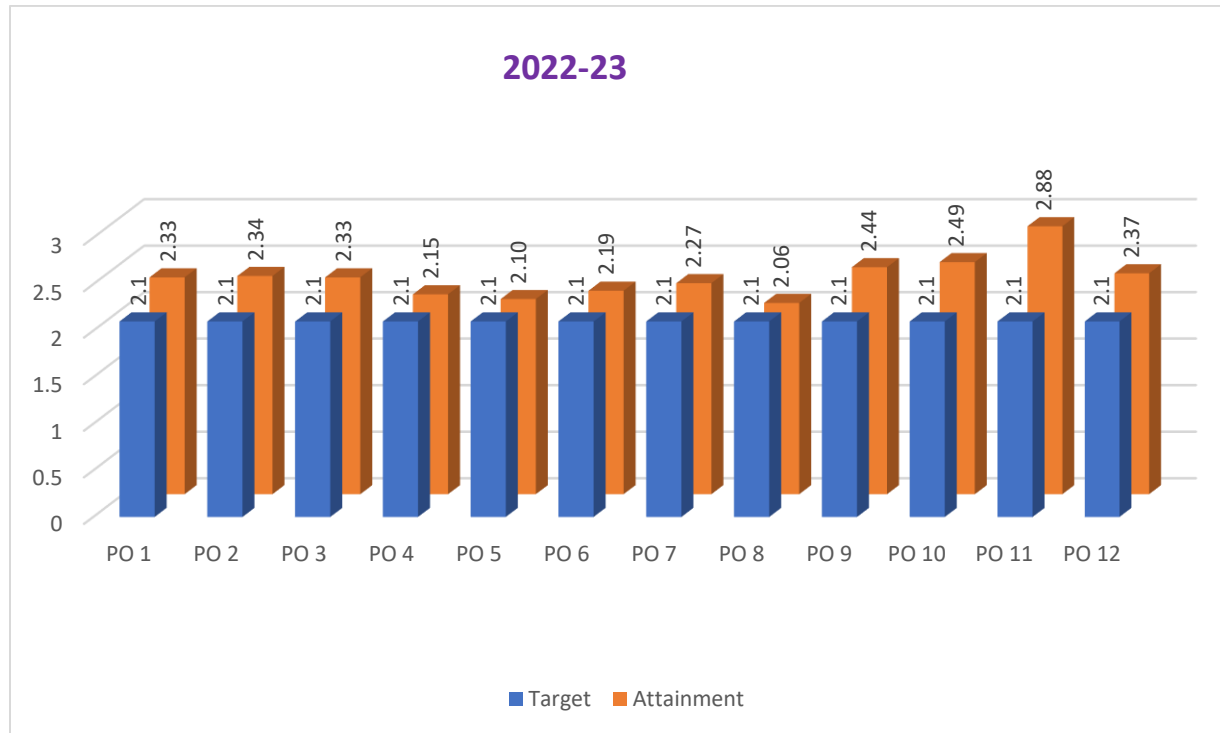


Table 8.5.1.c refers Course – PO Matrix for the academic year 2021-22

PO/COURSE	Course Codes	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
20PH11002 (EP)	C101	3.00	3.00	-	-	-	-	-	-	2.00	-	-	2.00
20MA11001 (BEM)	C102	3.00	2.40	2.50	-	-	2.00	-	-	-	-	-	2.80
20CS11001 (PPS-I)	C103	3.00	2.00	-	2.00	2.00	-	-	2.00	2.00	-	-	2.00
20CE11001 (EMSD)	C104	2.80	1.80	-	-	-	-	-	-	-	-	-	2.00
20ME11002 (EG)	C105	3.00	2.40	2.60	-	-	-	-	-	-	3.00	-	-
20PH11L02 (EP Lab)	C106	3.00	3.00	-	-	-	-	-	-	2.00	-	-	2.00
20CS11L01 (PPS-I Lab)	C107	2.55	2.55	-	-	-	-	-	-	2.55	-	-	3.00
20EN12001 (Eng.)	C108				-	-	-	-	-	2.33	2.67	-	2.67
20MA12001 (MVC)	C109	2.40	2.40	2.00	-	-	2.00	-	-	-	-	-	2.20
20CS12001 (PPS-II)	C110	3.00	2.00	3.00	2.00	2.00	-	-	-	2.00	-	-	2.00
20CH12001 (EC)	C111	3.00	3.00	2.00	-	-	-	-	-	-	-	-	3.00
20CE12001 (Eng. Geo)	C112	2.80	-	-	3.00		2.60	2.00	-	2.40	1.40	-	2.80
20EN12L01 (ELCS Lab)	C113		-	-	-	-	-	-	-	3.00	3.00	2.25	3.00
20CS12L01 (PPS-II Lab)	C114	3.00	2.00	3.00	2.00	2.00	-	-	-	2.00	-	-	2.00
20CH12L01 (EC Lab)	C115	3.00	2.00	-	-	-	-	-	-	2.00	-	-	2.00
20CE12L01 (Eng. Geo Lab)	C116	2.80	-	-	3.00	-	2.40	1.75	-	2.20	1.20	1.00	2.60
20ME11L01 (EWS)	C117	2.00	2.80	2.60	1.80	1.80	1.25	1.00	-	1.50	1.80	-	1.80

Table 8.5.1.d refers Course – PO Attainment for the academic year 2021-22

PO/COURSE	Course Codes	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
20PH11002 (EP)	C101	2.07	2.07	-	-	-	-	-	-	2.07	-	-	2.07
20MA11001 (BEM)	C102	1.14	1.16	1.19	-	-	1.14	-	-	-	-	-	1.15
20CS11001 (PPS-I)	C103	1.80	1.80	-	1.80	1.80	-	-	1.80	1.80	-	-	1.80
20CE11001 (EMSD)	C104	2.23	2.23	-	-	-	-	-	-	-	-	-	2.24
20ME11002 (EG)	C105	2.46	2.51	2.45	-	-	-	-	-	-	2.46	-	-
20PH11L02 (EP Lab)	C106	3.00	3.00	-	-	-	-	-	-	3.00	-	-	3.00
20CS11L01 (PPS-I Lab)	C107	2.55	2.55	-	-	-	-	-	-	2.55	-	-	2.55
20EN12001 (Eng.)	C108	-	-	-	-	-	-	-	-	2.14	2.18	-	2.14
20MA12001 (MVC)	C109	1.19	1.19	1.19	-	-	1.19	-	-	-	-	-	1.20
20CS12001 (PPS-II)	C110	1.37	1.37	1.37	1.37	1.37	-	-	-	1.37	-	-	1.37
20CH12001 (EC)	C111	1.55	1.55	1.55	-	-	-	-	-	-	-	-	1.55
20CE12001 (Eng. Geo)	C112	2.19	-	-	2.19	-	2.19	2.19	-	2.19	2.19	-	2.19
20EN12L01 (ELCS Lab)	C113	-	-	-	-	-	-	-	-	3.00	3.00	3.00	3.00
20CS12L01 (PPS-II Lab)	C114	2.55	2.55	2.55	2.55	2.55	-	-	-	2.55	-	-	2.55
20CH12L01 (EC Lab)	C115	2.55	2.55	-	-	-	-	-	-	2.55	-	-	2.55
20CE12L01 (Eng. Geo Lab)	C116	2.47	-	-	2.47	-	2.47	2.47	-	2.47	2.47	2.47	2.47
20ME11L01 (EWS)	C117	3.00	3.00	3.00	3.00	3.00	3.00	3.00	-	3.00	3.00	-	3.00
Average		2.14	2.12	1.90	2.23	2.18	2.00	2.55	1.80	2.39	2.55	2.74	2.18

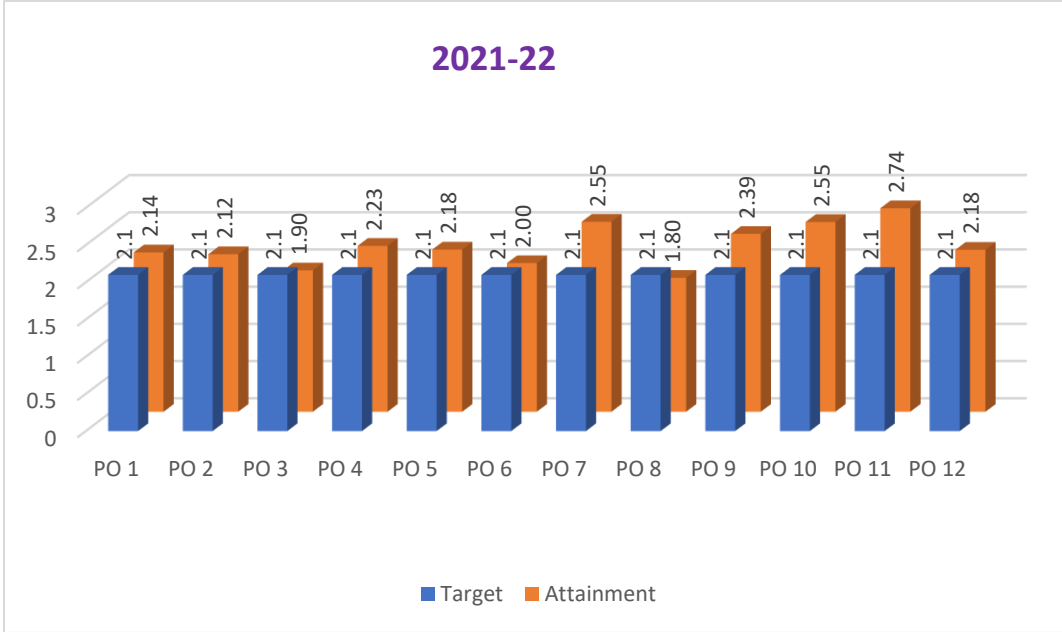


Table 8.5.1.e refers Course – PO Matrix for the academic year 2020-21

PO/COURSE	Course Codes	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
20PH11002(EP)	C101	3.00	3.00	-	-	-	-	-	-	2.00	-	-	2.00
20MA11001(BEM)	C102	3.00	2.40	2.40	-	-	2.00	-	-	-	-	-	2.80
20CS11001(PPS-I)	C103	3.00	2.00	-	2.00	2.00	-	-	2.00	2.00	-	-	2.00
20ME11002(EG)	C104	3.00	2.40	2.60	-	-	-	-	-	-	3.00	-	-
20CE11001(EMSD)	C105	2.80	1.80	-	-	-	-	-	-	-	-	-	2.00
20PH11L02(EP Lab)	C106	3.00	3.00	-	-	-	-	-	-	2.00	-	-	2.00
20CS11L01(PPS-I Lab)	C107	3.00	3.00	-	-	-	-	-	-	2.00	-	-	2.00
20ME11L01(EW)	C108	2.00	2.80	2.60	1.80	1.80	1.25	1.00	-	1.50	1.80	-	1.80
20EN12001(English)	C109	-	-	-	-	-	-	-	-	2.33	2.67	-	2.67
20MA12001(MVC)	C110	2.40	2.40	2.00	-	-	2.00	-	-	-	-	-	2.20
20CS12001(PPS-II)	C111	3.00	2.00	3.00	2.00	2.00	-	-	-	2.00	-	-	2.00
20CH12001(EC)	C112	3.00	2.00	2.00	-	-	2.00	2.00	-	-	-	-	3.00
20CE12001(E. Geo)	C113	2.80	-	-	3.00	-	2.60	2.00	-	2.40	1.40	-	2.80
20EN12L01(ELCS lab)	C114	-	-	-	-	-	-	-	-	3.00	3.00	2.25	3.00
20CS12L01(PPS-II Lab)	C115	3.00	2.00	3.00	2.00	2.00	-	-	-	2.00	-	-	2.00
20CH12L01 (EC Lab)	C116	2.00	2.00	2.00	-	-	-	-	1.00	2.00	-	-	2.00
20CE12L01 (E. Geo. Lab)	C117	2.80	-	-	3.00	-	2.40	1.75	-	2.20	1.20	1.00	2.60

Table 8.5.1.f refers Course – PO Attainment for the academic year 2020-21

PO/COURSE	Course Codes	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
20PH11002(EP)	C101	1.74	1.74	-	-	-	-	-	-	1.74	-	-	1.74
20MA11001(BEM)	C102	1.36	1.40	1.40	-	-	1.36	-	-	-	-	-	1.39
20CS11001(PPS-I)	C103	1.55	1.55	-	1.55	1.55	-	-	1.55	1.55	-	-	1.55
20ME11002(EG)	C104	2.37	2.37	2.37	-	-	-	-	-	-	2.37	-	-
20CE11001(EMSD)	C105	2.10	2.10	-	-	-	-	-	-	-	-	-	2.10
20PH11L02(EP Lab)	C106	2.80	2.80	-	-	-	-	-	-	2.80	-	-	2.80
20CS11L01(PPS-I Lab)	C107	2.96	2.96	-	-	-	-	-	-	2.96	-	-	2.96
20ME11L01(EW)	C108	3.00	3.00	3.00	3.00	3.00	3.00	3.00	-	3.00	3.00	-	3.00
20EN12001(English)	C109	-	-	-	-	-	-	-	-	2.66	2.86	-	2.17
20MA12001(MVC)	C110	1.05	1.05	1.05	-	-	1.13	-	-	-	-	-	1.07
20CS12001(PPS-II)	C111	2.40	2.40	2.40	2.40	2.40	-	-	-	2.40	-	-	2.40
20CH12001(EC)	C112	1.90	1.90	1.90	-	-	1.90	1.90	-	-	-	-	1.90
20CE12001(E. Geo)	C113	2.26	-	-	2.26	-	2.26	2.26	-	2.26	2.26	-	2.26
20EN12L01(ELCS lab)	C114	-	-	-	-	-	-	-	-	3.00	3.00	3.00	3.00
20CS12L01(PPS-II Lab)	C115	2.55	2.55	2.55	2.55	2.55	-	-	-	2.55	-	-	2.55
20CH12L01 (EC Lab)	C116	2.95	2.95	2.95	-	-	-	-	2.95	2.95	-	-	2.95
20CE12L01 (E. Geo. Lab)	C117	2.50	-	-	2.50	-	2.50	2.50	-	2.50	2.50	2.50	2.50
AVERAGE		2.23	2.21	2.20	2.38	2.38	2.02	2.42	2.25	2.53	2.66	2.75	2.27

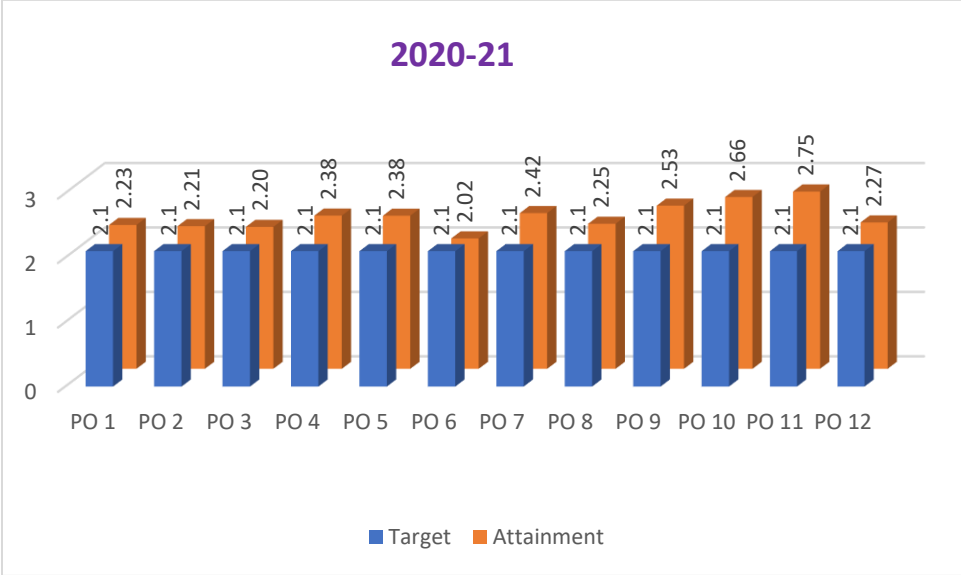


Table 8.5.1.g refers Course – PSO Matrix for the academic year 2022-23

PSO/COURSE	Course Codes	PSO 1	PSO 2	PSO 3
20PH11002(EP)	C101	1	-	-
20MA11001(BEM)	C102	-	2	-
20CS11001(PPS I)	C103	3	2	1
20ME11002(EG)	C104	1	-	-
20CE11001(EMSD)	C105	2.4	-	-
20PH11L02(EP Lab)	C106	1	-	-
20CS11L01(PPS I Lab)	C107	1	-	-
20EN12001(Eng.)	C108	-	-	-
20MA12001(MVD)	C109	-	2	-
20CS12001(PPS II)	C110	3	-	-
20CH12001(EC)	C111	-	-	-
20CE12001(E Geo)	C112	1.75	1.6	1.6
20EN12L01(ELCS Lab)	C113	-	-	-
20CS12L01(PPS II Lab)	C114	1	-	-
20CH12L01(EC Lab)	C115	-	-	-
20CE12L01(E Geo Lab)	C116	1.4	1.6	1.6
20ME11L01(EWS)	C117	2	-	3

Table 8.5.1.h refers Course – PSO Attainment for the academic year 2022-23

PSO/COURSE	Course Codes	PSO 1	PSO 2	PSO 3
20PH11002(EP)	C101	2.33	-	-
20MA11001(BEM)	C102	-	2.02	-
20CS11001(PPS I)	C103	1.11	1.11	1.11
20ME11002(EG)	C104	1.72	-	-
20CE11001(EMSD)	C105	2.56	-	-
20PH11L02(EP Lab)	C106	3.00	-	-
20CS11L01(PPS I Lab)	C107	2.88	-	-
20EN12001(Eng.)	C108	-	-	-
20MA12001(MVD)	C109	-	2.03	-
20CS12001(PPS II)	C110	2.20	-	-
20CH12001(EC)	C111	-	-	-
20CE12001(E Geo)	C112	1.50	1.50	1.50
20EN12L01(ELCS Lab)	C113	-	-	-
20CS12L01(PPS II Lab)	C114	3.00	-	-
20CH12L01(EC Lab)	C115	-	-	-
20CE12L01(E Geo Lab)	C116	3.00	3.00	3.00
20ME11L01(EWS)	C117	2.98	-	2.98
Average		2.39	1.93	2.15

Table 8.5.1.i refers Course – PSO Matrix for the academic year 2021-22

PSO/COURSE	Course Codes	PSO 1	PSO 2	PSO 3
20PH11002 (EP)	C101	1.00	-	-
20MA11001 (BEM)	C102	-	2.00	
20CS11001 (PPS-I)	C103	-	-	-
20CE11001 (EMSD)	C104	2.40	-	-
20ME11002 (EG)	C105	-	3.00	-
20PH11L02 (EP Lab)	C106	1.00	-	-
20CS11L01 (PPS-I Lab)	C107	1.00	-	-
20EN12001 (Eng.)	C108	-	-	-
20MA12001 (MVC)	C109	2.00	-	-
20CS12001 (PPS-II)	C110	2.00	-	-
20CH12001 (EC)	C111	-	-	-
20CE12001 (Eng. Geo)	C112	1.75	1.60	1.60
20EN12L01 (ELCS Lab)	C113	-	-	-
20CS12L01 (PPS-II Lab)	C114	2.00	-	-
20CH12L01 (EC Lab)	C115	-	-	-
20CE12L01 (Eng. Geo Lab)	C116	1.50	1.25	1.40
20ME11L01 (EWS)	C117	3.00	-	3.00

Table 8.5.1.j refers Course – PSO Attainment for the academic year 2021-22

PSO/COURSE	Course Codes	PSO 1	PSO 2	PSO 3
20PH11002 (EP)	C101	2.07	-	-
20MA11001 (BEM)	C102		1.14	
20CS11001 (PPS-I)	C103	-	-	-
20CE11001 (EMSD)	C104	2.21
20ME11002 (EG)	C105	-	2.46	-
20PH11L02 (EP Lab)	C106	3.00	-	-
20CS11L01 (PPS-I Lab)	C107	2.55	-	-
20EN12001 (Eng.)	C108	-	-	-
20MA12001 (MVC)	C109	1.19	-	-
20CS12001 (PPS-II)	C110	1.37	-	-
20CH12001 (EC)	C111	-	-	-
20CE12001 (Eng. Geo)	C112	2.19	2.19	2.19
20EN12L01 (ELCS Lab)	C113	-	-	-
20CS12L01 (PPS-II Lab)	C114	2.55	-	-
20CH12L01 (EC Lab)	C115	-	-	-
20CE12L01 (Eng. Geo Lab)	C116	2.47	2.47	2.47
20ME11L01 (EWS)	C117	3.00	-	3.00
Average		2.26	2.07	2.55

Table 8.5.1.k refers Course – PSO Matrix for the academic year 2020-21

PSO/COURSE	Course Codes	PSO 1	PSO 2	PSO 3
20PH11002(EP)	C101	1.00	-	-
20MA11001(BEM)	C102	-	2.00	
20CS11001(PPS-I)	C103	-	-	-
20ME11002(EG)	C104	-	3.00	-
20CE11001(EMSD)	C105	2.40	-	-
20PH11L02(EP Lab)	C106	1.00	-	-
20CS11L01(PPS-I Lab)	C107	1.00	-	-
20ME11L01(EW)	C108	3.00	-	3.00
20EN12001(English)	C109	-	-	-
20MA12001(MVC)	C110	2.00	-	-
20CS12001(PPS-II)	C111	2.00	-	-
20CH12001(EC)	C112	-	-	-
20CE12001(E. Geo)	C113	1.75	1.60	1.60
20EN12L01(ELCS lab)	C114	-	-	-
20CS12L01(PPS-II Lab)	C115	2.00	-	-
20CH12L01 (EC Lab)	C116	-	-	-
20CE12L01 (E. Geo. Lab)	C117	1.50	1.25	1.40

Table 8.5.1.1 refers Course – PSO Attainment for the academic year 2020-21

PSO/COURSE	Course Codes	PSO 1	PSO 2	PSO 3
20PH11002(EP)	C101	1.74	-	-
20MA11001(BEM)	C102	-	1.36	-
20CS11001(PPS-I)	C103	-	-	-
20ME11002(EG)	C104	-	2.37	-
20CE11001(EMSD)	C105	2.10	-	-
20PH11L02(EP Lab)	C106	2.80	-	-
20CS11L01(PPS-I Lab)	C107	2.96	-	-
20ME11L01(EW)	C108	3.00	-	3.00
20EN12001(English)	C109	-	-	-
20MA12001(MVC)	C110	1.05	-	-
20CS12001(PPS-II)	C111	2.40	-	-
20CH12001(EC)	C112	-	-	-
20CE12001(E. Geo)	C113	2.36	2.26	2.26
20EN12L01(ELCS lab)	C114	-	-	-
20CS12L01(PPS-II Lab)	C115	2.55	-	-
20CH12L01 (EC Lab)	C116	-	-	-
20CE12L01 (E. Geo. Lab)	C117	2.50	2.50	2.50
AVERAGE		2.34	2.12	2.59

8.5.2. Actions taken based on the results of evaluation of relevant POs (5)

(The attainment levels by direct (student performance) are to be present through Program level Course-PO matrix as indicated)
In the last three academic years, the following reforms have been brought to increase the attainment level of POs and/or PSOs.

- Laboratory content has been enhanced in order to provide more experiential learning.
- Class size has been reduced from 60 to 48 to facilitate **increased** student-teacher interaction.
- More number of faculty with Ph. D qualification and higher experience have been invited.

The set target for POs and/or PSOs from first year courses is 2.1 for the batches 2020-24, 2021-25 and 2022-26 respectively as decided by Program Assessment Committee.

- For the Academic Year 2022-23, the set target of 2.1 is attained for all the POs/PSOs except for PO 8 due to low performance of the students in Programming for Problem Solving-I and PSO 2 due to low performance of the students in Basic Engineering Mathematics, Programming for Problem Solving-I, Multi Variable Calculus and Engineering Geology.
- For the academic year 2021-22, the set target of 2.1 is attained for all the Pos and/or PSOs except for PO3, PO6, PO8 and PSO 2 due to low performance of the students in Basic Engineering Mathematics, Engineering Physics, Multi Variable Calculus, Engineering Chemistry and Programming for Problem Solving I & II.
- For the Academic Year 2020-21, the set target of 2.1 is attained for all the POs and/or PSOs except for PO 6 due to low performance of the students in Basic Engineering Mathematics, Multivariable Calculus and Engineering Chemistry.

PO Attainment Levels and Actions for improvement – CAY- Mention for relevant POs 8.5.2

Table 8.5.2.a refers PO Attainment Levels and Actions for improvement for the academic year 2022-23

POs	Target Level	Attainment Level	Observations
<p>PO1: Engineering Knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.</p>			
PO1	2.10	2.33	<p>Target achieved. In the following courses which are mapped to this PO, the attainment is below the target level.</p> <p>Basic Engineering Mathematics: Students are unable to solve the problems because lack of basic concepts in mathematics. Consequently, students do not have the confidence to apply their knowledge.</p> <p>Programming for Problem Solving-I: Students are unable to solve the problems because lack of basic concepts in Programming. Consequently, students do not have the confidence to apply their knowledge.</p> <p>Engineering Graphics: 1. Lack of knowledge in geometrical constructions and drawings. 2. Lack of visualization and analysis while doing the problems.</p> <p>Multi Variable Calculus: Students are unable to solve the problems because lack of basic concepts in mathematics. Consequently, students do not have the confidence to apply their knowledge.</p> <p>Engineering Chemistry: 1. Students lacked basic concepts. 2. Lack of continuous practice as most of the concepts are memory based.</p> <p>Engineering Geology: Students lacked the basic concepts of geology, Unable to understand the terminology</p>
<p>Basic Engineering Mathematics: Action 1: Extra classes to be conducted for slow learners beyond the regular planned classes Action 2. After every internal assessment, additional classes were conducted during the semester</p> <p>Programming for Problem Solving-I: Action 1: Extra classes to be conducted for slow learners beyond the regular planned classes Action 2. After every internal assessment, additional classes were conducted during the semester</p> <p>Engineering Graphics: Action 1. Conducted Remedial classes for better understanding of concepts in Geometrical constructions. Action 2. Assignments were given to improve their problem-solving ability. Action 3. More practical classes conducted.</p> <p>Multi Variable Calculus: Action 1: Extra classes to be conducted for slow learners beyond the regular planned classes</p>			

<p>Action 2. After every internal assessment, additional classes were conducted during the semester</p> <p>Engineering Chemistry: Action 1. Conducted remedial classes and tests for better practice.</p> <p>Action 2. Assignments were given for the practice of topics.</p> <p>Engineering Geology: Action 1: Revised the topics for better understanding.</p> <p>Action:2: Assignments were given to understand the terminology</p>			
<p>PO2: Problem Analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.</p>			
PO2	2.10	2.34	<p>Target achieved</p> <p>In the following courses which are mapped to this PO, the attainment is below the target level.</p> <p>Basic Engineering Mathematics: Students were having difficulty identifying mathematics formulae and principles.</p> <p>Programming for Problem Solving-I: students were having difficulty identifying concept related to programming.</p> <p>Engineering Graphics: 1. Lack of knowledge in geometrical constructions and drawings.</p> <p>2. Lack of visualization and analysis while doing the problems.</p> <p>Multi Variable Calculus: Students were having difficulty identifying mathematics formulae and principles.</p> <p>Engineering Chemistry: 1. Lack of basic concepts</p> <p>2. Lack of continuous practice as most of the concepts are memory based.</p>
<p>Basic Engineering Mathematics: Action 1: Tutorial classes have been conducted in addition.</p> <p>Action 2. Students were given the opportunity to prepare a bank of questions from typical previous year question papers.</p> <p>Programming for Problem Solving-I: Action 1: Tutorial classes have been conducted in addition.</p> <p>Action 2. Students were given the opportunity to prepare a bank of questions from typical previous year question papers.</p> <p>Engineering Graphics: Action 1. Conducted Remedial classes for better understanding of concepts in Geometrical constructions.</p> <p>Action 2. Assignments were given to improve their problem-solving ability.</p> <p>Action 3. More practical classes conducted.</p> <p>Multi Variable Calculus: Action 1: Tutorial classes have been conducted in addition.</p> <p>Action 2. Students were given the opportunity to prepare a bank of questions from typical previous year question papers.</p> <p>Engineering Chemistry: Action 1. Projects were given to understand the concepts.</p> <p>Action 2. Assignments were given to enhance their creativeness</p>			
<p>PO3: Design/ Development of Solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.</p>			
PO3	2.10	2.33	<p>Target achieved</p> <p>In the following courses which are mapped to this PO, the attainment is below the target level.</p>

			<p>Basic Engineering Mathematics: Students are having difficulty finding solutions to complex engineering mathematics problems.</p> <p>Multi Variable Calculus: Students are having difficulty finding solutions to complex engineering mathematics problems.</p> <p>Engineering Chemistry: 1. Students are not able to correlate practical experiments with theory concepts.</p> <p>2. Lack of revision before exams.</p>
<p>Basic Engineering Mathematics: Action 1: More interactive sessions are planned with experts to expose real life problems.</p> <p>Action 2: Assignments and seminars are given and they are expected to study the real-world problems and give presentation about their ideas to solve them.</p> <p>Multi Variable Calculus: Action 1: More interactive sessions are planned with experts to expose real life problems.</p> <p>Action 2: Assignments and seminars are given and they are expected to study the real-world problems and give presentation about their ideas to solve them.</p> <p>Engineering Chemistry: Action 1. Projects were given to strengthen their concepts.</p> <p>Action 2. Assignments were given to enhance their creativeness.</p>			
<p>PO4: Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.</p>			
PO4	2.10	2.15	<p>Target achieved</p> <p>In the following courses which are mapped to this PO, the attainment is below the target level.</p> <p>Programming for Problem Solving-I: students were having difficulty identifying concept related to programming.</p> <p>Engineering Geology: Students lacked the basic concepts of geology, Unable to understand the terminology</p>
<p>Programming for Problem Solving-I: Action 1: More interactive sessions are planned with experts to expose real life problems.</p> <p>Action 2: Assignments and seminars are given and they are expected to study the real-world problems and give presentation about their ideas to solve them.</p> <p>Engineering Geology: Action 1: Revised the topics for better understanding.</p> <p>Action:2: Assignments were given to understand the terminology</p>			
<p>PO5: Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.</p>			
PO5	2.10	2.10	<p>Target achieved</p> <p>In the following courses which are mapped to this PO, the attainment is below the target level.</p>

			Programming for Problem Solving-I: students were having difficulty identifying concept related to programming
Action 1: Students are encouraged to participate part in extracurricular and academic activities through the Coding Club in order to gain knowledge in the discussion of problem-solving topics in various groups.			
PO6: The Engineering and Society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.			
PO6	2.10	2.19	<p>Target achieved In the following courses which are mapped to this PO, the attainment is below the target level.</p> <p>Basic Engineering Mathematics: Students were having difficulty apply the Engineering Mathematics problems. Multi Variable Calculus: Students were having difficulty apply the Engineering Mathematics problems. Engineering Chemistry: Students were not able to assess and not able to apply their knowledge in solving societal problems. Engineering Geology: Students lacked the basic concepts of geology, Unable to understand the terminology</p>
<p>Basic Engineering Mathematics: Students are encouraged to participate part in extracurricular and academic activities through the Mathematics Club in order to gain knowledge in the discussion of mathematical topics in various groups. Multi Variable Calculus: Students are encouraged to participate part in extracurricular and academic activities through the Mathematics Club in order to gain knowledge in the discussion of mathematical topics in various groups. Engineering Chemistry: Students were given projects useful for the society. Engineering Geology: Revised the topics for better understanding. Action:2: Assignments were given to understand the terminology</p>			
PO7: Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.			
PO7	2.10	2.27	<p>Target achieved In the following courses which are mapped to this PO, the attainment is below the target level.</p> <p>Engineering Chemistry: Students were not able to assess and not able to apply their knowledge in solving societal and environmental problems. Engineering Geology: Students lacked the knowledge about societal need for sustainable development.</p>
<p>Engineering Chemistry: Students were asked to write the article on applications of techniques used in industry. Engineering Geology: Action 1: conducted group discussions about sustainable development. Action 2: Created awareness about the impact of mining waste in environmental issues.</p>			

PO8: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.			
PO8	2.10	2.06	<p>Target not achieved</p> <p>Programming for Problem Solving-I: Students are unable to solve the problems because lack of basic concepts in Programming. Consequently, students do not have the confidence to apply their knowledge.</p>
<p>Action 1: Extra classes to be conducted for slow learners beyond the regular planned classes</p> <p>Action 2. After every internal assessment, additional classes were conducted during the semester</p>			
PO9: Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.			
PO9	2.10	2.44	<p>Target achieved</p> <p>In the following courses which are mapped to this PO, the attainment is below the target level.</p> <p>Programming for Problem Solving-I: students were having difficulty identifying concept related to programming.</p> <p>Engineering Graphics: 1. Lack of knowledge in geometrical constructions and drawings.</p> <p>2. Lack of visualization and analysis while doing the problems.</p> <p>Engineering Geology: Students lacked the knowledge about societal need for sustainable development.</p>
<p>Programming for Problem Solving-I: Action 1: More interactive sessions are planned with experts to expose real life problems.</p> <p>Action 2: Assignments and seminars are given and they are expected to study the real-world problems and give presentation about their ideas to solve them.</p> <p>Engineering Graphics: Action 1. Conducted Remedial classes for better understanding of concepts in Geometrical constructions.</p> <p>Action 2. Assignments were given to improve their problem-solving ability.</p> <p>Action 3. More practical classes conducted.</p> <p>Engineering Geology: Action 1: conducted group discussions about sustainable development.</p> <p>Action 2: Created awareness about the impact of mining waste in environmental issues.</p>			
PO10: Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.			
PO10	2.10	2.49	<p>Target achieved</p> <p>In the following courses which are mapped to this PO, the attainment is below the target level.</p> <p>Engineering Geology: Students lacked of professional communication skills to approach engineering societies.</p>
<p>Action 1: Created awareness of approach engineering communities like NGRI</p> <p>Action 2: Advised how to get the data from research institutions for professional documentation.</p>			

PO11: Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.			
PO11	2.10	2.88	Target achieved
Action 1:			
Action N:			
PO12: Life-Long Learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.			
PO12	2.10	2.37	<p>Target achieved</p> <p>In the following courses which are mapped to this PO, the attainment is below the target level.</p> <p>Basic Engineering Mathematics: Students are unable to solve the complexity of engineering mathematics problems.</p> <p>Programming for Problem Solving-I: Students are unable to solve the complexity of engineering problems.</p> <p>Multi Variable Calculus: Students are unable to solve the complexity of engineering mathematics problems.</p> <p>Engineering Chemistry: Students were not able to assess and not able to apply their knowledge in solving societal and environmental problems.</p> <p>Engineering Geology: Students lacked of professional communication skills to approach engineering societies.</p>
<p>Basic Engineering Mathematics: Action1: Various Workshops /seminar /guest lectures conducted to educate students on latest technologies in Engineering mathematics problems.</p> <p>Action 2: All semester students are encouraged to enroll in NPTEL/MOOC Course which motivates them to do lifelong learning.</p> <p>Programming for Problem Solving-I: Action1: Various Workshops /seminar /guest lectures conducted to educate students on latest technologies in Engineering problems.</p> <p>Action 2: All semester students are encouraged to enroll in NPTEL/MOOC Course which motivates them to do lifelong learning.</p> <p>Multi Variable Calculus: Action1: Various Workshops /seminar /guest lectures conducted to educate students on latest technologies in Engineering mathematics problems.</p> <p>Action 2: All semester students are encouraged to enroll in NPTEL/MOOC Course which motivates them to do lifelong learning.</p> <p>Engineering Chemistry: Students were asked to present on the applications of techniques used in industry.</p> <p>Engineering Geology: Action 1: Created awareness of approach engineering communities like NGRI</p> <p>Action 2: Advised how to get the data from research institutions for professional documentation.</p>			

Table 8.5.2.b refers PO Attainment Levels and Actions for improvement for the academic year 2021-22

POs	Target Level	Attainment Level	Observations
<p>PO1: Engineering Knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.</p>			
PO1	2.10	2.14	<p>Target achieved In the following courses which are mapped to this PO, the attainment is below the target level.</p> <p>Engineering Physics: The attainment value is slightly low, because the performance of students in assimilating the concepts like harmonic oscillations and Lasers-Optical fibers is low. The reason might be the above topics consists of complex derivative topics.</p> <p>Basic Engineering Mathematics & Multivariable Calculus: Students were not strong in basics of Partial differential equations and Integrations. That’s why they feel difficulty in solving problems.</p> <p>Programing for Problem Solving-I& II: Students faced difficulty in implementing different data structures like linked lists, stacks, queues and files.</p> <p>Engineering Chemistry: The fundamentals of reaction mechanisms and Spectroscopy were in wanting.</p>
<p>Engineering Physics: Action taken:</p> <ol style="list-style-type: none"> 1. It has been decided to give more emphasis on these units by the next academic year. 2. Regular practice will help the students to get good marks. <p>Remedial classes will be taken to improve the attainment.</p> <p>Basic Engineering Mathematics & Multivariable Calculus: Action 1: Basics were taught in classroom. Action 2: Remedial classes were taken for slow learners.</p> <p>Programing for Problem Solving-I& II: Programs related to application of basic programming structures were given as part of assignment and the same problems monitored on a regular basis.</p> <p>Engineering Chemistry: Bridge classes were conducted to instill their fundamentals of reaction mechanisms and Spectroscopy.</p>			

PO2: Problem Analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.			
PO2	2.10	2.12	<p>Target achieved</p> <p>In the following courses which are mapped to this PO, the attainment is below the target level.</p> <p>Engineering Physics: The attainment value is slightly low, because the performance of students in assimilating the concepts like harmonic oscillations and Lasers-Optical fibers is low. The reason might be the above topics consists of complex derivative topics.</p> <p>Basic Engineering Mathematics & Multivariable Calculus: Students faced problem with double integration and change of order of integration due to lack of basics in integration.</p> <p>Programing for Problem Solving-I& II: Students faced difficulty in implementing different data structures like linked lists, stacks, queues and files.</p> <p>Engineering Chemistry: The fundamentals of reaction mechanisms and Spectroscopy were in wanting.</p>
<p>Engineering Physics: Action taken:</p> <ol style="list-style-type: none"> 1. It has been decided to give more emphasis on these units by the next academic year. 2. Regular practice will help the students to get good marks. <p>Remedial classes will be taken to improve the attainment.</p> <p>Basic Engineering Mathematics & Multivariable Calculus: Action 1: Thoroughly explained basic problems in class. Action 2: Change of order of integration and triple integration problems almost explained two to three times.</p> <p>Programing for Problem Solving-I& II: Programs related to application of basic programming structures were given as part of assignment and the same problems monitored on a regular basis.</p> <p>Engineering Chemistry: Bridge classes were conducted to instill their fundamentals of reaction mechanisms and Spectroscopy.</p>			
PO3: Design/ Development of Solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.			
PO3	2.10	1.90	Target not achieved

			<p>Basic Engineering Mathematics & Multivariable Calculus: Students were unable to solve the problems due to their lack of application knowledge.</p> <p>Programing for Problem Solving-I & II: Students faced difficulty in implementing different data structures like linked lists, stacks, queues and files.</p> <p>Engineering Chemistry: The fundamentals of reaction mechanisms and Spectroscopy were in wanting.</p>
<p>Basic Engineering Mathematics & Multivariable Calculus: Action 1: Remedial classes were taken for slow learners. Action 2: More problems given for practice. Programing for Problem Solving-I& II: Programs related to application of basic programming structures were given as part of assignment and the same problems monitored on a regular basis. Engineering Chemistry: Bridge classes were conducted to instill their fundamentals of reaction mechanisms and Spectroscopy.</p>			
<p>PO4: Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.</p>			
PO4	2.10	2.23	<p>Target achieved In the following courses which are mapped to this PO, the attainment is below the target level.</p> <p>Programing for Problem Solving-I & II: Students faced difficulty in implementing different data structures like linked lists, stacks, queues and files.</p>
<p>Action 1: More emphasis on logical thinking was given.</p>			
<p>PO5: Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.</p>			
PO5	2.10	2.18	<p>Target achieved In the following courses which are mapped to this PO, the attainment is below the target level.</p> <p>Programing for Problem Solving-I & II: Students faced difficulty in implementing different data structures like linked lists, stacks, queues and files.</p>
<p>Action 1: More emphasis on logical thinking was given.</p>			
<p>PO6: The Engineering and Society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.</p>			
PO6	2.10	2.00	<p>Target not achieved</p>

			<p>Basic Engineering Mathematics & Multivariable Calculus: Students faced difficulty for solving partial differential equation problems and integration related problems.</p>
<p>Action 1: Problems given for daily practice.</p>			
<p>Action 2: Taken seminar presentations related to integration topics.</p>			
<p>PO7: Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.</p>			
PO7	2.10	2.55	Target achieved
<p>Action 1: More problems which reflect the concept should be taught in the class.</p>			
<p>PO8: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.</p>			
PO8	2.10	1.80	<p>Target not achieved</p> <p>Programing for Problem Solving-I& II: Students faced difficulty in implementing different data structures like linked lists, stacks, queues and files.</p>
<p>Action 1: Action- Small projects were given to enable students to work together in teams and thus enhance their knowledge.</p>			
<p>PO9: Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.</p>			
PO9	2.10	2.39	<p>Target achieved</p> <p>In the following courses which are mapped to this PO, the attainment is below the target level.</p> <p>Engineering Physics: The attainment value is slightly low, because the performance of students in assimilating the concepts like harmonic oscillations and Lasers-Optical fibers is low. The reason might be the above topics consists of complex derivative topics.</p> <p>Programing for Problem Solving-I& II: Students faced difficulty in implementing different data structures like linked lists, stacks, queues and files.</p>
<p>Engineering Physics:</p> <ol style="list-style-type: none"> 1. It has been decided to give more emphasis on these units by the next academic year. 2. Regular practice will help the students to get good marks. 3. Remedial classes will be taken to improve the attainment. <p>Programing for Problem Solving-I& II:</p>			

Additional classes were conducted and discussed programs on various data structures.			
PO10: Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.			
PO10	2.10	2.55	Target achieved
Action 1:			
Action N:			
PO11: Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.			
PO11	2.10	2.74	Target achieved
Action 1:			
Action N:			
PO12: Life-Long Learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.			
PO12	2.10	2.18	<p>Target achieved</p> <p>In the following courses which are mapped to this PO, the attainment is below the target level.</p> <p>Engineering Physics: The attainment value is slightly low, because the performance of students in assimilating the concepts like harmonic oscillations and Lasers-Optical fibers is low. The reason might be the above topics consists of complex derivative topics.</p> <p>Basic Engineering Mathematics & Multivariable Calculus: Basic concepts are not clear that's why they are unable to solve application-oriented problems in integration.</p> <p>Programing for Problem Solving-I& II: Students faced difficulty in implementing different data structures like linked lists, stacks, queues and files.</p> <p>Engineering Chemistry: The fundamentals of reaction mechanisms and Spectroscopy were in wanting.</p>
Engineering Physics:			
<ol style="list-style-type: none"> 1. It has been decided to give more emphasis on these units by the next academic year. 2. Regular practice will help the students to get good marks. 3. Remedial classes will be taken to improve the attainment. 			
Basic Engineering Mathematics & Multivariable Calculus:			

Action 1: Given more problems for practice which can make them strong in basics.

Action 2: Remedial classes were taken for slow learners.

Programing for Problem Solving-I& II:

Action 1: Additional classes were conducted and discussed programs on various data structures.

Action 2: Practical approach of teaching method is adapted.

Engineering Chemistry: Bridge classes were conducted to instill their fundamentals of reaction mechanisms and Spectroscopy.

Table 8.5.2.c refers PO Attainment Levels and Actions for improvement for the academic year 2020-21

POs	Target Level	Attainment Level	Observations
<p>PO1: Engineering Knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.</p>			
PO1	2.10	2.23	<p>Target achieved In the following courses which are mapped to this PO, the attainment is below the target level.</p> <p>Engineering Physics: The attainment value is low, because the performance of students in assimilating the concepts like harmonic oscillations and wave optics is low. The reason might be the above topics consists of complex derivative topics and due to online classes in Covid 19 pandemic situation, it becomes difficult to concentrate on individual student performance, hence students were unable to write the answers of these units in subjective and end exams.</p> <p>Basic Engineering Mathematics & Multivariable Calculus: Students faced difficulty in understanding the concepts of Differential Equations, Laplace Transforms and its applications.</p> <p>Programing for Problem Solving-I: Solving complex problems involving logical thinking was difficult.</p> <p>Engineering Chemistry: In view of pandemic situation, students could not acclimatize themselves to online education.</p>
<p>Engineering Physics: Action: Regular practice will help the students to get good marks. Basic Engineering Mathematics & Multivariable Calculus: Action: Students were given extra problems for practice. Programing for Problem Solving-I: Action- As it involves logical thinking, a strong foundation in Mathematics is needed. Engineering Chemistry: Students were given assignments and problems to solve and were advised to use open education resources.</p>			
<p>PO2: Problem Analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.</p>			
PO2	2.10	2.21	<p>Target achieved In the following courses which are mapped to this PO, the attainment is below the target level.</p> <p>Engineering Physics: The attainment value is low, because the performance of students in assimilating the concepts like harmonic oscillations and wave optics is low. The reason might be the above topics consists of complex derivative topics and due to online classes in Covid 19 pandemic situation, it becomes difficult</p>

			<p>to concentrate on individual student performance, hence students were unable to write the answers of these units in subjective and end exams.</p> <p>Basic Engineering Mathematics & Multivariable Calculus: Students faced difficulty in evaluating multiple integrals and their applications.</p> <p>Programing for Problem Solving-I: As students were learning programming for the first time ONLINE it is difficult for them to understand new concepts.</p> <p>Engineering Chemistry: In view of pandemic situation, students could not acclimatize themselves to online education.</p>
<p>Engineering Physics: Action - It has been decided to give more emphasis on these units by the next academic year.</p> <p>Basic Engineering Mathematics & Multivariable Calculus: Action- More emphasis was given on practicing problems in tutorial classes.</p> <p>Programing for Problem Solving-I: Action- Programs related to application of basic programming structures were given as part of assignment and the same problems monitored on a regular basis</p> <p>Engineering Chemistry: More problems which reflect the concept should be taught in the class.</p>			
<p>PO3: Design/ Development of Solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.</p>			
PO3	2.10	2.20	<p>Target achieved</p> <p>In the following courses which are mapped to this PO, the attainment is below the target level.</p> <p>Basic Engineering Mathematics & Multivariable Calculus: Due to pandemic situation the students could not attend the classes and not able to focus properly.</p> <p>Engineering Chemistry: In view of pandemic situation, students could not acclimatize themselves to online education.</p>
<p>Basic Engineering Mathematics & Multivariable Calculus: Action- Additional questions were given for practice. Frequently asked model questions were explained and made them to solve in the class.</p> <p>Engineering Chemistry: More videos should be shown which would aid the online classes.</p>			
<p>PO4: Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.</p>			
PO4	2.10	2.38	<p>Target achieved</p> <p>In the following course which is mapped to this PO, the attainment is below the target level.</p> <p>Programing for Problem Solving-I: Students were being exposed to ONLINECLASSES programming for the first time so solving complex problems involving logical thinking was difficult.</p>

Action 1: More emphasis on logical thinking was given.			
PO5: Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.			
PO5	2.10	2.38	<p>Target achieved</p> <p>In the following course which is mapped to this PO, the attainment is below the target level.</p> <p>Programing for Problem Solving-I: Students were being exposed to ONLINECLASSES programming for the first time so solving complex problems involving logical thinking was difficult.</p>
Action 1: More emphasis on logical thinking was given.			
PO6: The Engineering and Society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.			
PO6	2.10	2.02	<p>Target not achieved</p> <p>Basic Engineering Mathematics & Multivariable Calculus: Students faced difficulty in applying concepts to solve algebra and differential equation problems.</p> <p>Engineering Chemistry: In view of pandemic situation, students could not acclimatize themselves to online education.</p>
<p>Basic Engineering Mathematics & Multivariable Calculus: Action- Frequently asked model questions were explained and made them to solve.</p> <p>Engineering Chemistry: Students were given assignments and problems to solve and were advised to use open education resources.</p>			
PO7: Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.			
PO7	2.10	2.42	<p>Target achieved</p> <p>In the following course which is mapped to this PO, the attainment is below the target level.</p> <p>Engineering Chemistry: In view of pandemic situation, students could not acclimatize themselves to online education.</p>
Action 1: More problems which reflect the concept should be taught in the class.			
PO8: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.			
PO8	2.10	2.25	<p>Target achieved</p> <p>In the following course which is mapped to this PO, the attainment is below the target level.</p>

			Programing for Problem Solving-I: Solving complex problems involving logical thinking was difficult.
Action 1: Action- Small projects were given to enable students to work together in teams and thus enhance their knowledge.			
PO9: Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.			
PO9	2.10	2.53	<p>Target achieved In the following courses which are mapped to this PO, the attainment is below the target level.</p> <p>Engineering Physics: The attainment value is low, because the performance of students in assimilating the concepts like harmonic oscillations and wave optics is low. The reason might be the above topics consists of complex derivative topics and due to online classes in Covid 19pandemic situation, it becomes difficult to concentrate on individual student performance, hence students were unable to write the answers of these units in subjective and end exams.</p> <p>Programing for Problem Solving-I: Solving complex problems involving logical thinking was difficult.</p>
Engineering Physics: Action- Remedial classes will be taken to improve the attainment.			
Programing for Problem Solving-I: Action- Small projects were given to enable students to work together in teams and thus enhance their knowledge.			
PO10: Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.			
PO10	2.10	2.66	Target achieved
Action 1:			
Action N:			
PO11: Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.			
PO11	2.10	2.75	Target achieved
Action 1:			
Action N:			
PO12: Life-Long Learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.			
PO12	2.10	2.27	<p>Target achieved In the following courses which are mapped to this PO, the attainment is below the target level.</p>

			<p>Engineering Physics: The attainment value is low, because the performance of students in assimilating the concepts like harmonic oscillations and wave optics is low. The reason might be the above topics consists of complex derivative topics and due to online classes in Covid 19 pandemic situation, it becomes difficult to concentrate on individual student performance, hence students were unable to write the answers of these units in subjective and end exams.</p> <p>Basic Engineering Mathematics & Multivariable Calculus: Due to pandemic situation the students could not attend the classes and not able to practice the question from this unit Students could not acquainted with online teaching.</p> <p>Programing for Problem Solving-I: Solving complex problems involving logical thinking was difficult.</p> <p>Engineering Chemistry: In view of pandemic situation, students could not acclimatize themselves to online education.</p>
<p>Engineering Physics: Action- Regular practice will help the students to get good marks.</p> <p>Basic Engineering Mathematics & Multivariable Calculus: Action- Provided application-oriented topics for self-learning and discussion in the class room</p> <p>Programing for Problem Solving-I: Action Given more practice in the class room by discussing many examples.</p> <p>Engineering Chemistry: Students were given assignments and problems to solve and were advised to use open education resources also.</p>			

Table 8.5.2.d refers PSO Attainment Levels and Actions for improvement for the academic year 2022-23

PSOs	Target Level	Attainment Level	Observations
PSO1: Apply knowledge in core areas of civil engineering such as structural, geo technical, water resources, transportation and environmental engineering to civil engineering practice.			
PSO1	2.10	2.39	<p>Target achieved In the following courses which are mapped to this PO, the attainment is below the target level.</p> <p>Programming for Problem Solving-I: Students are unable to understand the principles & fundamentals and difficult to apply real-life mechanical engineering problems.</p> <p>Engineering Graphics: 1. Lack of knowledge in geometrical constructions and drawings. 2. Lack of visualization and analysis while doing the problems.</p> <p>Engineering Geology: Students were facing difficult to identify the suitable rocks for the foundation of civil engineering projects.</p>
<p>Programming for Problem Solving-I: Action 1: Guest lectures were conducted where the students are facing difficulty understanding the concept of Problem solving</p> <p>Engineering Graphics: Action 1. Conducted Remedial classes for better understanding of concepts in Geometrical constructions. Action 2. Assignments were given to improve their problem-solving ability. Action 3. More practical classes conducted.</p> <p>Engineering Geology: Action 1: Students delivered class room seminars on Petrology topics with the help of faculty. Action 2: Students were able to find out the rocks for foundation purposes of civil engineering projects.</p>			
PSO2: Utilize Civil Engineering Principles that are appropriate to produce detailed drawings, design reports, quantity and cost estimates, specifications, contracts and other documents appropriate for the design, construction, operations and maintenance of civil engineering projects.			
PSO2	2.10	1.93	<p>Target not Achieved</p> <p>Basic Engineering Mathematics: Students are unable to understand the principles of mathematical fundamentals and difficult to apply real-life civil engineering problems.</p>

			<p>Programming for Problem Solving-I: Students are unable to understand the principles & fundamentals and difficult to apply real-life mechanical engineering problems.</p> <p>Multi Variable Calculus: Students are unable to understand the principles of mathematical fundamentals and difficult to apply real-life civil engineering problems.</p> <p>Engineering Geology: Students were facing difficult to identify the minerals and their uses.</p>
<p>Basic Engineering Mathematics: Action 1: Guest lectures were conducted where the students are facing difficulty understanding the concept of Mathematics.</p> <p>Programming for Problem Solving-I: Action 1: Guest lectures were conducted where the students are facing difficulty understanding the concept of Problem solving</p> <p>Multi Variable Calculus: Guest lectures were conducted where the students are facing difficulty understanding the concept of Mathematics.</p> <p>Engineering Geology: Action 1: Group wise topics given to the students for categorize the minerals based on their uses.</p> <p>Action 2: Students were able to find out the minerals and their uses in domestic life</p>			
<p>PSO3: Shall interact and collaborate with stakeholders; execute quality construction works applying civil engineering tools namely, total station, global positioning system (GPS), ArcGIS, auto CAD, STAAD and other necessary tools.</p>			
PSO3	2.10	2.15	<p>Target Achieved</p> <p>In the following courses which are mapped to this PO, the attainment is below the target level.</p> <p>Programming for Problem Solving-I: Students are unable to understand the principles & fundamentals and difficult to apply real-life mechanical engineering problems.</p> <p>Engineering Geology: Students lacked of basic concepts of ArcGIS software.</p>
<p>Programming for Problem Solving-I: Action 1: Guest lectures were conducted where the students are facing difficulty understanding the concept of Problem solving</p> <p>Engineering Geology: Action 1: Students were given basic instructions of ArcGIS Software tools.</p> <p>Action 2: Students were able to understand the uses of ArcGIS software in Civil Engineering projects.</p>			

Table 8.5.2.e refers PSO Attainment Levels and Actions for improvement for the academic year 2021-22

PSOs	Target Level	Attainment Level	Observations
PSO1: Apply knowledge in core areas of civil engineering such as structural, geo technical, water resources, transportation and environmental engineering to civil engineering practice.			
PSO1	2.10	2.26	<p>Target achieved In the following courses which are mapped to this PO, the attainment is below the target level.</p> <p>Programing for Problem Solving-I& II: Solving complex problems involving logical thinking was difficult.</p>
Action: Practical approach of teaching method is adapted.			
PSO2: Utilize Civil Engineering Principles that are appropriate to produce detailed drawings, design reports, quantity and cost estimates, specifications, contracts and other documents appropriate for the design, construction, operations and maintenance of civil engineering projects.			
PSO2	2.10	2.07	<p>Target not Achieved</p> <p>Basic Engineering Mathematics & Multivariable Calculus: Students felt difficulty in solving application-oriented concepts which they should apply in integration.</p>
<p>Action 1: More practice problems given for students so that they can solve problems confidently.</p> <p>Action 2: Remedial classes were taken for slow learners.</p> <p>Action 3: Seminars taken in concepts of differentiation and integration.</p>			
PSO3: Shall interact and collaborate with stakeholders; execute quality construction works applying civil engineering tools namely, total station, global positioning system (GPS), ArcGIS, auto CAD, STAAD and other necessary tools.			
PO3	2.10	2.55	Target Achieved
<p>Action 1:</p> <p>Action N:</p>			

Table 8.5.2.f refers PSO Attainment Levels and Actions for improvement for the academic year 2020-21

PSOs	Target Level	Attainment Level	Observations
PSO1: Apply knowledge in core areas of civil engineering such as structural, geo technical, water resources, transportation and environmental engineering to civil engineering practice.			
PSO1	2.10	2.34	<p>Target achieved In the following courses which are mapped to this PO, the attainment is below the target level.</p> <p>Engineering Physics: The attainment value is slightly low, because the performance of students in assimilating the concepts like harmonic oscillations and wave optics is low. The reason might be students were unable to identify and define the theoretical concepts with that of real time problems and due to online classes, it becomes difficult to concentrate on individual student performance, hence students were unable to write the answers of these units in subjective and end exams.</p> <p>Multivariable Calculus: Students were facing difficulty in evaluating and applying the concepts to engineering problems.</p>
<p>Engineering Physics: It has been decided to give more emphasis on these units by the next academic year.</p> <p>Multivariable Calculus: More emphasis was given to explain the concepts with real time examples.</p>			
PSO2: Utilize Civil Engineering Principles that are appropriate to produce detailed drawings, design reports, quantity and cost estimates, specifications, contracts and other documents appropriate for the design, construction, operations and maintenance of civil engineering projects.			
PSO2	2.10	2.12	<p>Target Achieved In the following course which is mapped to this PO, the attainment is below the target level.</p> <p>Basis Engineering Mathematics: Students were facing difficulty in evaluating and applying the concepts to engineering problems.</p>
Action 1: Guest lecture was arranged and more number of application oriented problems were given.			
PSO3: Shall interact and collaborate with stakeholders; execute quality construction works applying civil engineering tools namely, total station, global positioning system (GPS), ArcGIS, auto CAD, STAAD and other necessary tools.			
PO3	2.10	2.59	Target Achieved
Action 1:			
Action N:			

Annexure I

Course Outcomes of First Year Courses 2022-23

Name of the Course with Code	Course Outcomes
20PH11002 (EP)	CO. 1 Explain difference between electrical and mechanical oscillations.
	CO. 2 Demonstrate the wave propagation and energy distribution in strings.
	CO. 3 Demonstrate the optical phenomena of interference and diffraction.
	CO. 4 Explain phenomena of light amplification process, construction and working of different types of Lasers, Fiber optics and their applications in different fields.
	CO. 5 Explain the basic requirements of a good auditorium, noise control of machines and automobiles, outline methods of production and applications of ultrasonics

Name of the Course with Code	Course Outcomes
20MA11001 (BEM)	CO. 1 Write the matrix representation of a set of linear equations and analyze solution of a system of equations.
	CO. 2 Deduce eigenvalues and eigenvectors of a matrix and apply the same to reduce quadratic form into a canonical form through linear and orthogonal transformations.
	CO. 3 Identify the type of differential equation and use the appropriate method to solve the same.
	CO. 4 Apply higher order differential equations to solve engineering problems.
	CO. 5 Solve Ordinary differential equations of second and higher order using Laplace Transform techniques.

Name of the Course with Code	Course Outcomes
20CS11001 (PPS-I)	CO.1 Demonstrate problem solving skills by developing algorithms to solve problems using Raptor tool. Incorporate the concept of variables, constants, basic data types and input and output statement in a C language program.
	CO. 2 Incorporate the use of sequential, selection and repetition control statements into the algorithms implemented as computer programs using C language.
	CO. 3 Demonstrate an understanding of structured design by implementing programs with functions and passing of parameters to solve more complex problems.
	CO.4 Write C programs using 1D and 2D arrays.
	CO. 5 Write C programs using pointers and also with dynamic memory allocation.

Name of the Course with Code	Course Outcomes
20ME12002 (EG)	CO.1 Explain the basic principles of graphics and draw various curves in engineering drawing practice
	CO. 2 Construct the engineering scales and orthographic projections of points.
	CO. 3 Show the orthographic projections of lines and planes.
	CO. 4 Visualize the projections of solids and its sectional views
	CO.5 Construct the Isometric views and orthographic views of various solids and explain basic AutoCAD commands for engineering drawings.

Name of the Course with Code	Course Outcomes
20CE11001 (EMSD)	CO. 1 Describe position, forces, and moments in terms of vector notation in two and three dimensions.
	CO. 2 Draw free body diagrams accurately and write appropriate equilibrium equations from the free body diagram, including support reactions and also apply concepts of equilibrium to analyze systems that include frictional forces.
	CO. 3 Calculate centroid, centre of gravity and moment of inertia for standard sections and composite bodies.
	CO. 4 Apply the principles of kinematics, kinetics and work energy to find the solutions of various problems in straight and curvilinear motions.
	CO. 5 Calculate and analyze the forces in members and structures by the method of joints and method of sections.

Name of the Course with Code	Course Outcomes
20PH11L02 (EP Lab)	CO. 1 Compute the frequency of tuning fork and a.c. source.
	CO. 2 Infer the moduli of elasticity of given material, explain the concept of conservation of energy and resonance.
	CO. 3 Demonstrate the optical phenomena like interference and diffraction.
	CO. 4 Compute the resonance frequency and quality factor of a LCR circuit.
	CO. 5 Calculate the wavelength of given laser source and numerical aperture, bending losses in optical fiber.

Name of the Course with Code	Course Outcomes
20CS11L01 (PPS-I Lab)	CO. 1 Demonstrate problem solving skills by developing algorithms to solve problems using Raptor tool
	CO. 2 Incorporate the concept of variables, constants, basic data types and input and output statement in a C language program
	CO. 3 Incorporate the use of sequential, selection and repetition control statements into the algorithms implemented as computer programs using C language
	CO.4 Demonstrate an understanding of structured design by implementing programs with functions and passing of parameters to solve more complex problems
	CO.5 Write C programs using arrays, strings and pointers and also with dynamic memory allocation

Name of the Course with Code	Course Outcomes
20EN12001 (Eng.)	CO. 1 Infer/Use the vocabulary appropriately in any situation.
	CO. 2 Construct meaningful and explicit sentences in written form.
	CO. 3 Acquire basic proficiency in English including reading comprehension and writing.
	CO. 4 Communicate confidently in different contexts and cultures.
	CO. 5 Comprehend the given text and respond Appropriately.
	CO. 6 Speak proficiently and listen effectively.

Name of the Course with Code	Course Outcomes
20MA12001 (MVC)	CO. 1 Apply the method of Lagrange Multipliers to solve such constrained optimization problems, evaluate improper integrals
	CO. 2 Compute surface areas and volumes of revolutions of curves using definite integrals, multiple (Double and Triple) integrals and apply the concepts of same to find the areas and volumes
	CO. 3 Calculate scalar potential for a vector and directional derivative of a scalar point function.
	CO. 4 Compute length of a curve, area between the surfaces and volumes of solids using vector integrations.
	CO. 5 Apply method of separation of variables to solve problems like one dimensional wave and heat equations that arise in engineering branches

Name of the Course with Code	Course Outcomes
20CS12001 (PPS-II)	CO. 1 Implement string functions and use the type definition, enumerated types, define and use structures, unions in programs using C language.
	CO. 2 Ability to implement linear lists in programs using C language.
	CO. 3 Write programs that sort data using selection, quick, insertion sort techniques and perform search mechanisms either by sequential or binary search techniques using C language program.
	CO. 4 Demonstrate the basic operations of stacks and queues using C program.
	CO. 5 Write programs that read and write text, binary files using the formatting and character I/O functions.

Name of the Course with Code	Course Outcomes
20CH12001 (EC)	CO. 1 Apply the concepts of atomic, molecular and electronic changes for the calculation of CFSE and magnetic moments in complexes.
	CO. 2 Analyze ground water and choose an appropriate treatment method for domestic and industrial applications.
	CO. 3 Interpret the concepts of electrochemistry for the construction of batteries and understanding corrosion for its prevention.
	CO. 4 Explain various reaction mechanisms and apply them in the synthesis of organic compounds of industrial significance.
	CO. 5 Use the principles of various spectroscopic techniques in medicine and other fields

Name of the Course with Code	Course Outcomes
20CE12001 (E Geo)	CO. 1 Explain importance of geology in civil engineering and weathering process of rocks
	CO. 2 Classify minerals and rocks based on their properties
	CO. 3 Analyze geological structures in civil engineering constructions.
	CO. 4 Categorize geophysical methods to study of subsurface conditions for foundation of civil engineering constructions.
	CO. 5 Recommend tunneling sites and selection of a dam sites based on different geological factors.

Name of the Course with Code	Course Outcomes
20EN11L01 (ELCS Lab)	CO. 1 Listen actively, speak fluently and write accurately
	CO. 2 Speak with clarity and confidence reducing MTI and enhance Employability Skills
	CO. 3 Demonstrate better understanding of nuances of English Language
	CO. C114.4 Communicate intelligibly at work place
	CO. 5 Perform effectively in Interviews
	CO. 6 Plan and present ideas explicitly

Name of the Course with Code	Course Outcomes
20CS12L01 (PPS-II Lab)	CO. 1 Implement string functions and use the type definition, enumerated types and use structures, unions in programs using C language.
	CO. 2 Ability to implement linear lists in programs using C language.
	CO. 3 Write programs that sort data using selection, quick, insertion sort techniques and perform search mechanisms either by sequential or binary search techniques using C language program.
	CO. 4 Demonstrate the basic operations of stacks and queues using C program.
	CO. 5 Write programs that read and write text, binary files using the formatting and character I/O functions.

Name of the Course with Code	Course Outcomes
20CH12L01 (EC Lab)	CO. 1 Determine parameters like hardness content in water.
	CO. 2 Use instrumental methods like potentiometry and conductometry.
	CO. 3 Determine physical properties like surface tension, adsorption, acid value and viscosity.
	CO. 4 Use techniques which are fundamental in the synthesis of aspirin, paracetamol etc.,
	CO. 5 Estimate rate constant of a reaction from concentration-time relationships.

Name of the Course with Code	Course Outcomes
20CE12L01 (E. Geo Lab)	CO. 1 Identify minerals based on physical properties
	CO. 2 Identify rocks based on megascopic properties
	CO. 3 Categorize rocks based on microscopic properties
	CO. 4 Recommend drawing of sections for geological maps of tilted beds and faults
	CO. 5 Determine structural geological problems such as Strike and Dip

Name of the Course with Code	Course Outcomes
20ME12L01 (EWS)	CO. 1 Identify and apply suitable tools for manufacturing a engineering components using different trades of engineering processes.
	CO. 2 Explain basic operations of welding, fitting, smithy and carpentry work.
	CO. 3 Analyze of the various electrical equipment connections and their operation.
	CO. 4 Demonstrate an understanding of and comply with workshop safety regulations.
	CO. 5 Demonstrate and practice on machine tools and their operations.

Name of the Course with Code	Course Outcomes
20PH11002 (EP)	CO. 1 Explain difference between electrical and mechanical oscillations.
	CO. 2 Demonstrate the wave propagation and energy distribution in strings.
	CO. 3 Demonstrate the optical phenomena of interference and diffraction.
	CO. 4 Explain phenomena of light amplification process, construction and working of different types of Lasers, Fiber optics and their applications in different fields.
	CO. 5 Explain the basic requirements of a good auditorium, noise control of machines and automobiles, outline methods of production and applications of ultrasonics

Name of the Course with Code	Course Outcomes
20MA11001 (BEM)	CO. 1 Write the matrix representation of a set of linear equations and analyze solution of a system of equations.
	CO. 2 Deduce eigenvalues and eigenvectors of a matrix and apply the same to reduce quadratic form into a canonical form through linear and orthogonal transformations.
	CO. 3 Identify the type of differential equation and use the appropriate method to solve the same.
	CO. 4 Apply higher order differential equations to solve engineering problems.
	CO. 5 Solve Ordinary differential equations of second and higher order using Laplace Transform techniques.

Name of the Course with Code	Course Outcomes
20CS11001 (PPS-I)	CO. 1 Demonstrate problem solving skills by developing algorithms to solve problems using Raptor tool. Incorporate the concept of variables, constants, basic data types and input and output statement in a C language program.
	CO. 2 Incorporate the use of sequential, selection and repetition control statements into the algorithms implemented as computer programs using C language.
	CO. 3 Demonstrate an understanding of structured design by implementing programs with functions and passing of parameters to solve more complex problems.
	CO. 4 Write C programs using 1D and 2D arrays.
	CO. 5 Write C programs using pointers and also with dynamic memory allocation.

Name of the Course with Code	Course Outcomes
20CE11001 (EMSD)	CO. 1 Describe position, forces, and moments in terms of vector notation in two and three dimensions.
	CO. 2 Draw free body diagrams accurately and write appropriate equilibrium equations from the free body diagram, including support reactions and also apply concepts of equilibrium to analyze systems that include frictional forces.
	CO. 3 Calculate centroid, centre of gravity and moment of inertia for standard sections and composite bodies.
	CO. 4 Apply the principles of kinematics, kinetics and work energy to find the solutions of various problems in straight and curvilinear motions.
	CO. 5 Calculate and analyze the forces in members and structures by the method of joints and method of sections.

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20ME12002 (EG)	CO. 1 Explain the basic principles of graphics and draw various curves in engineering drawing practice
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	CO. 3 Show the orthographic projections of lines and planes.
	CO. 4 Visualize the projections of solids and its sectional views
	CO. 5 Construct the Isometric views and orthographic views of various solids and explain basic AutoCAD commands for engineering drawings.

Name of the Course with Code	Course Outcomes
20PH11L02 (EP Lab)	CO. 1 Compute the frequency of tuning fork and a.c. source.
	CO. 2 Infer the moduli of elasticity of given material, explain the concept of conservation of energy and resonance.
	CO. 3 Demonstrate the optical phenomena like interference and diffraction.
	CO. 4 Compute the resonance frequency and quality factor of a LCR circuit.
	CO. 5 Calculate the wavelength of given laser source and numerical aperture, bending losses in optical fiber.

Name of the Course with Code	Course Outcomes
20CS11L01 (PPS-I Lab)	CO. 1 Demonstrate problem solving skills by developing algorithms to solve problems using Raptor tool
	CO. 2 Incorporate the concept of variables, constants, basic data types and input and output statement in a C language program
	CO. 3 Incorporate the use of sequential, selection and repetition control statements into the algorithms implemented as computer programs using C language
	CO. 4 Demonstrate an understanding of structured design by implementing programs with functions and passing of parameters to solve more complex problems
	CO. 5 Write C programs using arrays, strings and pointers and also with dynamic memory allocation

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20EN12001 (Eng.)	CO. 1 Infer/Use the vocabulary appropriately in any situation.
	CO. 2 Construct meaningful and explicit sentences in written form.
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	CO. 4 Communicate confidently in different contexts and cultures.
	CO. 5 Comprehend the given text and respond Appropriately.
	CO. 6 Speak proficiently and listen effectively.

Name of the Course with Code	Course Outcomes
20MA12001 (MVC)	CO.1 Apply the method of Lagrange Multipliers to solve such constrained optimization problems, evaluate improper integrals
	CO.2 Compute surface areas and volumes of revolutions of curves using definite integrals, multiple (Double and Triple) integrals and apply the concepts of same to find the areas and volumes
	CO.3 Calculate scalar potential for a vector and directional derivative of a scalar point function.
	CO.4 Compute length of a curve, area between the surfaces and volumes of solids using vector integrations.
	CO.5 Apply method of separation of variables to solve problems like one dimensional wave and heat equations that arise in engineering branches

Name of the Course with Code	Course Outcomes
20CS12001 (PPS-II)	CO.1 Implement string functions and use the type definition, enumerated types, define and use structures, unions in programs using C language.
	CO. 2 Ability to implement linear lists in programs using C language.
	CO. 3 Write programs that sort data using selection, quick, insertion sort techniques and perform search mechanisms either by sequential or binary search techniques using C language program.
	CO. 4 Demonstrate the basic operations of stacks and queues using C program.
	CO.5 Write programs that read and write text, binary files using the formatting and character I/O functions.

Name of the Course with Code	Course Outcomes
20CH12001 (EC)	CO.1 Apply the concepts of atomic, molecular and electronic changes for the calculation of CFSE and magnetic moments in complexes.
	CO. 2 Analyze ground water and choose an appropriate treatment method for domestic and industrial applications.
	CO.3 Interpret the concepts of electrochemistry for the construction of batteries and understanding corrosion for its prevention.
	CO. 4 Explain various reaction mechanisms and apply them in the synthesis of organic compounds of industrial significance.
	CO.5 Use the principles of various spectroscopic techniques in medicine and other fields

Name of the Course with Code	Course Outcomes
20CE12001 (E Geo)	CO.1 Explain importance of geology in civil engineering and weathering process of rocks
	CO. 2 Classify minerals and rocks based on their properties
	CO. 3 Analyze geological structures in civil engineering constructions.
	CO. 4 Categorize geophysical methods to study of subsurface conditions for foundation of civil engineering constructions.
	CO. 5 Recommend tunneling sites and selection of a dam sites based on different geological factors.

Name of the Course with Code	Course Outcomes
20EN12L01 (ELCS Lab)	CO. 1 Listen actively, speak fluently and write accurately
	CO. 2 Speak with clarity and confidence reducing MTI and enhance Employability Skills
	CO. 3 Demonstrate better understanding of nuances of English Language
	CO. 4 Communicate intelligibly at work place
	CO. 5 Perform effectively in Interviews
	CO. 6 Plan and present ideas explicitly

Name of the Course with Code	Course Outcomes
20CS12L01 (PPS-II Lab)	CO. 1 Demonstrate problem solving skills by developing algorithms to solve problems using Raptor tool. Incorporate the concept of variables, constants, basic data types and input and output statement in a C language program.
	CO. 2 Incorporate the use of sequential, selection and repetition control statements into the algorithms implemented as computer programs using C language.
	CO. 3 Demonstrate an understanding of structured design by implementing programs with functions and passing of parameters to solve more complex problems.
	CO. 4 Write C programs using 1D and 2D arrays.
	CO. 5 Write C programs using pointers and also with dynamic memory allocation.

Name of the Course with Code	Course Outcomes
20CH12L01 (EC Lab)	CO. 1 Determine parameters like hardness content in water.
	CO. 2 Use instrumental methods like potentiometry and conductometry.
	CO. 3 Determine physical properties like surface tension, adsorption, acid value and viscosity.
	CO. 4 Use techniques which are fundamental in the synthesis of aspirin, paracetamol etc.,
	CO. 5 Estimate rate constant of a reaction from concentration-time relationships.

Name of the Course with Code	Course Outcomes
20CE12L01 (E. Geo Lab)	CO. 1 Identify minerals based on physical properties
	CO. 2 Identify rocks based on megascopic properties
	CO. 3 Categorize rocks based on microscopic properties
	CO. 4 Recommend drawing of sections for geological maps of tilted beds and faults
	CO. 5 Determine structural geological problems such as Strike and Dip

Name of the Course with Code	Course Outcomes
20ME12L01 (EWS)	CO. 1 Identify and apply suitable tools for manufacturing a engineering components using different trades of engineering processes.
	CO. 2 Explain basic operations of welding, fitting, smithy and carpentry work.
	CO. 3 Analyze of the various electrical equipment connections and their operation.
	CO. 4 Demonstrate an understanding of and comply with workshop safety regulations.
	CO. 5 Demonstrate and practice on machine tools and their operations.

Name of the Course with Code	Course Outcomes
20PH11002 (EP)	CO. 1 Explain difference between electrical and mechanical oscillations.
	CO. 2 Demonstrate the wave propagation and energy distribution in strings.
	CO. 3 Demonstrate the optical phenomena of interference and diffraction.
	CO. 4 Explain phenomena of light amplification process, construction and working of different types of Lasers, Fiber optics and their applications in different fields.
	CO. 5 Explain the basic requirements of a good auditorium, noise control of machines and automobiles, outline methods of production and applications of ultrasonics

Name of the Course with Code	Course Outcomes
20MA11001 (BEM)	CO. 1 Write the matrix representation of a set of linear equations and analyze solution of a system of equations.
	CO. 2 Deduce eigenvalues and eigenvectors of a matrix and apply the same to reduce quadratic form into a canonical form through linear and orthogonal transformations.
	CO. 3 Identify the type of differential equation and use the appropriate method to solve the same.
	CO. 4 Apply higher order differential equations to solve engineering problems.
	CO. 5 Solve Ordinary differential equations of second and higher order using Laplace Transform techniques.

Name of the Course with Code	Course Outcomes
20CS11001 (PPS-I)	CO. 1 Demonstrate problem solving skills by developing algorithms to solve problems using Raptor tool. Incorporate the concept of variables, constants, basic data types and input and output statement in a C language program.
	CO. 2 Incorporate the use of sequential, selection and repetition control statements into the algorithms implemented as computer programs using C language.
	CO. 3 Demonstrate an understanding of structured design by implementing programs with functions and passing of parameters to solve more complex problems.
	CO. 4 Write C programs using 1D and 2D arrays.
	CO. 5 Write C programs using pointers and also with dynamic memory allocation.

Name of the Course with Code	Course Outcomes
20ME11002 (EG)	CO. 1 Explain the basic principles of graphics and draw various curves in engineering drawing practice
	CO. 2 Construct the engineering scales and orthographic projections of points.
	CO. 3 Show the orthographic projections of lines and planes.
	CO. 4 Visualize the projections of solids and its sectional views
	CO. 5 Construct the Isometric views and orthographic views of various solids and explain basic AutoCAD commands for engineering drawings.

Name of the Course with Code	Course Outcomes
20CE11001 (EMSD)	CO. 1 Describe position, forces, and moments in terms of vector notation in two and three dimensions.
	CO. 2 Draw free body diagrams accurately and write appropriate equilibrium equations from the free body diagram, including support reactions and also apply concepts of equilibrium to analyze systems that include frictional forces.
	CO. 3 Calculate centroid, centre of gravity and moment of inertia for standard sections and composite bodies.
	CO. 4 Apply the principles of kinematics, kinetics and work energy to find the solutions of various problems in straight and curvilinear motions.
	CO. 5 Calculate and analyze the forces in members and structures by the method of joints and method of sections.

Name of the Course with Code	Course Outcomes
20PH11L02 (EP Lab)	CO. 1 Compute the frequency of tuning fork and a.c. source.
	CO. 2 Infer the moduli of elasticity of given material, explain the concept of conservation of energy and resonance.
	CO. 3 Demonstrate the optical phenomena like interference and diffraction.
	CO. 4 Compute the resonance frequency and quality factor of a LCR circuit.
	CO. 5 Calculate the wavelength of given laser source and numerical aperture, bending losses in optical fiber.

Name of the Course with Code	Course Outcomes
20CS11L01 (PPS-I Lab)	CO. 1 Demonstrate problem solving skills by developing algorithms to solve problems using Raptor tool
	CO. 2 Incorporate the concept of variables, constants, basic data types and input and output statement in a C language program
	CO. 3 Incorporate the use of sequential, selection and repetition control statements into the algorithms implemented as computer programs using C language
	CO. 4 Demonstrate an understanding of structured design by implementing programs with functions and passing of parameters to solve more complex problems
	CO. 5 Write C programs using arrays, strings and pointers and also with dynamic memory allocation

Name of the Course with Code	Course Outcomes
20ME11L01 (EWS)	CO. 1 Identify and apply suitable tools for manufacturing a engineering components using different trades of engineering processes.
	CO. 2 Explain basic operations of welding, fitting, smithy and carpentry work.
	CO. 3 Analyze of the various electrical equipment connections and their operation.
	CO. 4 Demonstrate an understanding of and comply with workshop safety regulations.
	CO. 5 Demonstrate and practice on machine tools and their operations.

Name of the Course with Code	Course Outcomes
20EN12001 (Eng.)	CO. 1 Infer/Use the vocabulary appropriately in any situation.
	CO. 2 Construct meaningful and explicit sentences in written form.
	CO. 3 Acquire basic proficiency in English including reading comprehension and writing.
	CO.4 Communicate confidently in different contexts and cultures.
	CO. 5 Comprehend the given text and respond Appropriately.
	CO. 6 Speak proficiently and listen effectively.

Name of the Course with Code	Course Outcomes
20MA12001 (MVC)	CO.1 Apply the method of Lagrange Multipliers to solve such constrained optimization problems, evaluate improper integrals
	CO. 2 Compute surface areas and volumes of revolutions of curves using definite integrals, multiple (Double and Triple) integrals and apply the concepts of same to find the areas and volumes
	CO. 3 Calculate scalar potential for a vector and directional derivative of a scalar point function.
	CO.4 Compute length of a curve, area between the surfaces and volumes of solids using vector integrations.
	CO. 5 Apply method of separation of variables to solve problems like one dimensional wave and heat equations that arise in engineering branches

Name of the Course with Code	Course Outcomes
20CS12001 (PPS-II)	CO. 1 Implement string functions and use the type definition, enumerated types, define and use structures, unions in programs using C language.
	CO. 2 Ability to implement linear lists in programs using C language.
	CO. 3 Write programs that sort data using selection, quick, insertion sort techniques and perform search mechanisms either by sequential or binary search techniques using C language program.
	CO. 4 Demonstrate the basic operations of stacks and queues using C program.
	CO. 5 Write programs that read and write text, binary files using the formatting and character I/O functions.

Name of the Course with Code	Course Outcomes
20CH12001 (EC)	CO. 1 Apply the concepts of atomic, molecular and electronic changes for the calculation of CFSE and magnetic moments in complexes.
	CO. 2 Analyze ground water and choose an appropriate treatment method for domestic and industrial applications.
	CO. 3 Interpret the concepts of electrochemistry for the construction of batteries and understanding corrosion for its prevention.
	CO. 4 Explain various reaction mechanisms and apply them in the synthesis of organic compounds of industrial significance.
	CO. 5 Use the principles of various spectroscopic techniques in medicine and other fields

Name of the Course with Code	Course Outcomes
20CE12001 (E Geo)	CO.1 Explain importance of geology in civil engineering and weathering process of rocks
	CO. 2 Classify minerals and rocks based on their properties
	CO. 3 Analyze geological structures in civil engineering constructions.
	CO. 4 Categorize geophysical methods to study of subsurface conditions for foundation of civil engineering constructions.
	CO. 5 Recommend tunneling sites and selection of a dam sites based on different geological factors.

Name of the Course with Code	Course Outcomes
20EN12L01 (ELCS Lab)	CO.1 Listen actively, speak fluently and write accurately
	CO. 2 Speak with clarity and confidence reducing MTI and enhance Employability Skills
	CO. 3 Demonstrate better understanding of nuances of English Language
	CO. 4 Communicate intelligibly at work place
	CO. 5 Perform effectively in Interviews
	CO. 6 Plan and present ideas explicitly

Name of the Course with Code	Course Outcomes
20CS12L01 (PPS-II Lab)	CO. 1 Demonstrate problem solving skills by developing algorithms to solve problems using Raptor tool. Incorporate the concept of variables, constants, basic data types and input and output statement in a C language program.
	CO. 2 Incorporate the use of sequential, selection and repetition control statements into the algorithms implemented as computer programs using C language.
	CO. 3 Demonstrate an understanding of structured design by implementing programs with functions and passing of parameters to solve more complex problems.
	CO. 4 Write C programs using 1D and 2D arrays.
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Name of the Course with Code	Course Outcomes
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	CO. 4 Use techniques which are fundamental in the synthesis of aspirin, paracetamol etc.,
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Name of the Course with Code	Course Outcomes
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	CO. 4 Recommend drawing of sections for geological maps of tilted beds and faults
	CO. 5 Determine structural geological problems such as Strike and Dip

CRITERION 9	Student Support Systems	50
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9.1 Mentoring system to help at individual level (5)

Mentoring system:

- Mentoring plays a crucial role in the holistic development of a student and helps the student in realizing his/her career aspirations and goals.
- The role of a mentor is centered on a commitment to advancing the student's career through an interpersonal engagement that facilitates sharing guidance, experience, and expertise.
- Each mentoring relationship has been tailored to the student's goals, needs, and learning style, but the core principles apply across the board. Mentor and mentee share and adhere to a commitment towards the goals of the scholarly enterprise and of course a burning desire to succeed in achieving the goals.
- Mentor aims for bringing a holistic development in student mentees.

Mentoring Process:

- Allotment of faculty mentors is done before the beginning of a semester by the mentoring coordinator with the approval of the Head of the Department.
- In general faculty members who take either theory or laboratory courses for students of a particular section would be allotted as mentors for that section for better guidance and monitoring. Each faculty member will be allotted 17 to 20 student mentees. Since last year the faculty mentor will continue to mentor the same set of student mentees right from second year to fourth year for bringing better coordination between a mentor and mentee.
- Before beginning of each academic year Principal addresses all the faculty members explaining to them about the importance of mentoring and how it should be carried out for bringing a holistic development in the students.
- One period per week is specifically allotted in time-table for carrying out mentoring.
- When the student is in the first year a mentor diary is opened for each student.
- Mentor diaries are verified by the mentoring coordinator, Group Head and Head of the Department twice in a semester. The mentor diaries are verified by IQAC member at the end of the semester.
- Impact of mentoring is carried out at the end of each semester by the faculty mentors.

Mentoring Aspects:

- Mentor discusses and records the student's immediate and long range goals and explores background of the student in the light of these goals.
- Mentor explains the importance of being regular to the classes, regular study of about three hours/per day, submission of assignments in time, active participation in class activities, performance in examinations, current situation of jobs, importance of acquiring employability skills for getting good jobs and on other academic matters that help the students in their academic pursuit. To monitor the progress in attendance and academics, slot-wise attendance will be updated in the mentor diary along with the mid-term examination marks.
- Mentor also explains the importance of participation in the class activities such as tutorials, learning in groups (Peer learning), Taking Quiz, etc. and how they help the student in his / her performance in examinations and also in career
- Mentor talks about the importance of laboratory exercises and how they reinforce theoretical concepts, in particular the requirement of acquiring programming skills, and logical thinking skills which would facilitate landing in a good job.
- Parents of the students having less than 65% of attendance and/or having mid marks less than 50% will be informed of the same and would be advised to meet the Head of the Department for necessary remedial measures/counseling. An undertaking letter will also be collected from the student along with parent's signature, if the attendance is less than 65%.
- Where there is divergence between the student's academic progress, regularity of attendance, attitude and behavior on one side and the stated goals and appropriate conduct which facilitate to the achievements of the goals on the other side, the mentor counsels the student appropriately with a view to bringing about positive changes in the student to put him/her on the right track.
 - A parent-teacher meeting is conducted twice in a semester for facilitating the parents to meet the Head of the department and the mentors of their wards to discuss on various aspects about the academic progress of their children.

Type of mentoring: Course work – specific, all round development

Number of mentors allotted for the last 3 years is indicated in the table given below.

Parameter	A.Y 2020-2021		A.Y 2021-2022		A.Y 2022-2023	
	Sem I	Sem II	Sem I	Sem II	Sem 1	Sem II
Number of mentors	12	11	10	11	10	11

Number of students per mentor:

- 17 – 20 students per mentor for II, III & IV year B. Tech.

Frequency of meeting: One period /week is allotted for mentoring session (incorporated in time table)

A **Mentor Diary** is maintained by the faculty mentor for each of his/her student mentee. The diary records the following information relating to the students

Personal information (Family Background)

1. Academic History up to Intermediate/Diploma
2. Hobbies and extra-curricular activities
3. Up-to-date academic progress in the college
4. Acts of indiscipline, if any.

Mentor -Mentee List**Mentors List for the Academic Year 2022-2023 (II-Semester)**

S. No.	Name of The Faculty	Year/ Section	Roll. No	No. of Students
1	Reena Rana	II-CE	21R11A0101-121	21
2	N. Kranthi Kumar		22R15A0101-122	22
			Total No. of students : 43	
3	D.Varun Kumar	III-CE	19R11A0182,20R11A0101-106, 108-110,112-115, 117-118 21R15A0101-104	20
4	N. Mahendra		20R11A0119-129, 131,133-137 21R15A0105-108	21
5	G. Raju		20R11A0138-145, 147-155, 21R15A0109-111	20
			Total No. of students : 61	
6	V. Navaneetha	IV-A-CE	19R11A0101-121	21
7	V. Goutham		19R11A0122-142	21
8	M. Srujan Kumar		19R11A0143-146 20R15A0101-117	21
			Total No. of students: 63	
9	G. Sampath Kumar	IV-B-CE	18R11A0162, 183,185 &190 19R11A0147-163	21
10	G.Vimala		19R11A0164-169, 71,72, 19R11A0174-181,183-187	21
11	K.Keerthi		19R11A0188-190, 20R15A0118-135	21
			Total No. of students: 63	

Typical mentoring analysis report

Methodology: Each faculty member is allotted 17 to 20 students. A separate period is allocated in the weekly time-table for mentoring of the students by the faculty. The faculty mentor closely monitors the attendance and other academic aspects of the student mentees and counsels the students accordingly, to improve their academic performance. To analyze the impact of mentoring, the Slot attendance (slot 4 and slot 8) and the mid-term examination marks (mid 1 and mid 2) are compared as given below.

Impact analysis

The mentoring system is found to be very effective from the analysis carried out and presented above. The following positives changes are distinctly visible in the performance of students that include:

- Improvement in attendance
- Improvement in marks secured
- Improvement in pass percentage

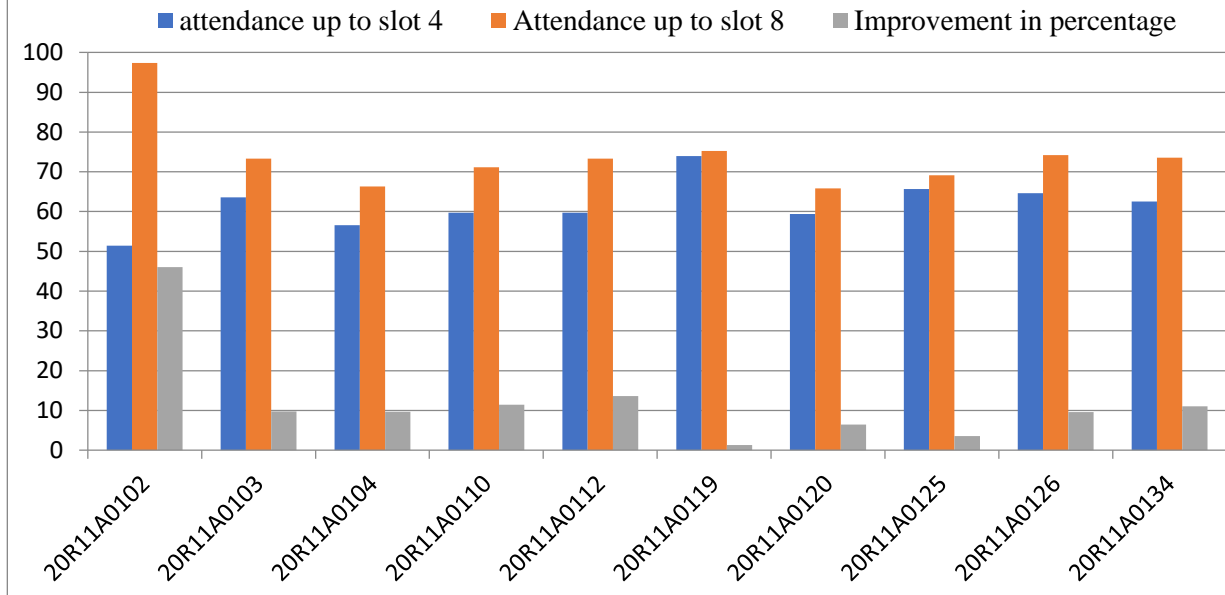
Improvement in Attendance:

Impact on student's attendance due to mentoring in the academic year 2022-23

S. No.	Roll No	Name of the student	Cumulative attendance up to slot 4*	Cumulative attendance up to slot 8*	Improvement in percentage
1	20R11A0102	B Devendar	51.39	97.40	46.01
2	20R11A0103	B Vardhan Naik	63.54	73.30	9.76
3	20R11A0104	B Praveen	56.60	66.30	9.7
4	20R11A0110	B Rahul Goud	59.72	71.12	11.4
5	20R11A0112	D Dasharath	59.72	73.30	13.58
6	20R11A0119	G Dhanush	73.96	75.27	1.31
7	20R11A0120	G Prashanth	59.38	65.86	6.48
8	20R11A0125	K Nikhil Kumar	65.63	69.15	3.52
9	20R11A0126	K Archana	64.58	74.18	9.60
10	20R11A0134	N Srikanth	62.50	73.52	11.02

* Each semester having 16 weeks of instruction is divided into 8 slots and each slot will be for a period of fifteen days.

Impact on student's attendance due to mentoring in the AY-2022-23



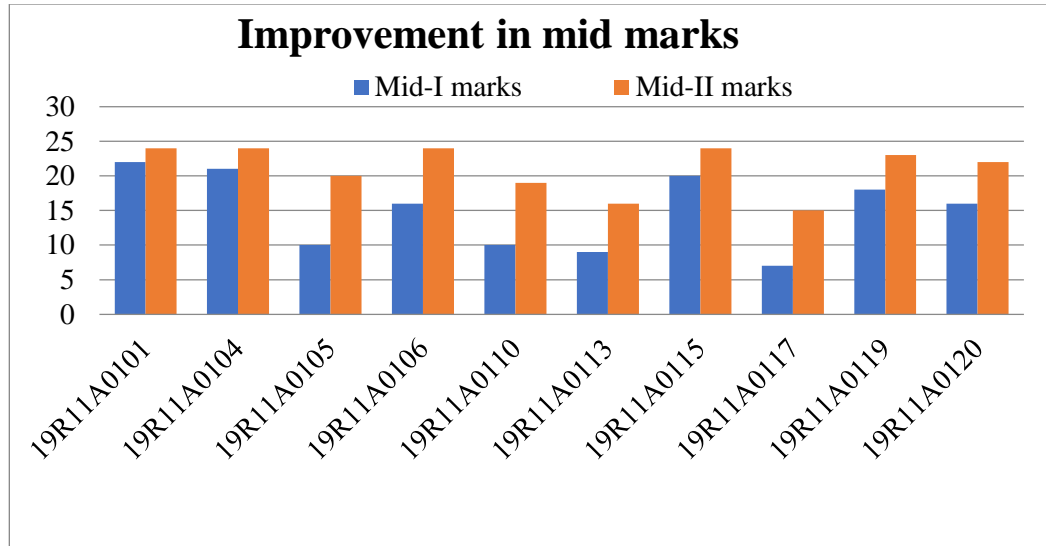
Impact on midterm marks for the academic year 2021-22

Subject: Design of Reinforced Concrete Structures **Year& Semester:** III-II

Section: III-A

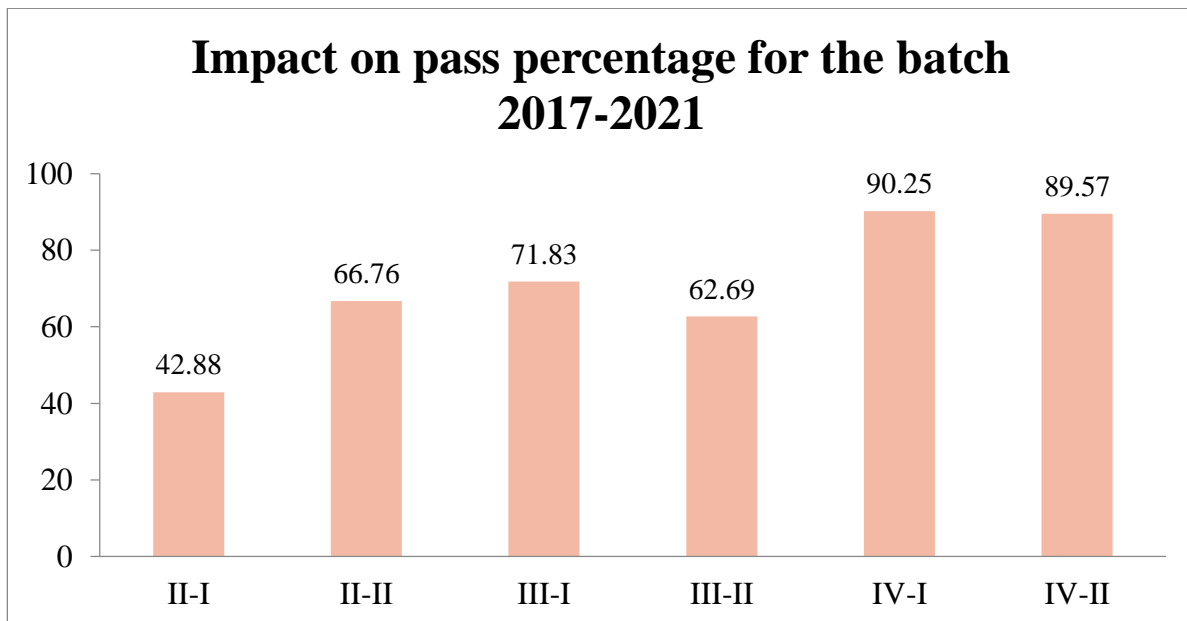
AY: 2021-2022

S.No	Roll Number	MID-I Marks	MID-II Marks	Improvement (Y/N)
1	19R11A0101	22	24	Y
2	19R11A0104	21	24	Y
3	19R11A0105	10	20	Y
4	19R11A0106	16	24	Y
5	19R11A0110	10	19	Y
6	19R11A0113	09	16	Y
7	19R11A0115	20	24	Y
8	19R11A0117	07	15	Y
9	19R11A0119	18	23	Y
10	19R11A0120	16	22	Y



Impact on pass percentage for the batch 2017-2021

	II-I	II-II	III-I	III-II	IV-I	IV-II
Appeared	147	145	142	142	144	144
Passed	63	97	102	89	133	129
Percentage	42.88	66.76	71.83	62.69	90.25	89.57



Placements and Higher Education

S. No.	Academic Year	Number of Students got placed	Number of Students for higher Studies
1	2020-2021	43	13
2	2021-2022	81	14
3	2022-2023	68	4

9.2 Feedback analysis and reward/corrective measures taken, if any (10)

Three forms of feedbacks are collected from the students during the course of a semester and one just before the students get graduated from the college. The details are mentioned below:

1. Online feedback on Teaching–Learning –Process (TLP): Feedback is collected for all the courses that are offered in a semester. This provides a feedback on the pedagogical practices adopted by the teacher and reflects more on the capabilities of a teacher in making the students understand the course.
2. Class Review Committee Feedback: This provides a feedback about the assignments, tutorials and on the expected attainments of the specified course outcomes as stipulated in the curriculum. Feedback is collected for all the courses that are offered in a semester
3. Course End survey: This survey is conducted to determine the quality of the course by various outcomes that the course tries to satisfy and the level of achievement of the outcomes. Feedback is collected at the end of a semester for all the courses that are offered in a semester
4. Graduate Exit Survey Feedback: To evaluate the success of the program in providing students with opportunities to achieve program outcomes.

1) Online TLP feedback: Feedback Collection process and the participation of students: As part of TLP, student feedback is collected twice in a semester; one after four weeks from the commencement of the semester, and the other, at the end (one week before the closure) of the semester, addressing various aspects about the pedagogical practices followed in the class and the efforts put in to provide quality teaching to students. Feedback is collected from the students using Google forms. About 75% of the students participate in providing the feedback.

Feedback Analysis:

The feedback analysis is performed by Central IQAC committee and this feedback is communicated to the respective Head of the Department for further course of action.

In the online feedback system the questions related to following aspects are posed to students to ascertain the performance of teachers.

The questionnaire for theory and lab courses is given below:

Questionnaire for Theory Courses:

1. Passion and enthusiasm to teach
2. Subject knowledge
3. Clarity and emphasis on concepts
4. Motivating and inspiring the student
5. Creating interest in the subject
6. Quality of illustrative visuals, examples and applications
7. Regularity, punctuality & uniform coverage of syllabus
8. Discipline and control over the class
9. Promoting student thinking
10. Encouraging student effort & inviting student interaction

Questionnaire for Lab Courses:

1. The lab instructor explained objectives and outcomes of lab experiments clearly well before the commencement of the lab
2. The lab instructor explained the procedures involved to perform the lab experiments/algorithms clearly well before the commencement of the lab.
3. The laboratory assignments/discussion questions given after the completion of the experiment are interesting and reinforce what I have learned in the lab and its corresponding theoretical concepts.
4. The lab instructor is impartial in dealing with all students and was regularly available for consultation during the lab.
5. The lab instructor evaluated my work promptly, provided helpful feedback on my progress and offer specific advice to promote improvement.
6. The lab instructor encourages me to work better with others in the lab.
7. The lab instructor helps me learn important techniques associated with this lab course.
8. Experiments/Algorithms detailed in the lab course have enhanced my critical thinking ability.

Modified questionnaire in view of the online courses:

1. Passion and enthusiasm to teach
2. Subject knowledge
3. Clarity and emphasis on concepts
4. Motivate the student to explore the concepts in depth on his/her own
5. Quality of PPTs, visuals, examples and applications shared on the screen

6. Regularity, punctuality and uniform coverage of the syllabus
7. Clarity of voice
8. Adeptness at handling technical glitches
9. Promoting student thinking
10. Encouraging student effort and inviting student interaction

Feedback Analysis process:

The scores obtained on the parameters are measured on a 5 - point scale (Poor, Satisfactory, Fair, Good and Excellent). These are the basis for rewarding or initiating corrective measures. The rewards are in the form of commendation and appreciation letters to the faculty members if feedback is more than 90%. The corrective measures include counseling, conducting additional sessions by other senior faculty members, recommendation for FDPs/Workshops/Up-gradation programs etc.

Indices used for measurement of teaching evaluation:

A teacher who is awarded an overall aggregate rating of 3.5 and above on a 5 – point scale (at least 70%) is considered good. Teacher gets appreciation letter if the feedback is more than 90%.

Teacher who gets less than 70% of feedback (less than 3.5 score on a scale of 5) will be counseled by the Head of the department appropriately after going through the individual feedback obtained in each of the parameters of the feedback.

Faculty whose feedback is poor, are counseled by Head of the Department and respective Mentor group head for improvement in their teaching process. Format of counseling for theory and lab courses are indicated below:

Online feedback report for 2022-2023 for III B. Tech I semester

S. No	Name of the Subject	Name of the Faculty	Term -1	Term-2
1	Design of Reinforced Concrete Structures	D Varun Kumar	83.54	88.45
2	Transportation Engineering	M Srujan Kumar	83.35	85.74
3	Geotechnical Engineering	V Abdul Raffi	79.09	89.80
4	Statistical Applications in Civil Engineering	Dr. Rahira	81.67	86.90
5	Logical Reasoning – I	N Nagi Reddy	76.45	74.64
6	English for Professional Success	Dr.P. Rajitha	81.61	80.58
7	Introduction to Artificial Intelligence	S Gopi Nayak	82.7	80.64
8	Geotechnical Engineering Lab	V Abdul Raffi/G. Raju	80.00	86.37
9	Highway Engineering and Concrete Technology Lab	M Srujan Kumar/ Dr.N.Mahendra	86.77	89.43
10	Statistical Applications in Civil Engineering Lab	Dr. Rahira/S. Lalitha	87.09	86.45

Impact of Counseling of Faculty on TLP feedback

- Each faculty member is evaluated (on all the courses the faculty member is taking in the semester) by the students on the teaching-learning aspects mentioned above. Feedback is taken two times during the semester, namely Term – 1 and Term –2.
- Faculty members who get less than 70% of feedback in Term-1 are counseled by the Head of the department to enable them to improve/modify their teaching methodologies for better understanding of the course by the students which facilitates improving the feedback on them in Term-2.
- It can be inferred from the table showing the report of online feedback on TLP for the academic year 2022-2023 for III B. Tech I semester that, the counseling by the senior faculty to junior faculty and attending a few classes of senior faculty by junior faculty as resulted in achieving more than 70 % of feedback for all the faculty members of the department.
- This clearly indicates the efficacy of the faculty counseling/ Group head system.
- It also worth mention here that many of the faculty members have also attended faculty development programs organized by reputed institutions through online/ offline mode in identified

areas as suggested and discussed respective mentor faculty, resulted in improved quality of delivery in their teaching.

2) Class Review Committee Feedback:

Class Review Committee consists of HoD or his nominee, Section coordinator and 7 to 8 students per class, among which 3 are boys and 3 are girls, preferably one lateral entry student. The students are selected in such a way that two students are from above average, two students are average and two students are from below average category. On behalf of lateral entry students, one lateral entry student will be added in the committee.

The meeting will be conducted 5 times after completion of each unit by Head of the Department and a senior faculty of department who is not taking any course for that class.

CRC feedback is taken from the identified group of students representing the class. CRC feedback is taken after completion of each unit on following aspects for both Theory and Laboratory courses, addressing various points about faculty performance in the classes and their efforts to provide quality teaching to students. The feedback report is prepared by the concerned HoD or his nominee along with the class teacher. Based on the feedback, counseling is done to the faculty members depending upon the necessity by the Head of the Department.

Percentage of students who participated: Group of 6 students per class

In the feedback system questions related to the following aspects are posed to students to ascertain the performance of teachers.

The questionnaire will be given to the students (offline) and feedback will be collected for each course.

The following questions are mentioned in the questionnaire.

- i. Were the learning objectives and learning outcomes clearly mentioned for the unit?
- ii. Were the learning objectives achieved?
- iii. Do you think enough time was spent in teaching all concepts involved in the unit?
- iv. Did the Teacher address the needs of all students in the class?
- v. Were tutorial classes conducted to the satisfaction of all the students?
- vi. Did the teacher give assignments for the unit?
- vii. Were the teaching aids effectively used for the unit?
- viii. Was Teacher's interaction in the class with students fruitful?
- ix. Feedback on general facilities.

- For the Lab courses all the above questions are covered except, Question v and vi of the above should be marked as Not Applicable as assignments and tutorials are not conducted for Lab courses.

Feedback Analysis Process:

The scores obtained on the parameters are measured on a 5 - point scale (Poor, Satisfactory, Fair, Good and Excellent). These are the basis for corrective measures. If the feedback scored by the faculty is less than 75%, the corrective measure will be taken by the Head of the Department and the action taken reports are maintained in the department. The corrective measures include counseling, conducting additional sessions by other senior faculty members, recommendation to attend FDPs/Workshops/Up-gradation programs etc.

Class Review Committee – Consolidated Report

B. Tech II Year I Semester, Section-A

Academic Year: 2020-21

Batch: 2019-23

S. No	Name of the Course	CRC-1 (%)	CRC-2 (%)	CRC-3 (%)	CRC-4 (%)	CRC-5 (%)
1	Surveying	75	75	75	75	75
2	Strength of Materials– I	75	75	75	75	75
3	Fluid Mechanics	100	75	100	75	75
4	Building Materials and Construction Planning	75	75	75	75	100
5	Basic Electrical Engineering	100	100	75	75	75
6	Surveying lab	100	100	75	75	100
7	Strength of Materials Lab	75	75	75	100	100
8	Basic Electrical Engineering Lab	100	75	75	100	100

B. Tech II Year I Semester, Section-B

S. No.	Name of the Course	CRC-1 (%)	CRC-2 (%)	CRC-3 (%)	CRC-4 (%)	CRC-5 (%)
1	Surveying	100	100	75	75	75
2	Strength of Materials– I	75	75	75	75	75
3	Fluid Mechanics	75	75	75	75	75
4	Building Materials and Construction Planning	100	75	75	75	75
5	Basic Electrical Engineering	100	75	75	75	75
6	Surveying lab	100	100	75	75	100
7	Strength of Materials Lab	100	100	75	75	100
8	Basic Electrical Engineering Lab	100	100	75	100	100

Academic Year: 2020-21

Batch: 2019-23

B. Tech II Year II Semester, Section-A

S. No.	Name of the Course	CRC-1 (%)	CRC-2 (%)	CRC-3 (%)	CRC-4 (%)	CRC-5 (%)
1	Computational Mathematics	75	75	75	75	75
2	Engineering Geology	75	75	75	75	75
3	Strength of Materials-II	100	75	75	75	75
4	Hydraulics and Hydraulic Machines	75	75	100	100	75
5	Engineering Economics and Accounting	75	75	75	75	75
6	Computational Mathematics Lab	100	100	100	75	75
7	Engineering Geology Lab	100	100	100	100	75
8	Hydraulics and Hydraulic Lab	100	75	75	100	100

B. Tech II Year II Semester, Section-B

S. No.	Name of the Course	CRC-1 (%)	CRC-2 (%)	CRC-3 (%)	CRC-4 (%)	CRC-5 (%)
1	Computational Mathematics	75	75	100	100	100
2	Engineering Geology	75	75	100	75	100
3	Strength of Materials-II	100	75	75	75	75
4	Hydraulics and Hydraulic Machines	75	75	100	100	100
5	Engineering Economics and Accounting	75	75	100	100	100
6	Computational Mathematics Lab	75	75	100	100	100
7	Engineering Geology Lab	75	100	100	100	100
8	Hydraulics and Hydraulic Lab	100	100	75	75	100

Academic Year: 2021-22**Batch: 2019-23****B. Tech III Year I Semester, Section-A**

S. No.	Name of the Course	CRC-1 (%)	CRC-2 (%)	CRC-3 (%)	CRC-4 (%)	CRC-5 (%)
1	Structural Analysis	75	100	75	75	100
2	Concrete Technology	75	100	75	75	100
3	Geo Technical Engineering	75	75	75	75	75
4	Engineering Hydrology	75	75	75	75	100
5	Industrial Safety Hazards	75	75	75	75	75
6	CADB Lab	75	75	100	100	100
7	Concrete Technology Lab	100	100	100	100	75
8	Geo Technical Engineering Lab	100	100	100	75	75

B. Tech III Year I Semester, Section-B

S. No.	Name of the Course	CRC-1 (%)	CRC-2 (%)	CRC-3 (%)	CRC-4 (%)	CRC-5 (%)
1	Structural Analysis	75	75	100	75	100
2	Concrete Technology	75	100	75	75	100
3	Geo Technical Engineering	75	75	75	75	75
4	Engineering Hydrology	75	75	75	100	75
5	Industrial Safety Hazards	75	75	75	75	75
6	CADB Lab	100	100	75	75	75
7	Concrete Technology Lab	75	75	100	100	100
8	Geo Technical Engineering Lab	75	75	100	100	100

Academic Year: 2021-22**Batch: 2019-23****B. Tech III Year II Semester, Section-A**

S. No.	Name of the Course	CRC-1 (%)	CRC-2 (%)	CRC-3 (%)	CRC-4 (%)	CRC-5 (%)
1	Design Reinforced Concrete Structures	75	75	75	75	100
2	Transportation Engineering	75	100	100	75	75
3	Foundation Engineering	75	75	75	75	75
4	Construction Engineering Management	100	75	75	100	75
5	Digital Fabrication	75	75	75	100	75
6	Knowledge Management	75	75	75	100	100
7	Structural Drafting Lab	100	100	75	75	100
8	Transportation Engineering Lab	75	75	100	100	100
9	Advanced English Communication Skills Lab	100	100	100	75	75

B. Tech III Year II Semester, Section-B

S. No.	Name of the Course	CRC-1 (%)	CRC-2 (%)	CRC-3 (%)	CRC-4 (%)	CRC-5 (%)
1	Design Reinforced Concrete Structures	75	100	75	75	100
2	Transportation Engineering	75	75	75	75	75
3	Foundation Engineering	100	75	75	100	75
4	Construction Engineering Management	75	75	75	75	75
5	Digital Fabrication	75	75	75	100	75
6	Knowledge Management	100	100	75	75	75
7	Structural Drafting Lab	100	100	100	75	75
8	Transportation Engineering Lab	100	100	75	75	75
9	Advanced English Communication Skills Lab	75	75	75	100	100

Academic Year: 2022-23**Batch: 2019-23****B. Tech IV Year I Semester, Section-A**

S. No.	Name of the Course	CRC-1 (%)	CRC-2 (%)	CRC-3 (%)	CRC-4 (%)	CRC-5 (%)
1	Design of Steel Structures	75	75	100	75	75
2	Environmental Engineering	75	75	100	75	75
3	Climate Change and Adaptation	75	100	75	75	75
4	Solid Waste Management	75	75	75	75	75
5	Operations Research	75	75	100	75	75
6	Structural Analysis and Design Lab	100	100	75	75	100
7	Environmental Engineering Lab	75	75	75	100	75
8	Operations Research Lab	75	75	75	75	100

B. Tech IV Year I Semester, Section-B

S. No.	Name of the Course	CRC-1 (%)	CRC-2 (%)	CRC-3 (%)	CRC-4 (%)	CRC-5 (%)
1	Design of Steel Structures	75	75	75	100	100
2	Environmental Engineering	75	75	75	75	100
3	Climate Change and Adaptation	75	75	75	75	75
4	Solid Waste Management	75	75	75	75	75
5	Operations Research	75	75	75	100	100
6	Structural Analysis and Design Lab	100	100	75	75	100
7	Environmental Engineering Lab	75	100	75	75	75
8	Operations Research Lab	75	100	75	75	75

Academic Year: 2022-23**Batch: 2019-23****B. Tech IV Year II Semester, Section-A**

S. No.	Name of the Course	CRC-1 (%)	CRC-2 (%)	CRC-3 (%)	CRC-4 (%)	CRC-5 (%)
1	Estimation and Costing	75	75	75	100	75
2	Railways and Airport Engineering	75	100	75	100	75
3	Industrial Wastewater Management	75	75	100	75	75
4	Entrepreneurship	75	75	75	75	75

B. Tech IV Year II Semester, Section-B

S. No.	Name of the Course	CRC-1 (%)	CRC-2 (%)	CRC-3 (%)	CRC-4 (%)	CRC-5 (%)
1	Estimation and Costing	75	75	100	75	75
2	Railways and Airport Engineering	75	75	100	100	75
3	Industrial Wastewater Management	75	75	75	100	75
4	Entrepreneurship	75	75	75	75	75

3) Course end survey: This survey is conducted to determine the quality of the course by various outcomes that the course tries to satisfy and the level of achievement of the outcomes. The course end survey is taken at the end of the semester for each course. A typical Course End Survey form is provided below.

Sample Course End Survey form

Geethanjali College of Engineering and Technology									
Department of Civil Engineering									
Course End Survey Analysis									
CAY:2023-24		Branch:CE		Year:IV		Semester:Odd		Section:A	
Date:20/12/2023									
Course:Estimation & Costing					Faculty:D. Varun Kumar				
S.No.	Questionnaire	E	G	A	P	NC	Avg Score	Avg %	
		5	4	3	2	1			
General Objectives									
1	Did the course achieve its stated objectives?	12	27	6	2	0	4.0	80.9%	
2	Have you acquired the stated skills?	12	26	7	2	0	4.0	80.4%	
3	Whether the syllabus content is adequate to achieve the objectives?	18	18	11	0	0	4.1	83.0%	
4	Whether the instructor has helped you in acquiring the stated skills?	13	27	5	2	0	4.1	81.7%	
5	Whether the instructor has given real life applications of the course?	19	21	7	0	0	4.3	85.1%	
6	Whether tests, assignments, projects and grading were fair?	19	20	8	0	0	4.2	84.7%	
7	The instructional approach(es) used was(were) appropriate to the course.	18	24	3	2	0	4.2	84.7%	
8	The instructor motivated me to do my best work.	19	23	3	2	0	4.3	85.1%	
9	I gave my best effort in this course.	12	23	8	4	0	3.9	78.3%	
10	To what extent you feel the course outcomes have been achieved.	12	26	5	4	0	4.0	79.6%	
Course Outcomes									
CO1	Explain various estimation methods and standard principles	14	28	4	1	0	4.2	83.4%	
CO2	Perform detailed estimation of buildings and Reinforced concrete	16	24	4	3	0	4.1	82.6%	
CO3	Demonstrate and Calculation of earthwork quantity for various types of works	14	23	7	2	1	4.0	80.0%	
CO4	Analyze rates for various items of works in civil construction	13	21	10	2	1	3.9	78.3%	
CO5	Evaluate the valuation of building.	16	21	7	3	0	4.1	81.3%	

4. Graduate and Exit Survey:

This survey evaluates the success of the program in providing students with opportunities to achieve program outcomes. A typical survey form is provided below.

Geethanjali College of Engineering and Technology Department of Civil Engineering


GRADUATE SURVEY

NAME: <u>M. Manikanta</u>	ROLL NO: <u>20215A0131</u>
GRADUATED YEAR: <u>2023</u>	DATE: <u>26/08/2023</u>
PROGRAM OF STUDY: <u>B.Tech.</u>	BRANCH: <u>Civil</u>

Please evaluate on the following Scale:

Excellent(E)	Good(G)	Average(A)	Poor(P)	No Comment(NC)
5	4	3	2	1

SNO	QUESTIONNAIRE	E 5	G 4	A 3	P 2	NC 1
SECTION 1: PROGRAM EVALUATION						
1)	What is your perception of the academic expectations of your program vis-à-vis your achievements?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2)	How would you rate your program's performance in keeping pace with recent trends and developments in CE discipline?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3)	How would you rate your professional training and research opportunities your program provided to graduate students?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4)	How would you rate the adequacy of space, facilities and equipment in your program?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5)	Indicate your level of satisfaction with the supervision and guidance you received during your study.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6)	What is your perception of the quality of the faculty vis-à-vis qualifications, experience and teaching expertise in your program	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7)	How would you rate the overall quality of your program?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SECTION 2: POST-GRADUATE PLANS						
1a) What are your immediate plans after graduation? <input checked="" type="checkbox"/> 1) Postgraduate study 2) Employment in business or industry 3) Government service 4) Employment in a non-profit organization 5) Self employment/ Entrepreneur 6) Defence service						
1b) If you have selected postgraduate study, where do you plan to study						
2. Have you already secured employment or been admitted for further Postgraduate study 1) YES <input type="checkbox"/> 2) NO <input checked="" type="checkbox"/>						
3. If you answered yes to question 2 please provide further information about your employer or your Postgraduate school and program of study. 						


 Signature

Geethanjali College of Engineering and Technology
Department of CE

Graduate Survey Report on Program Evaluation and Post Graduate Plans :2019-23

S.NO.	Questions	E	G	A	P	NC	% of Attainmen
		5	4	3	2	1	
Section-1: Program Evaluation							
1	What is your perception of the academic expectations of your program vis-à-vis your achievements?	24	44	6	0	0	84.86%
2	How would you rate your program's performance in keeping pace with recent trends and developments in CE discipline?	29	32	13	0	0	84.32%
3	How would you rate your professional training and research opportunities your program provided to graduate students?	32	27	15	0	0	84.59%
4	How would you rate the adequacy of space, facilities and equipment in your program?	27	38	9	0	0	84.86%
5	Indicate your level of satisfaction with the supervision and guidance you received during your study.	35	27	12	0	0	86.22%
6	What is your perception of the quality of the faculty vis-à-vis qualifications, experience and teaching expertise in your program?	28	37	7	2	0	84.59%
7	How would you rate the overall quality of your program?	27	34	10	2	1	82.70%

S.NO.	Questions	No. of Students	% of Students
Section-2: Post Graduate Plans			
1a	What are your immediate plans after graduation?		
	1. Post graduate study	6	8.11%
	2. Employment in business or industry	4	5.41%
	3. Government service	9	12.16%
	4. Employment in a non-profit organization	36	48.65%
	5. Self employment / Entrepreneur	19	25.68%
	6. Defence service	0	0.00%
2	Have you already secured employment or been admitted for further postgraduate study	Yes	22 29.73%
		No	52 70.27%

Program Coordinator

HOD

9.3 Feedback on facilities (5)

Student feedback is collected twice every semester on the facilities provided by the college. While feedbacks on class room and laboratory facilities are collected by the respective academic departments, the IQAC department collects the feedback on other facilities. The students rate the facilities on a 5-point scale. The aggregate of the score for each facility, expressed as a percentage, is indicative of the degree of satisfaction of the students with the facility.

A score of 65 percent or less is taken to represent dissatisfaction of the students, calling for a more detailed analysis to determine the underlying causes.

In respect of library, transport, sports/games, canteen facilities, maintenance and upkeep of college premises, including washrooms, the departments concerned also collect the student feedbacks separately, analyze them and take corrective action, where found necessary. It is found that during the last three years, the student feedbacks on facilities have been quite satisfactory, overall. However, the surveys have thrown up some suggestions for improvement made by a few students. Even though such students were quite small in number, cognizance was taken of such suggestions also. The departments considered the suggestions and, where warranted, took appropriate measures to address the students' concerns.

The rating of facilities by the students in the last three years is presented in the following table

AY: 2022-2023

S. No.	Questionnaire	I-Sem	II-Sem	Avg
1	Employability Skills	77.43	79.84	78.63
2	Mentoring support	77.44	80.48	78.96
3	Campus Placement Efforts	73.88	78.27	76.07
4	Career and academic guidance	75.04	78.29	76.66
5	Leadership of the college	69.36	75.45	72.40
6	Soft skills and Personality Development	74.37	77.82	76.09
7	Library Facilities	75.19	78.93	77.06
8	Extracurricular activities	81.62	81.34	81.48
9	Co-curricular activities	71.61	74.98	73.29
10	If using college transport, college transport facilities	70.99	74.85	72.92
11	Service in Academic Section	73.04	76.99	75.01
12	Service in Exam Branch	74.33	77.33	75.83
13	Service in Accounts Section	74.31	77.29	75.80
14	Physical Education Facilities	72.13	75.27	73.70
15	Quality of food in Canteen	69.21	73.22	71.21
16	Service in the Canteen	70.48	74.47	72.47
17	Overall opinion of GCET in comparison to other colleges	72.70	76.48	74.59

Corrective Actions Taken:

A sample of corrective actions taken, based on specific suggestions, or concerns of the students is provided herein.

➤ Canteen facilities:

- Menu is changed once in a fortnight.
- Increased the staff strength resulting in faster service, and improved hygiene.
- Provided additional ceiling fans and light fittings.

➤ Transport facilities:

- Preventive maintenance of buses is undertaken strictly according to planned schedules.
- Inventory of spares providing for buffer stock, is maintained resulting in reduced downtime of buses
- The number of students allotted to a bus is maintained to be less than its seating capacity.

➤ Sports:

- The management has decided that the existing sports room may not be adequate for the existing strength. So, it is planned to allocate more space in the New Building complex for the modern GYM and some more in door games.
- Apart from this, the management has procured some place for spacious Cricket ground.

- Class rooms, Laboratories and other Infrastructure facilities:
 - Fixed extra exhaust fans in the wash rooms wherever found necessary.
 - Renovated all the seminar halls, repaired and replaced with duct air conditioners.
 - All the faulty projectors were repaired and a few were replaced with new projectors.
 - Replaced damaged washroom doors and plumbing system checked regularly.
 - Constructed new CC road outside the campus and linked with the main road providing a large vehicle parking space for students.

Impact of Corrective Actions: Improvement in student's feedback is visible over these years

9.4 Self Learning (5)

Given that any course in engineering is vast in scope, the related course curriculum has to be invariably selective and abridged to fit into a semester. Knowledge in the areas of a course, which are not covered in the classroom lectures, helps in a better understanding of a course than when the learning is limited to course content. The exposure given in the class room in a course serves to stimulate the appetite for additional related knowledge. This desire for knowledge can be enhanced and stimulated further if adequate facilities are provided. The facilities and materials provided by the college to encourage and promote self-learning are detailed below:

Digital Library:

Students make use of the digital library facility during the library period allocated in the time-table or during their free time. Student Learning Resources are made available in the Digital Library maintained by the Central library of the institution. Students can access the Digital library through intranet provided in the campus using the link **192.168.0.10**

Web browser: Google Chrome, Internet Explorer, Safari, Microsoft Edge, **and** Mozilla Firefox.

No of System: 100

Internet speed: 100mbps

Access: Digital Library (192.168.0.10) and Net Browser

Downloads: Documents (e-books, e-Journals, Question Papers, Course files) Videos

Self-Learning Facilities and Availability of Materials for learning beyond syllabus

Web browser: Google Chrome, Internet Explorer, Safari, Microsoft Edge, and Mozilla Firefox.

No of System: 25

Internet speed: 100mbps

Access: Digital Library Access through Intranet-192.168.0.10 and Remote Access – Knimbus

Downloads: Documents (e-books, e-Journals, Question Papers, Course files) Videos

1. Net Browsing & web Downloads: (GCL/SL/FileNo.1)

S. No.	Dept.	2022-2023		2021-2022		2020-2021		2019-20		2018-2019		
		Documents	Videos	Documents	Videos	Documents	Videos	Documents	Videos	Document	Videos	
1	CSE	3938	Sway am Portal	26462	150	487	92	1098	182	140	387	
2	CSE- AIML	1783		7354	125	-	-	-	-	-	-	-
3	CSE-CS			-	-	-	-	-	-	-	-	-
4	CSE-DS			-	-	-	-	-	-	-	-	-
5	CSE-IOT			-	-	-	-	-	-	-	-	-
2	IT			797	9609	125	-	-	-	-	--	--
3	ECE	4012		23165	120	665	269	526	112	112	477	
4	EEE	1018		15394	110	142	-	951	142	255	7	
5	ME	771		13939	120	171	-	552	348	181	129	
6	CIVIL	807		10339	135	224	43	148	138	70	--	
7	FE	1328		29136	90	616	-	68	664	1	310	
8	MBA	318		10339	110	32	-	-	113	-	36	

2. INDEST and National & International Technical Journals- GCL/SL/FileNo.2

S. No.	Department	2022-2023	2021-22			2020-2021			2019-2020		
		IEEE-ASPP-197 IEEE-CSDL-42 KHUB-7778 DELNET-1729 NLIST-2881	IEEE	K-HUB	Delnet	IEEE	K-HUB	Delnet	IEEE	K-HUB	Delnet
1	CSE	409	65	239	137	65	421	114	50	353	313
2	CSE-AIML	172	-	-	-	-	-	-	-	-	-
3	CSE-CS	59	-	-	-	-	-	-	-	-	-
4	CSE-DS	61	-	-	-	-	-	-	-	-	-
5	IOT	59	-	-	-	-	-	-	-	-	-
6	IT	75	16	126	326	-	-	-	-	-	-
7	ECE	834	73	179	25	93	335	17	45	123	17
8	EEE	1382	37	923	46	33	607	30	45	218	59
9	ME	3533	22	1009	107	17	942	127	5	193	114
10	CIVIL	1744	4	1523	77	8	1148	137	5	562	210
11	FE	1914	13	1028	172	12	899	294	30	2421	91
12	MBA	851	-	22	227	-	-	329	-	-	229

3. Audio-Visual Materials (GCL/SL/File No.3)

S. No.	Department	Up to 2013-14	2015-2022	2022-2023	Total
1	CSE	74	14	-	88
2	IT	02	-	-	02
3	ECE	25	12	-	37
4	EEE	6	07	-	13
5	ME	6	05	-	11
6	CIVIL	-	-	-	-
7	FE	142	4	-	146
8	MBA	03		-	03
Total		258	42	-	300

4. NPTEL Videos & Downloaded Video Lessons from YouTube -GCL/SL/FileNo.4

S. No.	Department	Up to 2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	TOTAL
1	CSE	756	373	388	182	92	58	53	1902
2	IT	-	-	-	-	-	-	-	0
3	CSE-AIML	-	-	-	-	-	-	100	100
4	CSE-CS	-	-	-	-	-	-	100	100
5	CSE-DS	-	-	-	-	-	-	100	100
6	CSE-IOT	-	-	-	-	-	-	100	100
7	ECE	480	622	477	112	269	67	94	2121
8	EEE	153	-	7	142	-	58	63	423
9	ME	153	1287	128	348	-	-	130	2046
10	CIVIL	89	28	29	170	43	50	127	536
11	FE	377	143	318	664	--	91	-	1593
12	MBA	122	40	36	113	--	52	313	676

5. Reputed University Download Learning Materials (GCL/SL/File no.5)

S. No.	Department	MIT Open University Learning Materials Courses			
		Up to 2020-21	2021-22	2022-2023	Total
1	CSE	65	12	48	125
2	CSE-AIML	-	15	103	118
3	CSE-CS	-	-	76	76
4	CSE-DS	-	-	53	53
5	CSE-IOT	-	-	60	60
6	IT	-	10	6	16
7	ECE	38	15	-	53
8	EEE	13	13	-	26
9	MECH	05	10	-	15
10	CIVIL	25	15	77	117
11	FE	23	15	--	38
12	MBA	30	15	321	366

6. Lecture Notes of Faculty, PPT & Web Materials –GCL/SL/File No.6

S. No.	Department	Up to 2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	Total
1	CSE	38	15	6	48	-	-	-	107
2	CSE-CS	-	-	-	-	-	-	-	-
3	CSE-DS	-	-	-	-	-	-	-	-
4	CSE-CS	-	-	-	-	-	-	-	-
5	CSE-IOT	-	-	-	-	-	-	-	-
6	IT	-	-	-	-	-	-	-	0
7	ECE	44	20	3	33	-	-	-	100
8	EEE	59	-	9	45	-	-	-	113
9	ME	63	8	3	39	-	-	-	113
10	CIVIL	44	-	-	35	-	-	-	79
11	FE	38	4	-	58	50	107	49	306
12	MBA	-	-	-	-	-	10	-	10

**7. Suitable Additional Topics from National and International Journals & Downloads –
GCL/SL/File No.7**

S. No.	Department	Up to 2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	Total
1	CSE	18	15	26	-	1046	200	76	1381
2	CSE-AIML	-	-	-	-	-	-	69	69
3	CSE-CS	-	-	-	-	-	-	69	69
4	CSE-DS	-	-	-	-	-	-	69	69
5	CSE-IOT	-	-	-	-	-	-	69	69
6	IT	-	-	-	-	-	15	-	15
7	ECE	111	7	28	303	582	150	73	1254
8	EEE	64	29	15	750	106	150	85	1199
9	ME	67	4	9	357	161	89	65	752
10	CIVIL	--	-	-	75	80	32	52	239
11	FE	53	-	-	-	-	61	-	114
12	MBA	7	1	5	7	-	21	75	116

8. E-Books & CD's given Along with Text Books –GCL/SL/File No.8

S. No.	Department	Up to 2018-2019		2019-2020		2020-2021		2021-2022		2022-2023		Total	
		e-Books	CDs	e-Books	CDs	e-Books	CDs	e-Books	CDs	e-Books	CDs	e-Books	CDs
1	CSE	853	1274	152	8	305	-	159	6	100	14	1569	1302
2	CSE-AIML	-	-	-	-	-	-	50	-	65	1	115	1
3	CSE-CS	-	-	-	-	-	-	-	-	80	1	80	1
4	CSE-DS	-	-	-	-	-	-	-	-	50	1	50	1
5	CSE-IOT	-	-	-	-	-	-	-	-	85	1	85	1
6	IT	-	-	-	-	-	-	119	-	-	1	119	1
7	ECE	397	793	167	-	83	-	182	4	200	16	1029	813
8	EEE	349	74	137	1	36	9	111	-	31	-	664	84
9	MECH	419	102	145	1	162	-	122	6	120	-	968	109
10	CIVIL	301	61	100	1	224	-	122	1	189	-	936	63
11	FE	3197	544	143	6	519	-	103	22	-	22	3962	594
12	MBA	297	153	110	-	12	-	45	-	250	-	714	153
13	M.Tech	655	-	95	-	30	-	82	-	250	-	1112	-

9. Previous Question Papers- GCL/SL/FileNo.09

S. No.	Department	No of Question Papers
1	CSE	657
2	IT	74
3	ECE	648
4	EEE	563
5	ME	613
6	CIVIL	495
7	FE	283
8	MBA	147

10. Textbooks and Reference books GCL/SL/FileNo.10

Academic Year		2022-2023		2021-2022		2020-2021		2019-2020	
Course	Department	Titles	Volumes	Titles	Volumes	Titles	Volumes	Titles	Volumes
UG	CSE	107	371	54	495	14	84	57	286
UG	AIML	75	321	36	272	3	50	0	0
UG	CYBER SECURITY	40	136	13	84	4	50	0	0
UG	DATA SCIENCE	50	150	13	77	3	50	0	0
UG	IOT	50	173	19	69	4	50	0	0
UG	ECE	35	128	31	145	2	11	39	262
UG	EEE	28	109	26	120	3	21	29	131
UG	MECH	57	194	51	200	12	95	55	
UG	CIVIL	25	100	61	400	24	172	41	207
UG	IT	6	24	20	110	19	90	5	61
PG	CSE	5	5	3	5	6	9	5	16
PG	MBA	156	324	43	154	10	65	76	312
Total		634	2035	370	2131	104	747	329	1722

11. Student Projects –GCL/SL-File No.11

S. No.	Department	Up to 2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023
1	CSE	220	63	54	113	-	-	114
2	IT	82	-	-	-	-	-	-
3	ECE	591	85	80	97	97	87	90
4	EEE	73	17	23	18	-	-	33
5	ME	55	29	26	28	32	31	28
6	CIVIL	-	21	34	39	47	40	43
7	FE	-	-	-	-	-	-	-
8	MBA	736	53	36	-	44	76	151

12. GATE/GRE/TOFEL/IELTS Material & Course Material GCL/SL/File No.12

S. No.	Department	Up to 2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	Total
1	CSE	11	-	-	7	-	10	30	58
2	CSE-AIML	-	-	-	-	-	-	5	5
3	CSE-CS	-	-	-	-	-	-	2	2
4	CSE-DS	-	-	-	-	-	-	4	4
5	CSE-IOT	-	-	-	-	-	-	3	3
6	IT	-	-	-	-	-	-	-	0
7	ECE	8	-	-	10	-	10	-	53
8	EEE	-	-	-	9	-	10	25	44
9	ME	-	-	-	10	-	10	24	44
10	CIVIL	-	-	-	2	-	10	22	34
11	FE	-	-	-	-	-	11	-	11
12	MBA	-	-	-	-	-	-	-	20

13. Journal Back Volumes GCL/SL/File.No.11

S. No.	Department	No of Back Volumes Up to 2021-2022	2022-2023	Total
1	CSE	658	127	785
2	CSE-AIML	-	47	47
3	CSE-CS	-	38	38
4	CSE-DS	-	26	26
5	CSE-IOT	-	39	39
6	M.TECH.	-	29	29
7	ECE	464	93	557
8	EEE	391	90	481
9	ME	272	75	347
10	CE	205	78	283
11	FE	348	60	408
12	MBA	710	114	824

14. Student Seminars/Paper Presentations& contests- GCL/SL/FileNo.12/D1

S. No.	Department	2022-2023	2021-2022	2020-2021	2019-2020	2018-2019	2017-2018
1	CSE	-	-	-	242	231	-
2	ECE	-	-	-	55	-	-
3	EEE	-	-	-	74	43	31
4	ME	-	-	-	21	68	6
5	CE	-	-	58	28	23	17
6	FE	-	-	-	14	18	6
7	MBA	-	-	-	-	-	-

15. Student Professional Associations Activities GCL/SL/File. No 13/D2

Department	Professional Organization	No of Faculty and Students Registered
CSE	IEEE-CSI	23
EEE	IEEE,ISTE,IETE	-
ECE	IEEE,ISTE,IETE	76
ME	-	-
CE	ISTE,IGS,IRC,IE,,ICI,ISWE,ISSET	47
FE	-	-
MBA	-	-

16. Industrial Visit & Tours GCL/SL/File.No 14/D3

Department	2021-2022	2020-2021	2019-2020	2018-2019	2017-2018
CSE	-	-	7	2	1
ECE	3	-	7	7	8
EEE	-	-	19	13	13
ME	-	-	5	4	3
CE	-	1	4	5	4
FE	-	-	-	-	-
MBA	-	-	-	-	-

17. FDP/Workshops/Guest Speakers GCL/SL/File. No 15/D4

Department	2021-2022	2020-2021	2019-2020	2018-2019	2017-2018
CSE	-	1	15	14	14
ECE	15	45	11	24	-
EEE	-	-	-	-	-
ME	-	116	-	-	-
CE	-	4	6	7	-
FE	-	-	14	18	6
MBA	-	-	-	-	-

18. Online Journals and Conferences Contributions GCL/SL/File No. 16/D5

Department	2021-2022	2020-2021	2019-2020	2018-2019	2017-2018
CSE	15	19	20	13	21
IT	-	02	-	-	-
ECE	-	25	09	14	35
EEE	-	04	27	13	15
ME	-	06	09	12	22
CE	-	02	04	05	03
FE	-	40	24	04	22
MBA	-	09	--	---	01

19. Projects/mini projects/Live Projects GCL/SL/File No.17/D6

Department	2021-2022	2020-2021	2019-2020	2018-2019	2017-2018
CSE	-	-	242	236	76
ECE	-	-	101	82	87
EEE	-	-	40	22	17
ME	-	-	29	29	26
CE	-	-	38	34	21
MBA	-	-	-	-	-

20. Assignments GCL/SL/FileNo.18/D7

Department	2021-2022	2020-2021	2019-2020	2018-2019	2017-2018
CSE	Available				
ECE					
EEE					
ME					
CE					

21. News Letters –GCL/SL/File no.19/D8

Department	2021-2022	2020-2021	2019-2020	2018-2019	2018-2019
CSE	1	1	-	-	-
ECE	1	1	2	2	2
EEE	-	-	-	-	-
ME	-	-	-	-	-
CE	1	1	2	2	2

Usage Report (Last Four Years)

Item	2019-20	2020-21	2021-22	2022-23	2023-24
Visit Library	126205	14358	126356	203692	87967
Circulation	41670	6416	20464	19824	10584
Digital Library	6228	2290	8359	7935	7429
Reprographic Service	142071	2068	3992	10678	8385
Periodical Section	16917	1065	11072	25291	7625
Reference service	24887	2520	82469	15961	15318

Expenditure

YEAR	Books	Print Journals	e-Resources	Total
2023-2024	1,04,402.00	37,800.00	70,000.00	2,12,202.00
2022-2023	1,12,640.00	65,253.00	68,767.00	2,46,660.00
2021-2022	2,40,620.00	61,106.00	80,514.00	3,82,240.00
2020-2021	77,939.00	59,835.00	76,748.00	2,14,522.00

Internships:

Internships provide an opportunity for the student to work independently on sophisticated equipments and on live projects which enhance knowledge. To equip themselves with practical applications in the field, students are encouraged to undergo internships in industries. Internship is made mandatory under AR18 Regulations.

S. No.	Academic Year	Total Number of students undergone Internship
1	2020-2021	123
2	2021-2022	127
3	2022-2023	61

Industrial Visits:

Industrial visits provide ample scope for the students to observe experience and enable them to gain knowledge on real time applications. Students get exposed to the industrial culture. Summary of the industrial visits made during the last 3 years are provided below.

S. No.	Academic Year	No. of Industrial Visits Arranged	No. of CE Students Participated
1	2020-2021	Nil	Nil
2	2021-2022	2	100
3	2022-2023	2	103

Webinars/ Guest lectures:

One of the best opportunities provided to the students in expanding their knowledge, especially on the latest developments that are happening around the world in science and technology, is to attend the webinars or guest lectures regularly. As the Resource Persons would be from industries or reputed organizations, this provides an important platform for the students to enhance their knowledge. The summary of the guest lectures conducted are indicated below:

S. No.	Academic year	No. of Guest lectures conducted
1	2020-2021	7
2	2021-2022	8
3	2022-2023	9

9.5. Career Guidance, Training, Placement (10)

The College gives at most importance to improve the quality of the graduate student as this is an important aspect of the mission of the college. To that end, we spend considerable amount of time talking with students about their career and professional goals, concerns, and suggestions for improving their learning experience. Since its inception, the college has been continuously striving towards enhancing the professional culture to serve the needs of an ever-changing and dynamic learning community in an exemplary manner.

Centre for Advancement of Career and Human Excellence (CACHE) is a department of the college responsible for career guidance, training, placement and entrepreneurship development. It is a unique initiative of Geethanjali. Its features are:

- It was started in 2005
- It deals with Career Guidance, Training, Placements and Entrepreneurship
- It enhances the students' understanding of employability.
- Training is imparted to students from their first year onwards.
- The student is trained to be an asset to his/her employer.
- Various innovative methods of teaching are implemented
- A special syllabus is planned keeping in view the industry requirements and constraints of regular syllabus.
- Focus is on Communication Skills, Aptitude, and Soft Skills, developing the Confidence of students, improving their Body Language, inculcating Creativity and making them responsible individuals
- Forging fruitful and mutually beneficial linkages with industries and professional

organizations

- Getting live projects as well as providing placement assistance to its students.
- Organizing key guest lectures and seminars.

The objectives of the cell are:

- a. To offer career guidance programs and provide assistance and resources to support students in making real life connections to academic learning.
- b. To enable students to gain the skills, ability and confidence to transit successfully to further studies/work/self-employment or any other activity in which he/she lands deliberately or unwittingly.
- c. To provide services which expose students to infinite possibilities available in their future; to equip them with the tools they need to plan for future endeavors and to provide continued support and encouragement that they need to be successful in career as well as life.
- d. To enable students to evaluate various career options and embark on their career path to meet their interests by showing them how to assess their interests and talents.
- e. To help find answers to the following questions which pester students:
 - What am I going to do when I leave college?
 - Do I meet the entrance requirements of places of higher education?
 - Can I afford to study further?
 - Will I find a job in my chosen field and place?
 - Should I take a gap/break after college?
 - Are some places better to study than others?
 - Is my degree internationally recognized?
 - Will my job earn me the money to live the lifestyle I desire?

Finding answers to these questions is easy if one has a good understanding of himself/herself and his/her choice of careers. It is possible to find a career path for each individual which draws on their strengths and builds on areas requiring improvement. These facilitates realize their career priorities and goals.

Number of CACG activities performed during various Academic Years

2020-2021	2021-2022	2022-223
10	10	15

CACG activities for the Academic Year: 2022-23

S. No.	Name of the Event	Date	No of Students Attended	Resource Person
1	Opportunities in Department of Atomic Energy	4th August, 2022	237	Pasupathi,
2	Career Labs	23&24 August	650	Team From Career Labs
3	Education Fair – on Campus Study Abroad Fair	20th September 2022	400	University delegates and Team from education matters
4	Study in USA	21 st September 2022	250	Mr. Tze Teck Sim, Deputy Director, State University of Newyork, Albany and i20fever
5	Education matters interaction at CACG office	21 st October 2022	30	Education matters team with Ms.G.Kavitha
6	Career Opportunities for study abroad aspirants	11 November 2022	250	Delegates from Illinois Institute of Technology, Chicago, USA
7	Career Opportunities for study abroad aspirants by Shorelight	9 th February 2023	300	Ms. Sukruthi Sharma
8	Career Options and study abroad by Canum Consultants Limited	15 th February 2023	650	Presented by Senior Counsellor, Manishanker Bernard Valentine, Marketing Manager
9	Maanya team interaction at CACG office	24 th February 2023	25	Maanya Team
10	EDUCOG team interaction at CACG office	10 th March 2023	20	EDUCOG Team
11	Interaction with GCET Alumni with students of ECE, EEE & CSE	14 th March 2023 and 16 th March 2023	200	-
12	EDUCOG Team interaction class to class	17 th March 2023	600	Team from EDUCOG headed by Mr. Sandeep
13	Interaction by Dr. Madhuri Bayya, In-charge CACG with the team from University of Leicester at Park Hyatt	17 th March 2023	-	-
14	Interaction with Ohm Institute	20 th March 2023	48	Mr. Surendra Reddy
15	Career guidance and profile building seminar by college pond	29 th March 2023	300	Mr. Jimeet Sanghavi, Head Counsellor, College Pond

Cantilever Training

Department of Civil Engineering provides a Cantilever Training for the 3rd year students to equip with essential non-technical skills crucial for personal and professional success. The aim of this training is to foster the development of intellectual aptitude skills, quantitative skills, Verbal and soft-skills, aptitude skills and competitive programming so as to prepare personality that would crack any interviews, alongside with, Profile-building with radical thinking to crack any question with varied level of difficulty.

Training carried out during the last two academic years is summarized below:

Batch	Academic Year and Semester	Class	Type of Training	Training Facilitator	Schedule/ Number of Days	No. of CE Students Participated
2020-2024	2022-2023	III CE	Training on Coding & Aptitude	Cantilever Labs	19 th Oct. 2022 to 15 th , July 2023	40
2019-23	2021-2022	III CE	Training on Coding & Aptitude	Cantilever Labs	17 th Jan. to 29 th June, 2022	69

Impact: Impact of these trainings is visible through more number of students getting placed or going for higher education.

S. No.	Academic Year	Number of Students got placed	Number of Students went for higher Studies
1	2020-2021	29	8
2	2021-2022	50	14
3	2022-2023	54	4

Impact/Achievements:

The EDC of the college was successful in assisting a few students to set up start-up ventures. These are described below.

List of Entrepreneurs supported by/passed out from Geethanjali College of Engineering and Technology:

S. No.	Name	Branch	Year of Passing
1	K. Rakesh	CE	2023

9.6 Entrepreneurship Cell (5)

Geethanjali College of Engineering and Technology [GCET] has its Entrepreneurship Development Cell [EDC] popularly known as IDEA DIMENSION in the campus since the A.Y 2008-09.

Idea Dimension was supported by the National Entrepreneurship Network (NEN), a Wadhvani foundation. Idea Dimension, in turn, builds institutional capacity for creating entrepreneurs. It also develops and inspires a pool of aspiring entrepreneurs; through exposure to leadership and skills-building programs providing access to experts and mentors. The college management provides the necessary financial support for the smooth conduct of all the NEN-Idea Dimension activities. Idea Dimension has its own premises guided by faculty with rich industrial experience, externally supported by NEN and all the activities are financed by management. Idea Dimension can be visited at <http://nen.gctc.in/>

Objectives of Entrepreneurship Development Cell

- To provide information on all aspects of enterprise building to the students of Geethanjali College of Engineering and Technology.
- To organize training programs, competitions, awareness camps etc. to promote entrepreneurship among the students of Geethanjali College of Engineering and Technology.
- To assist prospective entrepreneurs in the preparation of project reports.

Nurturing the Entrepreneurial Spirit

We move forward into the 21st Century it is important to reflect on the great contributions that entrepreneurs have made to the well-being of our people and the wealth of our economy. Where would we be without the persistence and creativity of such notable entrepreneurs as Henry Ford, Bill Gates, and Joe Dudley? Educators have created a wide variety of programs and activities to provide students with the experiences that nurture the spirit of entrepreneurship everywhere. "Entrepreneurs are not 'born'....rather they 'become' through the experiences of their lives."

We recognize the importance of nurturing the entrepreneurial spirit from early ages, and continuing it right through their stay here. Entrepreneurship education means many different things to educators from vocational education to a university. At each level of education, it is reasonable to expect different outcomes as students mature and build on previous knowledge. But the overall purpose remains to develop expertise as an entrepreneur.

Functioning of EDC in the campus



Fig: Idea Dimension team hierarchy

The Team Members are recruited as per the guidelines provided by the NEN viz., communication skills, entrepreneurship ideas, etc. After serving for one year they are promoted as team leaders based on individual contribution and performance in the selection process. On successful completion of one year as team leaders similar selection process is conducted and promoted as E- Leaders.

There are four departments in Idea Dimension. They are as follows:

Department	Functions
Human Resource	The human resources department recruits the eligible members for the college E-cell and managing the team leaders in their efficient working.
Creative	Generates ideas for innovations for the theme – “Innovating for India”. Manages the college start-ups. Start-ups are considered to be great learning experiences to be a part of
Marketing	Market the activities and products of the E-cell. Create awareness and publicize.
Online Technical Support	Maintains and updates the website to keep all the students of the college on the same page regarding the events of the E-cell. Provide the required technical support for the marketing of the products

Team members are allocated to perform the above mentioned major functions based on their skill and aptitude of individual member. Team member’s performance is guided and supervised by their respective Team Leaders and E-Leaders.

AICTE Grant for EDC:

The college received a grant of Rs. 6.0 lakhs from AICTE for promotion of entrepreneurial development activities. The types of programs conducted and the number of persons exposed to these programs using the last installment of “recurring expenditure” of the grant are as follows:

Programs conducted under AICTE grant for EDC:

A. Entrepreneurship Awareness Camps (EACs) – 25 conducted

B. Core Faculty Training at EDC, JNTUH

Two faculty members were trained in a workshop conducted by JNTUH

C. ExpertTalks

No. of programs conducted : 12

No. of Persons Trained : 50 (Students & staff)

EDC Events for the Academic Year 2022-2023

S. No.	Name of the Event	Description	Date of the Event	Chief Guest / Speaker	Location	Usage	POs Strengthened	No. of students/ Faculty attended
1	Team Members Recruitment (2022-23)	Team Members and Team Leaders were added in to the team	27/12/2022 to 29/12/2022	-	Online	Building Team	PO8, PO9, PO10	24
2	Field Trip to T-Hub 2.0	To gain exposure and to realize working of startups	12/1/2023	Sai Abhinaya Chepuri	T-Hub	Skill Development	PO1, PO6, PO8, PO10, PO12	11
3	Ideathon	Evaluation of Startup ideas with business models.	31/1/2023	-	GCET	Skill Development	PO1, PO6, PO8, PO10, PO12	33
4	Interaction Session with BITS EDC Team	Interaction with intercollege EDC teams for better learning	21/3/2023	-	Online	Building Team	PO8, PO9, PO10	5

E-Week 2023								
5	3..2..1.. SALE	Designing best out of waste	15/5/2023	-	Online	Skill Development	PO1, PO6, PO8, PO10, PO12	29
6	Brandstorm	Debates on major rival companies	16/5/2023	-	Online	Skill Development	PO1, PO6, PO8, PO10, PO12	29
7	Game of Entrepreneurs	Analyzing a failed startup	17/5/2023	-	Online	Skill Development	PO1, PO6, PO8, PO10, PO12	29
8	Mindspark	Ideas of Investing on a product	18/5/2023	-	Online	Skill Development	PO1, PO6, PO8, PO10, PO12	29
9	Thrill and Grill	Creating necessity for a product	19/5/2023	-	Online	Skill Development	PO1, PO6, PO8, PO10, PO12	29
10	Start 2 End	Ideation to prototyping Discussions	20/5/2023	-	Online	Skill Development	PO1, PO6, PO8, PO10, PO12	29
11	Auct and Act	Enterprise bidding to form their squads	20/5/2023	-	Online	Skill Development	PO1, PO6, PO8, PO10, PO12	29
12	My Story Session	Journey of an Entrepreneur	20/6/2023	Mr. Akshay Krishna, CEO Descu	GCET	Skill Development	PO1, PO6, PO8, PO10, PO12	20

Participation in Hackathons / JHUB:

Students are encouraged to participate in Hackathons/ JHUB activities that provide an opportunity for the students to work independently and explore various things that enhance their innovation and creativity. A good number of students participate in Hackathons/ JHUB activities.

Following is the list of activities organized and the details of the students participated.

List of events organized from 1st September 2023 - 30th November 2023(Quarter 1 IIC6.0 calander activities for AY 2023-24)							
S.NO	Date of Organizing event	Title of the Event/ Celebration activity	No. Of Contact Hours (1 to 3hrs, 3 to 6hrs)	Name of Resource Person	Number of Students Participated	Number of Faculty Participated	Expenditure incurred(Amount paid to Resource Person and certificates, any other)
1	3/11/2023	THUB Kick Start Program	6	Mr. Srinath, CEO TechEdge solutions	800	15	NIL
2	14/10/2023	Flashmob at THub	6	---	24	0	NIL
3	16-09-2023, 23-09-2023, 24-09-2023, 1-10-2023 and 2-10-2023	Problem Statement Identification Towards Innovation and Startup Development	40	Mr. Manoj Kumar Badagharwala	101	5	97,200/-
4	12/2/2024	Institute's Innovation Day - Intercollegiate Discussion	1	Mr. Arun	17	1	NIL
5	16 Nov 2023	Patent Drafting and Registration	6	Dr. Dilip Sharma	107	4	5000
6	20/01/20204	"Navarith Pradarshan 2K24 – innovation as an act to exhibit	3		150	20	5080
7	Calender Activity	My story - motivational session by successful Innovators	1	Ch. Shiva Kumar, Environmental Engineer, Suryapet Municipality	27	4	5000
8	Celebration Activity	National Entrepreneurship Day	2	Dr B Nagamani	29	4	Nil
9	25-09-24 to 26-09-24	SIH SMART INDIA HACKATHON	36	Mr. Chitti Badrinath, Mr. Manoj Kumar	321	8	35000
10	22-11-2023	Visit to SNIST's Roboveda event organized by Robotics club of SNIST	3	-----	11	1	Nil
11	11/12/2023	Viksit Bharat	2	PM Modi Live	81	7	Nil

				Event			
12	1/6/2024	Innovation Development, Technology Readiness Level (TRL)	2	Mr. Chaitanya Shravan	40	1	Nil
13	1/8/2024	Workshop on Problem solving and Ideation	2	Mr. P Saiesh	40	5	3000/-
14	10/02/2024	Incubator Capacity Building Program JHub Incubators meet	4		0	4	
15	01/12-2023 to 15-02-2024	Python Programming and Arduino programming Robotics Club students	16	M.Anand G.Praveen Kumar	64	2	Nil
16	11th December, 2023	IIC- Regional Meet	8	Mr. Dipan Sahu and Ms. Seema Silchar	2	2	Nil
17	14/12/2023 & 15/12/2023	DEMO DAY/ Workshop and Project Exhibition	14	Mr.Baradwaj Arvapally	180	2	18,000
18	16/12/2023	Worshop on Design Thinking Critical Thinking and Innovation Design	6	Mr. C. Arun Mentor THUB	120	11	Nil
19	20-2-2024	Workshop on Entrepreneurship skill, Attitude and Behavior Development	3	Mr.Sarvesh Sharma	39	5	Nil
20	20/01/2024	Internal Hackathon DPHB	6	Mr.Srinivas Duvvuri & Mr P.Mohan	100	6	10000
21	22-2-2024	Visit to THub	6	NIL	176	5	64074
22	22/12/2023	Seminar on "The Applications of computer vision in AI"		Mr Tapas Saini, Joint Director , CDAC	116	4	Nil
23	23.12.23	Innovation & Entrepreneurship Outreach Program	6	M. Hari Shanker	32	5	4900/-
24	28/12/2023	Telangana Incubators and Accelerators Meeting	3	Dr. Sharath Chandra	0	2	NIL

9.7 Co-curricular and Extra-curricular Activities (10)

Bhaswara: College organizes a National Level Technical and Management Fest every year. Common events, such as, Paper Presentation, Poster Presentation and Project Exhibition would be conducted during this fest. A good number of students participated in the events organized during the academic year 2020-21, 2021-22 and 2022-2023 are detailed below.

Dept. Name	Event Name	Venue	Faculty Coordinator	Student Coordinator	Contact No
CIVIL ENGINEERING	Paper Presentation	CAD Lab-314, Block-III, 3 rd floor	Dr.V.V.Praveen Kumar/ Reena Rana	V.Aruna/ N.Swetha	7330736105/ 7386409111
	Poster Presentation	N-209, Block-III, 2 nd floor	Dr.K.Srilaxmi/ N. Kranthi Kumar	B. Harshitha/ Roopa Chandrika	739696403/ 9246288176
	Technical Quiz	N-209, Block-III, 3 rd floor	G.Raju / P.Supriya	P.Lahari/ S.Sanjeev	7842000742/ 9652207674
	CAD Champ	CAD Lab, 314, Block-III, 3 rd floor	D.Varun Kumar/ G.Vimala	A.Bhuvan Chandra / D.Sairam	8374786993/ 9014468728
	Treasure Hunt	Block-III, 3 rd floor	M.Srujan Kumar/ G.Sampath	R.Sai Chethan/ B.Devendar	8106839618/ 9989934068
	A Minute to Win It	Geology lab -301, Block-III,3 RD Floor	V.Navaneetha / Reena Rana	R.Sai Chaitan / B. Devendar	8106839618/ 9989934068

Faculty co coordinator's: N KRANTHI KUMAR, K. KEERTHI

S. No.	Event name	Faculty Coordinator	Mail id	Mobile
1	Registration	Mr.G Raja	guggillaraju.ce@gcet.edu.in	9492213263
		Mr. Srujan Kumar / Sowmya	msrujanakumar.ce@gcet.edu.in	8978784074 9849985603
2	Paper presentation	Dr.V.V.Praveen Kumar	vpraveenkumar.ce@gcet.edu.in	9642199575
		Ms.Reena rana	reenarana.ce@gcet.edu.in	7983536101
3	Poster presentation	Dr.K.Srilakshmi	ksrilakshmi.ce@gcet.edu.in	7702139555
		Mr.N.Kranthi Kumar	nkranthi.ce@gcet.edu.in	9390184465
4	Cad Champ	Mr.D.Varun Kumar	Varunkumardevulapalli.ce@gcet.edu.in	9603518307
		Ms.G.Vimala	gvimala.ce@gcet.edu.in	9573456554
5	Treasure Hunt	Mr. Srujan Kumar	msrujanakumar.ce@gcet.edu.in	8978784074
		Mr.G.Sampth Kumar	sampthkumar.ce@gcet.edu.in	9966107616
6	Project Exhibition	Mr.V.Gowtham	vanngoetha.ce@gcet.edu.in	998566510
		Ms.V.Navaneetha	navaneetha.ce@gcet.edu.in	9542671824
7	Technical Quiz	Mr.G Raja	guggillaraju.ce@gcet.edu.in	9492213263
		Ms.P.Supriya	supriya.ce@gcet.edu.in	8801211727
8	A minute to win it	Ms.V.Navaneetha	navaneetha.ce@gcet.edu.in	9542671824
		Ms.Reena rana	reenarana.ce@gcet.edu.in	7983536101

Academic Year 2022-2023

Bhaswara 2023

The Bhaswara fest was held on 3, 4 & 6th April, 2023. The department of CE has organized six events. The particulars of various events conducted and the winners are indicted below:

1) Event Name: Paper Presentation

Date of Event Organized: 03 April 2023

Organising Department: CE

Total no. of Registrations: 07

Names of the Event Coordinators and Volunteers:

V.Aruna , N.Swetha

Names of Faculty Coordinators :

Dr. V.V. Praveen Kumar & Reena Raana



2) Event Name : Poster Presentation

Date of Event Organized:03/04/2023

Organising Department : CE

Total no. of Registrations: 15

Names of the Event Coordinators and Volunteers: B.Harshitha & Goud, Roopa Chandrika

Name of the Faculty Coordinators:

Dr.K.Sreelaxmi & N.Kranthi Kumar



3) Event Name: CAD CHAMP

Date of Event Organized:03 April 2023

Name of event coordinators and volunteers:

Bhuvana Chandra , D.Sai ram

Names of Faculty Coordinators:

Mr. D.Varun kumar & Mrs. G.Vimala



4)Event Name: TECHNICAL QUIZ

Date of Event Organized:4-04-2023

Organising Department: CE

Total no. of Registrations: 08

Names of the Event Coordinators and
Volunteers:

P.Lahari , S.Sanjeev

Names of Faculty Coordinators:

G.Raju & P.Supriya



5)Event Name: A MINUTE TO WIN IT

Date of Event Organized:04-04-2023

Total no. of Registrations: 10

Names of the Event Coordinators and
Volunteers:

R.Sai Chetan , B. Devendar

Names of Faculty Coordinators:

V.Navaneetha & Reena Raana



6) Event Name: TREASURE HUNT

Date of Event Organized: 03/4/2023

Organising Department: CE Total no. of
Registrations:03

Name of the Event Coordinators and
Volunteers: A.Praveen , K.Pawan

Names of the Faculty Coordinators:

M.Srujan Kumar & G.Sampath kumar



The **AICTE Vishwakarma Awards 2020** is being organized by All India Council for Technical Education (AICTE) on India's Economic Recovery Post Covid; Reverse Migration and Rehabilitation Plan to support "**Atmanirbhar Bharat**". The process followed for the CVA nominations are as follows.

The students were motivated to come up with their ideas under the following themes.

- Reskilling or up skilling for ensuring livelihood.
- Promote micro, small and medium enterprises to achieve the mission of Atmanirbhar Bharat.
- Promote value added agricultural Processes, Products and Handicrafts.
- Mental Health and psychosocial support.
- Gender-Responsive mechanism to combat Domestic violence.
- Barriers in accessing adequate health care services.
- Working conditions; ensuring occupational health and safety issues.
- And any other necessary support.

Two students from Department of CE have been selected for participation of AICTE Chaatra Vishwakarma Awards on October 17th, 2020

S. No.	Name	Team Members
1	A Sri Charan	Team Lead
2	Ch Kalyani	Team Member

National Service Scheme (NSS):

The National Service Scheme (NSS) is an Indian government-sponsored public service program conducted by the Ministry of Youth Affairs and Sports of the Government of India. Popularly known as NSS, the scheme was launched in Gandhiji's Centenary year in 1969. Aimed at developing student's personality through community service, NSS is a voluntary association of young people in Colleges, Universities and at +2 level working for a campus-community (esp. Villages) linkage. NSS Unit has been established in Geethanjali College of Engineering and Technology for the Academic Year of 2018-2019.

NSS Activities List from January 2023-January 2024

S. No.	Date of Activity	Name of the Activity	Organized by/ Collaborating Agency	Number of Students Participated	Number of Faculty Participated
REGULAR ACTIVITIES					
1	19-Dec-2022 to 19-Jan-2023	One month Skill Development Program on “Computer Fundamentals and MS-OFFICE Applications” for Support Staff of GCET & unemployed people of Cheeryal village	Geethanjali College of Engineering and Technology	05 Students and (64 Participants)	05
2	28-Jan-2023, And 30-Jan-2023	“Eye Screening camp” in association with “WIN VISION Eye Hospital” A.S.Rao Nagar, Hyderabad	Geethanjali College of Engineering and Technology in association with “WIN VISION Eye Hospital” A. S. Rao Nagar, Hyderabad	252	130
SPECIAL CAMP ACTIVITIES					
3	25-March-23	Survey in Thimmaipalli Village Under Special camp Programme	Geethanjali College of Engineering and Technology	35	06
4	27-March-2023	Swatchhta Awareness Campaign at	Geethanjali College of Engineering and Technology	29	06
5	28-March-2023	Awareness on Influenza H3N2 Variant at Thimmaipalli village Under Special camp Programme	Geethanjali College of Engineering and Technology	25	04
6	01-April-2023	Donation of Computers to Government Primary School of Cheeryal village	Geethanjali College of Engineering and Technology	26	03
7	01-April-2023	Donation of Computer to Government Primary School of Thimmaipalli village	Geethanjali College of Engineering and Technology	25	06
8	01-April-2023	Donation of Computers to Sri Sai Vidya Dhamam School(SAI DHAMAM), Ramalingampally(V)	Geethanjali College of Engineering and Technology	25	06
9	10-April-2023	Computer education to Students of Government Primary School of Thimmaipalli village Under Special camp Programme	Geethanjali College of Engineering and Technology	25	06

10	11-April-2023	Psychological Counseling to Students of Government Primary School of Thimmaipalli village Under Special camp Programme	Geethanjali College of Engineering and Technology	25	08
11	12-April-2023	Elocution, Sports competition for Students of Government Primary School of Thimmaipalli village Under Special camp Programme	Geethanjali College of Engineering and Technology	25	08
12	13-April-2023	Yoga, Fitness and Prize distribution to Students of Government Primary School of Thimmaipalli village Under Special camp Programme	Geethanjali College of Engineering and Technology	25	08
REGULAR ACTIVITIES					
13	26-April-2023	Blood Donation camp in association with Lions Club & BBR Blood Bank, BalaNagar, Hyderabad.	Geethanjali College of Engineering and Technology	130	15
14	03-06-2023	Awareness Program on Narcotic Drugs and Adverse Effects	JNTU Hyderabad	15	14
15	12-06-2023	“TELANGANA RUN” Program	Telangana State Police Department in association with NSS unit of GCET on the occasion on Telangana Rashtra Avatarna Dashabdi Utsavalu.	16	01
16	21-06-2023	9 th International Day of Yoga (IDY-23)	NSS unit of GCET	64	08
17	21-23, June 2023	Road Safety Awareness – Mega Safety Riding Workshop	Honda Motorcycle & Scooter India Pvt. Ltd. In Association with NSS unit of GCET.	450	05
18	7 th , 11 th , 13 th July 2023	Survey program for unemployed youth in Adopted villages (Thimmaipally, Cheeryal)	NSS unit of GCET In Association with JNTUH	75	05
19	1/8/2023	Haritha Haram	Environment al Club in Association with NSS unit	30	05
20	5/8/2023	Health Camp	NSS Unit in Association with CARE Hospital, Musheerabad	200	05
21	11/8/2023	ONE STUDENT AND ONE TREE	NSS Unit in association with Environmental Club	150	07

22	4th,15th and 16thSeptember 2023	Swaraj Ustav	Participated in Events at Rastrapathi Bhavan– Bolaram	40	01
23	15/9/2023	Blood Donation Camp	NSS Unit in association with “NTR Memorial Trust Blood Center”	25	05
24	01/10/2023	Shramadaan For Swachhata	NSS UNIT in associationwith ECO Club	25	01
25	21/10/2023 to 31/10/2023	“Khadi Mahotsav”	NSS UNIT in association with on the memory of Sri MahatmaGandhi	183	05
26	20/11/2023 and 27/11/23	“Service at Keesaragutta” Temple	NSS UNIT in association with Management of Keesaragutta temple on occation of Karthikamaa sam	35	02
27	09/01/2024	Amrit kaal Vimarsh Vikasit Bharath@2047	NSS Unit	150	06

One month Skill Development Program on

“Computer Fundamentals and MS-OFFICE Applications”[AY: 2022-2023](#)

One month skill development programme held on "**Computer Fundamentals and MS-OFFICE Applications**" is conducted by the Department of Computer Science and Engineering in collaboration with the NSS Unit, for support staff of GCET and unemployed residents of Cheeryal village from **19th Nov 2022 to 19th Jan 2023**. The timing of the training program is 9:30am to 12:30 pm. A Total of **43 participants** attended the training program. The Trainers for the one month skill development programme on "**Computer Fundamentals and MS-OFFICE Applications**" were **Mrs. T. Neelima**, Assistant Professor, CSE Department, **Ms. J. Meena Sravanthi**, Assistant Professor, CSE Department. The **Coordinators** for the SDP were **Mrs. S.Radha**, Assistant Professor, CSE Department, **Mr. Y. Siva**, Assistant Professor, CSE Department. This training was especially organized for the support staff of GCET and unemployed residents of nearby villages - people who were unemployed and people who are looking to enhance their skills to get employment. This programme was aimed to impart computer skills and MS OFFICE applications knowledge to the unemployed villagers and support staff of GCET to encourage them to get a job opportunity. The participants were from villages like Cheeryal, Yadgarpally, Godumakunta, Bogaram. They showed a keen interest in learning the subject through hands-on session on it. All the participants were actively participated in the training programme and gain the knowledge of MS-Office Applications.

The following contents were taught in the training program.

1. Basics of computers
2. MS –Office Applications
3. Microsoft Word and Lab Practice
4. Microsoft Excel and Lab Practice
5. Microsoft Power Point and Lab Practice
6. Internet Concepts and Lab Practice
7. Downloading software and installation of software
8. Assembling & Disassembling the components of PC

At the end of every module, an Assessment Test is conducted for the students and marks are allocated. Finally, we have conducted Final Assessment Test to identify the knowledge level of each and every student that has gained through the training program.

In this regard, **a Few SDP participants excelled in the training programme.** They cannot afford to buy new computers on their own. In order to help the participants of the SDP, we have donated working old computers to the **TOP FIVE participants** who performed exceptionally well in the skill development program, so that they can extend their computer knowledge in various other application areas and gain employment as a result of this support.

At the end of the training program, participation certificates are distributed to all the participants by the Mr. G. Ravinder Reddy, Chairman, Dr. S. Udaya Kumar, principal, Prof. K. Somasekhar Rao, Dean-SA, Prof. V.Madhusudan, Dean CSI, Dr. A SreeLakshmi, HoD-CSE, Dr. K. Neeraja, HoD-EA.

All the participants have gave their valuable feedback and also requested for further more training like tailoring, paper plates making, etc.. The Secretary also accepted for the same and the plan of it is already in progress.

TOP FIVE PARTICIPANTS			
S. No.	Participant Name	Village Name	Mobile Number
1	R.Rajitha	Cheeryal	8978747802
2	E.Akhila	Cheeryal	7032385610
3	G.Kavitha	Cheeryal	9346311493
4	P.Maheshwari	Godumakunta	9989064285
5	Kadem Shailaja	Cheeryal	7989319099

List of participants received "Certificate of Excellence"			
S. No.	Participant Name	Village Name	Mobile Number
1	A. Jansi Rani	Cheeryal	9705355815
2	CH. Ramya	Cheeryal	9542839605
3	G. Lavanya	Cheeryal	9849127942
4	A. Radhika	Cheeryal	9550808524
5	K. Swathi	Cheeryal	8143172410
6	R. Anitha	Cheeryal	8520996909
7	R. Mounika	Cheeryal	7286953266
8	R. Jyothi	Cheeryal	9963856649
9	G. Shruthi	Cheeryal	7207641556
10	G. Rajitha	Cheeryal	9505095733
11	K. Suvarna	Cheeryal	7801098574
12	P. Harika	Godumakunta	9989715611

List of participants received "Certificate of Participation"			
S. No.	Participant Name	Village Name	Mobile Number
1	A.pushpalatha	Cheeryal	9032350013
2	K.kavya	Cheeryal	9398986421
3	K.sunitha	Cheeryal	9032550116
4	K.shanthi	Cheeryal	9908816971
5	P.jaya sri	Cheeryal	8328359650
6	K.shailaja	Cheeryal	7989319099
7	R.jyothi	Cheeryal	9963856649
8	N.sravani	Yadgarpally	9390060610
9	A.swathi	Cheeryal	9701874721
10	G.renuka	Cheeryal	8179884435
11	S.keerthi	bogaram	9346382565
12	R.navaneetha	Cheeryal	9951755671
13	G Raju	Cheeryal	9951755671
14	M.vara laxmi	Cheeryal	7731905514
15	D.sarala	Cheeryal	9908983107
16	T.mahesh	Cheeryal	9010309630
17	M. ramu	Cheeryal	6301003990
18	P.premalatha	Cheeryal	8008953637
19	A.R.naga mani	Cheeryal	9390345266
20	Y.mahendhar	Cheeryal	8978097531
21	M.D.shainaz begam	Cheeryal	9346534016
22	farheen begam	Cheeryal	7013258323
23	Ch Karunakar	Cheeryal	7013258323
24	M Suhasini	Cheeryal	7013258323
25	T Anitha	Cheeryal	9100401836
26	Sai Keerthi	Cheeryal	8247375070

Name of the Activity: One month Skill Development Program on

“Computer Fundamentals and MS-OFFICE Applications”

Date of Activity: 19-Dec-2022 to 19-Jan-2023

Schedule

S. No.	DATE	Time	
		09:30 AM to 11:00 AM	11:05 AM to 12:30 PM
1	19-12-2022	Basics of computer, Hardware, Software, Operating system, Creating Folders & Files, Different File Formats, Calculator.	Paint, Notepad, Word pad, Recycle bin.
2	20-12-2022	Microsoft Word (MS Word): MS Word Introduction, File Opening, Saving, Closing, Fonts & Paragraphs, Cut, Copy, Paste, undo, redo, Format painter, Text Formatting, Word Art.	Microsoft Word (MS Word): Print, page setup, page layouts, Page Numbers, Date & Time, Drawing the Pictures & Shapes, Clipart, Bullets & Numbering.
3	21-12-2022	Microsoft Word (MS Word): Borders & Shading, themes, header and footer, BG colors, page break, overview of toolbars, Hyperlinks.	Microsoft Word (MS Word): Creating Tables, Cell alignment, Microsoft Word (MS Word): Creating Tables, Cell alignment
4	22-12-2022	Microsoft Word (MS Word): Equation and symbols, Find, Goto, Replace options, overview of tabs (insert, view, review, design), watermark.	Microsoft Word (MS Word): Envelops & Labels, Encrypt Document, layout tab.
5	23-12-2022	Microsoft Word (MS Word): Mail Merge	Microsoft Word (MS Word): Mail Merge
6	24-12-2022	Microsoft Word (MS Word): Creation of Resume	Microsoft Word (MS Word): Creation of Resume
7	27-12-2022	Microsoft Word: Shortcut keys, Revision of MS Word.	Assessment Test on MS Word
8	28-12-2022	Microsoft Excel: Introduction to spreadsheet, Entering Work Sheet Data, wrap text, Auto fill, formatting Cells, Gridlines.	Microsoft Excel: Formatting Text, Merge cells, Merge across, merge and center, overview of toolbars, Renaming worksheet and Inserting worksheets.
9	29-12-2022	Microsoft Excel: creation of basic mathematical formulas.	Microsoft Excel: Sorting, Filter, ascending, descending, Paste Links, Paste options, Conditional Formatting.
10	30-12-2022	Microsoft Excel: Logical functions, auto sum, Hyperlink.	Microsoft Excel: date & time functions, Text functions
11	31-12-2022	Microsoft Excel: Tables, formatting tables, Calculation of GPA.	Microsoft Excel: Calculation of gross salary & other functions

12	02-01-2023	Microsoft Excel: Insert functions, Lookup & Reference, calculating simple interest and other examples.	Microsoft Excel: Group & Ungroup, Header & Footer, Page layout, Page break preview.
13	03-01-2023	Microsoft Excel: Pivot tables, Graphs, Charts	Microsoft Excel: Graphs, Charts
14	04-01-2023	Microsoft Excel: Shortcut keys, print settings, protect worksheet, Revision of MS Excel.	Assessment Test on MS Excel
15	05-01-2023	Microsoft Power Point: Introduction, Slides & Layouts, Designing Slides, BGDesign, Auto shapes.	Microsoft Power Point: Inserting – Text, Images, Audio, Video, Clip Art.
16	06-01-2023	Microsoft Power Point: Text box,Hyperlink, word art	Microsoft Power Point: Working with Themes and Styles, Design tab.
17	07-01-2023	Microsoft Power Point: Working withCharts, Graphs	Microsoft Power Point: Workingwith Charts, Graphs
18	09-01-2023	Microsoft Power Point: Working withMedia Clips and Animation, Protect Presentation	Microsoft Power Point: Usage ofdesign Templates
19	10-01-2023	Microsoft Power Point: creation ofpower point presentation with examples.	Microsoft Power Point: creation ofpower point presentation with examples.
20	11-01-2023	Microsoft Power Point: Creation of business power point presentation withexample. Revision of MS PPT,	Assessment Test on MS PPT
21	12-01-2023	Internet Concepts: Creation of e-mail, sendinge-mail, downloading files.	email settings & privacy,Google maps.
22	17-01-2023	Web browsers, wikipedia, Search engines: Google, Yahoo, Microsoft bing, awareness on antivirussoftware.	Typing master
23	18-01-2023	Downloading software and installationof software.	Assembling & Disassembling thecomponents of PC.
24	19-01-2023	Feedback, Final Assessment Test	Final Assessment Test
25	21-01-2023	Certificate Distribution	Certificate Distribution

Traditional Day

Traditional day is conducted in Geethanjali College of Engineering and Technology for every academic year, it was held on 13th January for the Academic Year of 2022-2023.



Vibes and VIBGYOR

The annual day and the cultural fest organized by the institute on 23rd and 25th March 2023. Academic toppers were rewarded on this occasion.



Co-Curricular and Extra-Curricular Activities

S. No.	Student Name	Event Name with Date	Place/College	Remark
1	Bhagvan Feroz, 19R15A0112	Strength of Material Online Quiz, 28.07.2020	Visvesvaraya College of Engineering & Technology	-
2	Y. Mahender, 18R11A01B7	Model Exhibition, 12.03.2020	GCET	II-Prize
3	Y. Mahender, 18R11A01B7	Maintenance of Online Classes for GCET, (6 Months)	GCET	-
4	VJ Elizabeth Rani, 18R11A01B5	Importance of Vishwa International Internship Program 2021, 26.01.2021	Vishwaniketan, Mumbai, Maharashtra	-
5	V J Elizabeth Rani, 18R11A01B5	Image Processing 10.01.2021	IEEE Computer Society, GCET	-
6	Mekala Varsha, 18R11A0197	Water-Conserve to serve, 22.03.2021	Precedency University, Karnataka	-
7	K. Kruthika, 18R11A0130	Poster & Video making competition, 17.06.2021	Unnath Bharat Abhiyan	-
8	K. Sai Rohith, 19R11A0181	Poster & Video making competition, 17.06.2021	Unnath Bharat Abhiyan	-
9	A.Sandeep, 19R11A0101	Poster & Video making competition, 17.06.2022	Unnath Bharat Abhiyan	-
10	J. Arun Reddy, 19R11A0126	Poster & Video making competition, 17.06.2023	Unnath Bharat Abhiyan	-

CRITERION10: Governance, Institutional Support and Financial Resources - 120

10.1. Organization, Governance and Transparency (55)

10.1.1. State the Vision and Mission of the Institute (5)

(Vision statement typically indicates aspirations and Mission statements take the broad approach to achieve aspirations)

Vision:

Geethanjali visualizes dissemination of knowledge and skills to students, who would eventually contribute to the well-being of the people of the nation and global community.

Mission:

- To impart adequate fundamental knowledge in all basic sciences and engineering, technical and inter-personal skills to students.
- To bring out creativity in students that would promote innovation, research and entrepreneurship.
- To preserve and promote cultural heritage, humanistic and spiritual value promoting peace and harmony in society.

10.1.2. Availability of the Institutional Strategic Plan and its Effective Implementation and Monitoring (25)

Institution has developed and articulated a strategic plan for the period 2021 to 2026 involving faculty, staff, and other stakeholders and subsequently approval was taken from the Governing Body. The same is disseminated to all stakeholders and also placed on institutional website. Further, it has constituted a committee to monitor the implementation and progress of the strategic plan. The committee has been reviewing the implementation of strategic plan on a quarterly basis and necessitating corrective actions as and when required. This strategic plan and its implementation has been well appreciated by the external academic audit committee. Institutional Perspective Strategic plan is given below.

STRATEGIC PLAN FOR 2021-2026

Expectations of Our Stakeholders

Management

- Branding
- Leadership Development and Sustainability
- Good Governance
- Financial Resources Management
- Deemed University Status (10 years timeline)
- Social Responsibility

Academic Council/Committee

- GCET ranking among top 10 in Telangana
- Competent and Passionate Faculty
- Internal Revenue Growth for Sustainability
- Industry Oriented, Quality Education Programs
- Bench marking through International Accreditation of Programs and Institution
- Creation of Centers of excellence

Faculty and Staff

- Good academic and working ambience
- Opportunities for Career growth, Research facilities and incentives
- Academic freedom with accountability
- Transparency in administration, uniform rules and procedures

Students

- Good academic and research ambience
- Support for co-curricular and Extracurricular activities
- State of the art infrastructure
- Experiential Learning and Opportunities for Showcasing Talent
- International Quality Learning Experience at affordable cost
- Quality Placements, Career Guidance and Entrepreneurial Opportunities

Parents

- Branding
- Quality Teaching- Learning
- Motivated and Disciplined Students
- Good Placements with Higher Pay Packages

Industry

- Industry ready professionals with positive attitude
- Graduates with strong fundamentals who are self-learners
- Strong Industry-Institution Interaction

- Collaborative Research and Consultancy
- Brand Name and Accreditations

Community and Others

- Graduates with Moral, Ethical and Responsible Citizenship
- Social Service Activities by the Institution
- Skill Development for Needy
- Resource Center for Other Institutions
- Consultancy and Continuing Education Programs

Based on the stakeholders' expectations, after carrying out SWOC analysis of the departments and the college, we have arrived at the following Strategic Planning, Implementation and Monitoring Process document. Our focused goals are:

Short-term Goals (02) years

- Achieve NIRF rank in 150-200 band
- $\geq 85\%$ campus placements with a median salary of Rs 5 lakhs
- NAAC A⁺⁺ grade
- Adoption of NEP 2020 from 2022-23 academic year
- To start new UG programs in emerging areas
- Offer at least three vocational courses/certification courses per year each 30 hours duration

Medium-term Goals (03-05) years

- 100% placements for students.
- Initiating PG programs, one in each Engineering department
- Collaboration with more Foreign Universities for twinning and dual degree programs.
- Secure more projects from DST, DRDO, UGC, etc. in collaboration with reputed institutes.
- Establishment of Multidisciplinary Engineering Research and Design Centre.
- Improve R & D, Consultancy, and Corporate Training.
- To have at least 50% of faculty with Ph.D qualification.
- To have NBA Accreditation for all eligible UG programs for six years
- At least five startups to be floated for technology transfer from the prototypes developed.

Long-term Goals (06-08) years

- Establishment of Centres of Excellence in each department, with Industry Participation
- Establishment of a Faculty Development Center
- Secure ABET Accreditation for all Undergraduate Programs

Planning, Implementation, Monitoring for Continual improvement

Governing Body (GB) - Invite three more highly respected leaders from academics, industry and society into the GB so that GB members will be beacons for guiding the institution to achieve higher accolades, in particular, help in facilitating the college to establish a network of support for improving faculty and student capabilities, and internships for students.

1.

a. Implementation of Quality TLP adopting Problem/Project Based Learning (PBL)

OVERVIEW	
Duration	5 years
Cost/year	50 Lakh rupees
Starting Date	July, 2021
Responsibility for Implementation	Dean, Academics, HoDs

METRICS/KPIs
1. At least one vocational course/certification course per department; provide employment for certified skilled professionals
2. Number of courses PBL is adopted
3. Number of faculty trained on adoption of PBL and programming
4. Number of prototypes developed
5. Number of FDPs conducted/sponsored for adopting PBL, case study based TLP, development of prototypes and other pedagogical practices
6. Number of students participated in Hackathons/Project Exhibitions in institutes of repute, namely, IITs, IIITs, BITS, NITs etc.
7. Number of seminars delivered in various departments on advanced technologies
8. Number of Engineering courses other than CSE augmented with programming exercises

Targets

Metric No.	2021-22	2022-23	2023-24	2024-25	2025-26
1	--	05	05	05	05
2	17	25	33	40	45
3	58	70	85	100	120
4	25	40	60	85	100
5	15	25	40	50	50
6	150	268	330	400	450
7	20	25	30	35	40
8	06	10	15	20	22

i. One vocational course/certification courses per department

- The college in association with NSDC will make a survey on the vocational skills that are in demand and offers the same as a course. Accordingly, a brochure will be prepared and shall be uploaded on to the college website as well as publicized widely. Enrolment campaign will be conducted.

- Identifies resource persons within the institute as well as outside the institute. Course will be offered.
 - College being located close to Cherlapally industrial development area, would also facilitate certified skilled professionals with employment opportunities by reaching out to industries.
- ii. Adopt Problem / project based (PB) / Technology Enabled (TE) learning
- Involving faculty members in Problem Based Learning/ Project Based Learning/Technology Enabled Learning (At least one course in each semester per class for first one year, two in next year, three in subsequent year and in all courses by the end of five years).
 - All faculty must associate with the development of prototype or working models (At least one prototype working model per semester)
 - Encourage students to participate in Hackathons, wherein faculty facilitate students in the identification of innovative projects.
- iii. Empower faculty through faculty/staff development programs enhancing faculty and staff competence in PBL, TEL and Research
- ✓ Conduct training need analysis every year / two years
 - ✓ Conduct programs and / or depute faculty and staff for competence development
 - ✓ Support paper publications and presentations
 - ✓ Provide opportunities for networking
 - ✓ Facilitate faculty towards TEL
 - ✓ Establish Research Culture by encouraging faculty to deliver seminars on their research as well as on emerging trends
- Improve teaching and learning through continuous assessment and providing feedback through faculty mentoring and student mentoring
- Faculty mentoring
 - All faculty with less than 10 years of experience must attend some exceptionally bright teachers' classes.
 - In particular, facilitate Assistant Professors to attend senior faculty members' classes and submit a report on the same every month on what has been learnt.
 - Senior faculty will help the mentee faculty in developing various working models (at least four working models in a semester).
 - Provide training to faculty on "Art of conducting student mentoring" at least once every semester.
 - Student Mentoring
 - ✓ Mentor the students on the critical aspects of analytical thinking, logical reasoning, problem solving etc.
 - ✓ Encourage students to look at any problem with a solution from the point of view of automating it (Student to be mentored that solution to any problem through Automation is the order of the day, which has the highest value), which

requires exceptionally good programming skills. From home automation to space applications, everything requires programming

b. Incubation Centre /Product Development/Entrepreneurship

OVERVIEW		METRICS/KPIs	
Duration	5 years	1. Number of student projects for which financial assistance is provided to build prototypes	
Cost/year	17 Lakhs	2. Number of startups from prototypes developed	
Starting Date	July, 2021	3. Number of entrepreneurial awareness activities conducted	
Responsibility for Implementation	Coordinator, IC & HoDs	4. Number of students attended EDP	
		5. Number of Innovation workshops conducted	
		6. Number of students participated in innovation workshops	
		7. Additional Space provided for Incubation	
		8. MHRD’s IIC 5-star rating	

Targets

Metric No.	2021-22	2022-23	2023-24	2024-25	2025-26
1	05	10	14	16	20
2	02	02	03	04	05
3	25	35	40	45	50
4	400	450	500	550	600
5	11	13	15	17	20
6	700	720	730	740	750
7	1500 Sq. ft	5000 Sq. ft	--	3000 Sq. ft	--
8	MHRD’s IIC 5-star rating				

- Budget / seed money for funding initial projects
- Identify emerging areas of entrepreneurship
- Identify interested students for entrepreneurship
- Identify mentors from successful entrepreneurs, mostly from Alumni/others
- Provide formal training on entrepreneurship
- Provide incubation support for students through MSMEs
- Identify at least Ten students from each section to develop "Innovative Projects" with a potential to become successful industrial products

- Encourage “idea to product” pre-incubation activities by providing necessary technical and financial support
- Expand the already established incubation center
- Focus on Product development
- Facilitate Start-up of maker Space (Fabrication Lab) - Product and development
- Patent filing, Scaling up and commercialization
- Establishment of dedicated Entrepreneurship Development Cell

c. Academic and Research infrastructure (Teaching-Learning, R & D, and Consultancy)

OVERVIEW		METRICS/KPIs	
Duration	5 years	1. Number of classrooms enabled with ICT facilities	
Cost/year	1.2 Crore rupees	2. Number of laboratories enabled with ICT facilities	
Starting Date	July, 2021	3. Number of Smart/e-class rooms	
Responsibility for Implementation	Dean, Academics, HoDs	4. Number of departments to be enabled with Research and Development lab	
		5. Number of departments to be enabled with a seminar hall	
		6. Number of departments to be enabled with discussion rooms	

Targets

Metric No.	2021-22	2022-23	2023-24	2024-25	2025-26
1	08	08	04	--	---
2	30	15	15	10	---
3	07	08	10	12	15
4	--	03	02	02	--
5	--	02	02	01	01
6	01	02	02	01	01

- Increase number of classrooms and laboratories with ICT facilities gradually year over year such that all class rooms and labs are provided with ICT facilities in five years by providing

- Smart Class rooms
- E-Learning facilities
- Internet connectivity to classrooms and the labs (to be completed in one year).
- State of the art Laboratories equipment and maintenance
 - ✓ H/W, Simulators and Software
 - ✓ Industry oriented equipment through Centers of Excellence for quality TLP and consultancy as well
 - ✓ At least one project lab for each department and wherever number of sections are more, two project labs per department (2-3 years)
 - ✓ One R & D lab for each department (3-4 years)
 - ✓ At least one seminar hall should be provided for each department (2-3 years).
 - ✓ One discussion room with round tables in every department (2-3 years).
- ii. Smart boards
- iii. One multi-room instructional facility
- iv. Media center for the college

d. Library and information centre

OVERVIEW		METRICS/KPIs	
Duration	5 years	Number of e-books available	
Cost/year	30 Lakh rupees	Establishment of cloud based e-library and online access	
Starting Date	July, 2021	Number of Journals subscribed	
Responsibility for Implementation	Librarian and Dean, Academics	Number of systems with digital library access	

Targets

Metric No.	2021-22	2022-23	2023-24	2024-25	2025-26
1	10500	11500	12500	13500	14000
2	IEEE-228 DELNET-1050 K-HUB- e-journals-4352 e-books-4134 NLIST(Scholarly content) Cost:Rs.6.32680.00	IEEE-240 DELNET-1100 K-HUB-e-journals-4500 e-books-4200 NLIST(Scholarly content) Remote Access-Knimbus Cost:Rs.8,90,000.00	IEEE-250 DELNET-1150 K-HUB- e-journals-4600 e-books-4400 NLIST(Scholarly content) Remote Access-Knimbus Cost:Rs.9,10,000.00	IEEE-260 DELNET-1200 K-HUB- e-journals-4700 e-books-4500 NLIST(Scholarly content) Remote Access-Knimbus Cost:Rs.9,30,000.00	IEEE-260 DELNET-1200 K-HUB- e-journals-4700 e-books-4500 NLIST(Scholarly content) Remote Access-Knimbus Cost:Rs.9,30,000.00
3	196 Cost:Rs.5,57,098.00	208 Cost:Rs.600000.00	220 Cost:Rs.6,50,000.00	230 Cost:Rs.7,00000.00	240 Cost:Rs.8,00000.00
4	Systems-100 Digital Access: 192.168.0.10	Systems-100 Digital Access: 192.168.0.10	Systems-100 Digital Access: 192.168.0.10	Systems-100 Digital Access: 192.168.0.10	Systems-100 Digital Access: 192.168.0.10

- Functional furniture and fittings for e-learning
- **Digital and E-Library**
 - Digitization of Library resources
 - Establishment of cloud-based e-library and online access

2. Quality student placements both in terms of numbers and companies with a median salary of 6 to 8 lakhs PA.

a. Establishment of Center for Training for Placement, Internships and Career Development

OVERVIEW		METRICS/KPIs	
Duration	5 years	1. Establishment of a Dedicated Team, Chaired by a Senior Professor, preferably from CSE department as most of the recruitment is in IT industry	
Cost/year	75 Lakh rupees	2. Enhancement of facilities for Placements with Video conferencing, interview and conference rooms	
Starting Date	July, 2021	3. Number of Value-Added Programs with number of students attended	
Responsibility for Implementation	Dean, Training, Placements for career Development	4. Number of companies visited for placements and number of individual students placed	
		5. Median salary of 6-8 LPA, highest pay package of 20 LPA	
		6. Number of placements and career awareness programs, internships facilitated etc.	

Targets

Metric No.	2021-22	2022-23	2023-24	2024-25	2025-26
1	Established in 2020				
2	Increase in space to 5000 sq ft.	Video conferencing, and conference rooms	Interview rooms	----	----
3	16 (1500)	18 (1600)	18 (1700)	18 (1800)	20(2000)
4	60 (600) (650 till now)	65 (620)	70 (720)	75 (750)	80 (800)
5	-----	-----	-----	✓	✓
6	900	1000	1100	1150	1200

- Establishment of a Dedicated Team, Chaired by a Senior Professor
- Modernization of infrastructure (Video conferencing, interview and conference rooms)
- Video recording of mock interviews of students and feedback with Industry experts as resource persons
- Data base of various potential industries/companies
- Conduct of
 - Extensive Training for Competency enhancement
 - Value added programs (domain expertise and soft skills)
 - Awareness programs for students from First year onwards
 - ✓ Internships, Placement process and Success stories
 - ✓ Internships planning and execution
 - ✓ Placement process coordination
 - ✓ Success stories celebration for Brand building

b. Develop Industry- Institute - Interaction using contacts of GB members, Resource persons, faculty and alumni

OVERVIEW		METRICS/KPIs
Duration	5 years	1. Establishment of Dedicated Team for III, Chaired by a Senior Professor, preferably from CSE department as most of the recruitment is in IT industry
Cost/year	15 Lakh rupees	2. Number of MoUs
Starting Date	July, 2021	3. Number of industry personnel in Governing Body, Academic Council, BoS of each department and IQAC
Responsibility for Implementation	Coordinator, III and Dean, Training and Placements	4. Number of industry experts delivered Guest lectures, acted as resource persons for FDPs, SDPs and VACs
		5. Number of internships, industry visits, consultancy projects etc.
		6. Number of CoEs, labs established with industry collaboration
		7. Number of activities conducted under CoE and industry collaboration labs

Targets

Metric No.	List	2021-22	2022-23	2023-24	2024-25	2025-26
1 Prof. O.V.P.R. Siva Kumar from Dept. of ECE was designated as Coordinator, Industry Institution Interaction.						
2	MoUs	17	20	24	28	32
3	1. Number of industry personnel in Governing Body	2	2	2	2	2
	2. Number of industry personnel in Academic Council	4	1	-	-	-
	3. Number of industry/R&D personnel in BoS	7	02	02	01	-
	4. Number of industry personnel in IQAC	1	2	2	2	2
4	Number of industry experts as resource persons for Guest lectures, FDPs, SDPs and VACs	20	20	20	24	24
5	1.Internships	840	950	1000	1100	1200
	2.Industrial Visits	12	20	25	30	40
	3.Consultancy Projects	1	5	6	7	8
6	CoEs	4 (Smart Bridge, DSCI, VLSI, IoT)	4	6	8	10
7	Activities under CoE	16	20	30	40	50

- Strengthen placement, training and industry institute interaction cell
- Identify branch wise preferred industries and companies
- Identification of potential areas of research
- MoUs with potential industries/companies
- Increase/Establish Student Chapters of Professional bodies through membership drive
- Invite industry experts for guest lectures / seminars / partial or full delivery of course(s)
- Partner with industry for curriculum reviews

- Deputation of faculty to Industry on sabbatical at least for a couple of months
- Leverage for student internships, research projects, consultancy and placements
- Identify potential industries which can establish centers of excellence (department wise)

c. Promoting co-curricular and extra-curricular activities through Student Clubs, Professional Bodies and Technical Associations

OVERVIEW		METRICS/KPIs
Duration	5 years	1. Providing a separate floor earmarking for Student Activities Center (SAC)
Cost/year	25 Lakh rupees	2. Arranging separate transport for students, faculty and staff after college hours at staggered timings
Starting Date	July, 2021	3. Number of student participation in student clubs/professional body activities
Responsibility for Implementation	Dean, Student Affairs, coordinators of student clubs, professional bodies, and Technical associations of departments	4. Number of activities conducted in each semester

Targets

Metric No.	2021-22	2022-23	2023-24	2024-25	2025-26
1	--	--	--	Providing about 5000 Sq. ft	--
2	Yes				
3	3500	4500	5000	5500	5500
4	80	125	145	151	157

- Provide adequate space for conducting events on a regular basis to develop various skills in students through
 - Student clubs
 - ✓ Literary club
 - ✓ Coding club
 - ✓ Mathematical club
 - ✓ Fine arts club

- ✓ Photography club
- ✓ Solar Club,
- ✓ Robotics club
- ✓ Environment club etc
- Technical Associations and Professional Societies
 - ✓ CSI,
 - ✓ IEEE,
 - ✓ IETE,
 - ✓ ISTE,
 - ✓ SAE etc

d. Encourage Alumni Engagement and Interaction

OVERVIEW		METRICS/KPIs
Duration	5 years	1. Providing a separate space earmarking for Alumni Association
Cost/year	12 Lakh rupees	2. Providing link on college website for alumni to register, giving information about various college activities
Starting Date	July, 2021	3. Number of Alumni as resource persons for FDPs, SDPs, VACs etc
Responsibility for Implementation	Dean, Student Affairs, Coordinator, Alumni	4. Number of alumni recognized as successful alumni
		5. Number of Alumni chapters being established at various major cities in India and abroad

Targets

Metric No.	2021-22	2022-23	2023-24	2024-25	2025-26
1	-	-	-	-	2000 Sq. ft
2	Yes	Yes	Yes	Yes	Yes
3	5	6	8	10	10
4	2	3	5	7	9
5	-	-	1	1	1

- Strengthen Alumni association and engagement
- Identify well placed alumni, arrange interaction with students on a regular basis
- Database up-dation and interactive alumni website
- Recognize successful alumni and reward accordingly

- Leverage for guest lectures/internships/placements
- Invite very well-placed alumni as BoS/Academic Council members

Promoting Community Service and Extension

OVERVIEW		METRICS/KPIs
Duration	5 years	1. Number of villages visited to conduct various activities for rural folk
Cost/year	5 Lakh rupees	2. Number of vocational training programs conducted for rural youth
Starting Date	July, 2021	3. Number of Activities
Responsibility for Implementation	Dean, Student Affairs	4. Number of students participated in community service
		5. Number of rural folk benefited from community service

Targets

Metric No.	2021-22	2022-23	2023-24	2024-25	2025-26
1	5	6	8	10	10
2	-	2	3	4	4
3	25	50	75	100	125
4	200	250	300	350	400
5	-	130	150	180	200

- **Budget and Resources**
 - ✓ Generate revenue from institution resources/Faculty/students/other donors
- **Village Adoption and Rural Projects**
 - ✓ Identify nearby villages for adoption
 - ✓ Study rural projects and challenges
 - ✓ Explore and provide support to the execution of projects
- **Vocational training**
 - ✓ Identify the job-oriented courses as per local needs
 - ✓ Provide vocational training at the institute
 - ✓ Educational tuitions/ support to village students
- **Health and hygiene support**
 - ✓ Conducting health awareness camps
 - ✓ Providing free medicines to the needy
 - ✓ Psychological and psychiatric support

- **Global Initiatives**

- ✓ Identify at least **ten** foreign higher level learning institutions
 - Reach MoUs with Foreign Institutions for education and projects

3. PG Programs and Twinning Programs

OVERVIEW		METRICS/KPIs	
Duration	4-5 years	1. Identification of areas in which faculty are strong vis-a-vis in which PG programs, Twinning programs, and Dual degree programs be initiated	
1st/year	150 Lakh rupees	2. Establishing research labs, which add value to students and faculty	
Starting Date	July, 2021	3. Number of PG programs started facilitating research	
Responsibility for Implementation	Dean, Academics, HoDs, Dean, RD&C	4. Twinning Programs as well as Dual Degree Programs in collaboration with Foreign Universities	

Targets

Metric No.	21-22	22-23	23-24	24-25	25-26
1	Identification of areas	Recruitment of faculty and training	Initiating the program	Initiating the program	Initiating the program
2	-	1	2	2	1
3	-	-	1	2	2
4	-	Initiating collaboration with foreign universities	Reach collaboration with foreign universities	1 (Twinning program) 1 (Dual Degree program)	1 (Twinning program) 2 (Dual Degree program)

- To conduct quality research, college must have more PG programs.
 - ✓ At least one PG program in each engineering department (5-year goal)
 - ✓ Attract students through good scholarships of about 15, 000 rupees per person per month

4. Research, Development and Consultancy

OVERVIEW		METRICS/KPIs	
Duration	5 years	1. Establishing Research and Development Lab in various departments	
Cost/year	50 Lakh rupees	2. Arranging separate transport for students, faculty and staff after college hours at staggered timings using research labs	
Starting Date	July, 2021	3. Number of faculty and students working in research labs	
Responsibility for Implementation	Dean, RD& C	4. Number of publications in Scopus index and higher	
		5. Number of research projects applied (and secured)	
		6. Number of inter-departmental research projects executed	
		7. Number of UG and PG students involved in research projects and research papers published	
		8. Number of collaborative projects with other organizations	
		9. Number of faculty pursuing PhD actively, also number of faculty awarded PhD	

Targets

Metric No.	2021-22	2022-23	2023-24	2024-25	2025-26
1	01	02	03	02	02
2	Yes				
3	25+40	40+60	60+100	80+150	110+200
4	100	120	150	175	200
5	06 (1)	10 (1)	12 (1)	14 (1)	16 (2)
6	-	2	3	4	4
7	40	50	60	70	80
8	--	3	5	7	10
9	55	60	65	70	75

- Establish/Enhance R & D laboratories in all departments
- Dedicated R & D facilitation and documentation centre
- Fund raising through Project proposals
- Collaborations and MoUs with higher learning institutions IISc, IITs, and R & D Labs

- Multi-disciplinary research and product development
- Recruiting faculty who have contributed significantly towards research
- Nurture existing faculty by associating them with new faculty being recruited towards meaningful research
- Associate PG students in the research being carried out.
- Recruiting competent technical staff for R & D labs
- Target and ensure at least 2 research projects continuously get executed in each department (in the next 3 - 4 years)
- Target and ensure at least 10 lakh rupees per year consultancy services in each department (in the next 4-5 years)

5. Establishment of Faculty Development Center (06-08 years)

OVERVIEW		METRICS/KPIs
Duration	5 years	1. Foreseeing / identifying emerging areas in which faculty are not available; identifying resource persons within/outside the college (Reputed institutes) for training faculty in these areas
Cost/year	20 Lakh rupees	2. Establishing a FDP center by earmarking space for the same.
Starting Date	July, 2021	3. Number of resource persons invited for delivery of FDPs/Guest Lectures/SDPs in emerging areas
Responsibility for Implementation	Dean, Academics, HoDs	

Targets

Metric No.	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
1.	10	12	14	16	16	--	--	--
2.	--	--	--	01 (2500 Sq. ft)	--	--	--	--
3.	15	25	40	50	50	50	50	50

6. Feedback and corrective measures through Quality Assurance Systems

OVERVIEW		METRICS/KPIs	
Duration	5 years	1. Earmarking space for Quality Assurance Cell	
Cost/year	1 Lakh rupees	2. Reviewing and determining benchmarks for further improving quality of various activities	
Starting Date	July, 2021	3. Audit of various meetings and activities	
Responsibility for Implementation	Coordinator, Internal Quality Assurance Cell (IQAC)	4. Conduct of external academic and administrative audit and action taken there off.	

Targets

Metric No.	2021-22	2022-23	2023-24	2024-25	2025-26
1	200 Sq. ft	--	--	--	--
2	--	--	Reviewing and determining benchmarks	--	--
3	--		Once in a year (Internal audit at the end of odd semester)		
4	Once in academic year by an external peer team after even semester				

- Establish Quality Assurance Systems, Enhance Internal Quality Assurance Cell (IQAC) and its team by inviting experts from other organizations as members
- Conduct Periodic checks and provide guidance
- Internalize all processes based on Accreditation Standards
- Sustain the already established external audit process for continual improvement

7. ABET Accreditation status

OVERVIEW		METRICS/KPIs
Duration	08 years	1. Apprising and training faculty on the importance of ABET accreditation through workshops
		2. Facilitating liberal education through multi-disciplinary courses with flexible curriculum
		3. Course based projects in all laboratory courses
Cost/year	2 crores	4. Improving quality of publications of faculty with an average impact factor of 3, H index of the institute to 2
		5. Vigorously promoting research divisions/specializations in each department
		6. Involving faculty in multidisciplinary research with collaboration of other organizations of repute
Starting Date	July, 2023	7. Increased collaboration with industries towards consultancy
		8. Faculty and student exchange programs with universities abroad
		9. 100% technology enabled teaching learning process
Responsibility for Implementation	Dean, Academic with help of college academic committee, Coordinator IQAC, Registrar	10. Sending Application for accreditation by ABET

Targets

Metric No	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
1	✓	✓	✓	--	--	--	--	--
2	--	✓	✓	✓	✓	✓	✓	✓
3	--	✓	✓	✓	✓	✓	✓	✓
4	--	✓	✓	✓	✓	✓	✓	✓
5	✓	✓	✓	✓	✓	✓	✓	✓
6	✓	✓	✓	✓	✓	✓	✓	✓
7	02	03	04	05	07	09	10	12
8	--	--	--	02	03	04	05	06
9	✓	✓	✓	✓	✓	✓	✓	✓
10	--	--	--	--	--	--	✓	Securing ABET Accreditation

10.1.3 Governing body, administrative setup, functions of various bodies, service rules, procedures, recruitment and promotional policies (10)

List the governing, senate, and all other academic and administrative bodies, their memberships, functions and responsibilities, frequency of the meetings; and attendance therein, in a tabular form. A few sample minutes of the meetings and action-taken reports should be annexed.

The published rules including service rules, policies and procedures; year of publication shall be listed. Also state the extent of awareness among the employees/students.

Geethanjali's organizational structure, in tune with its vision, mission, core values and guiding principles at its epicentre, has a participatory decision-making process, which is at its core, ensures good governance, reflective of its effective leadership, towards realization of its cherished vision and mission.

Accomplishment of institutional vision, calls for Strategy Development, Deployment and Execution. To this end, appropriate structures and processes are established, ensuring accountability, transparency, responsiveness, equity, empowerment, and participation.

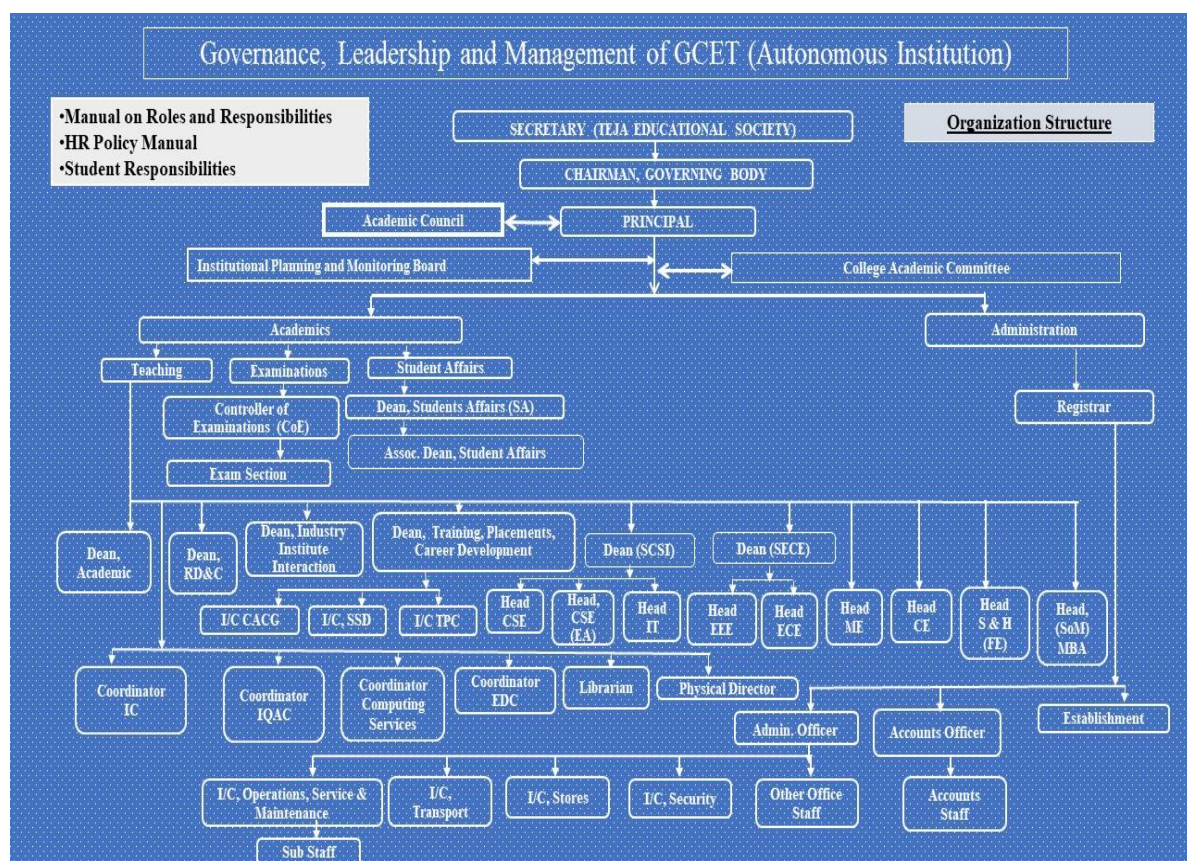
Institution has, therefore, adopted a decentralized organizational structure and adopted the processes by which its activities, particularly, Academic, Examinations and Administrative units, involving planning, decision making and execution are distributed and delegated to various Heads and In-charges of the respective units, with Principal as the leader, Deans, Controller of Examinations, Heads of the Departments and other coordinators / in-charges of various units/ cells as supporting team members.

Roles and responsibilities of various bodies, statutory, non-statutory and administrative heads are well defined, and shouldered to satisfaction.

Statutory bodies of the institution include, Governing Body (GB), Academic Council (AC), Boards of Studies (BoS), and Finance Committee, while, non-statutory committees, Planning and Monitoring Board, Center for Learning Resources (Library), Examinations Committee, Grievance Redressal Committee, IQAC, Internal Complaints Committee (also includes Women Protection Cell), and Anti- Ragging Committee are constituted as per the norms of the Autonomous Status of the institution. Various sub committees are formed based on the needs.

In some of the non-statutory committees, a few experts from outside the institution are invited in order to ensure external expertise is available for the growth of the institution. Each sub-committee is usually chaired by a professor with other members drawn from each department to the extent possible so that all departments are represented by their respective members, particularly in matters concerned to the department.

Organogram



A list of some of the important academic and administrative bodies including the Governing Body is furnished in the following table:

Functions and responsibilities of academic and administrative bodies are given below

S.No.	Names of Academic and Administrative bodies	Membership	Functions and responsibilities	Frequency of meeting	Attendance
1	Governing Body	<p>Management representatives Secretary, GCET (Chairman) and four other members.</p> <ul style="list-style-type: none"> • Two faculty members of the college nominated by the Principal. • Educationalist/Industrialist nominated by the Management <p>UGC nominee, State Government nominee (if any), and University nominee</p> <p>Principal (Ex-officio Member Secretary)</p>	<ul style="list-style-type: none"> • Guides in the development of and approves the Vision, Mission, and Quality policy of the institution. It gives direction to the institution and monitors its performance • Institute scholarships, fellowships, studentships, medals, prizes and certificates on the recommendations of the Academic Council • Approves new programs of study leading to degrees and/or diplomas. • Examines budget proposals and approves annual budget of the college. • Facilitates checking the audited income and expenditure accounts and approves the same for the college annually • Performs such other functions and institutes committees, as may be necessary and deemed fit for the proper development, and fulfill the objectives for 	At least Twice a year	Over 60% of the members attend the meeting

			which the college has been declared as autonomous		
2	Academic Council	The Principal (Chairman) All the heads of department in the college.	<ul style="list-style-type: none"> • Scrutinize and approve the proposals with or without modification of the Boards of Studies with regard to courses of study, academic regulations, curricula, syllabi and modifications thereof, instructional and evaluation arrangements, methods, procedures relevant thereto etc., provided that where the Academic Council differs on any proposal, it will have the right to return the matter for reconsideration to the Board of Studies concerned or reject it, after giving reasons to do so. • Make regulations regarding the admission of students to different programs of study in the college. • Make regulations for sports, extra-curricular activities, and proper maintenance and functioning of the playgrounds and hostels. • Recommend to the Governing Body proposals for institution of new programs of study. • Recommend to the Governing Body institution of scholarships, studentships, 	At least Twice in a year	Over 75% of the members attend the meeting
		Four faculty members of the college representing different categories of teaching staff by rotation on the basis of seniority service in the college.			
		Four experts from outside the college representing Industry, Commerce, Law, Education, Medicine, Engineering etc., nominated by the Governing Body.			
		Three nominees of the University			
		A faculty member nominated by the Principal (member secretary)			

			<p>fellowships, prizes and medals, and to frame regulations for the award of the same.</p> <ul style="list-style-type: none"> • Advise the Governing Body on suggestions(s) pertaining to academic affairs made by it. • Perform such other functions as may be assigned by the Governing Body or other statutory bodies of the University 		
3	Finance Committee	<p>The Principal (Chairman)</p> <p>A nominee of the Governing Body</p> <p>One Senior most faculty of the institution nominated by Principal</p> <p>Finance Officer of the institution (member secretary)</p>	<ul style="list-style-type: none"> • The committee advises the Governing Body on all financial matters related to the institution. • The committee will consider: The budget estimate relating to the grant received/receivable from UGC, and income from fees, etc., collected for the activities under the scheme of autonomy and Audited accounts for the above 	Twice a year	75% of the members attend the meeting
4	Boards of studies of each department	<p>Head of the Department (Chairman)</p> <p>Faculty members of respective departments.</p> <p>Two subject experts from outside the institution nominated by the Academic Council.</p>	<ul style="list-style-type: none"> • Prepares syllabi for various courses keeping in view the objectives of the college, interest of the stakeholders and national requirements of consideration and approval of the Academic Council • Suggest methodologies for innovative teaching and evaluation techniques • Suggest panel of names to the academic council for appointment of examiners. 	At least twice a year	Over 90% of the members attend the meeting

		<p>One representative from industry/corporate sector/allied area.</p> <p>One postgraduate meritorious alumnus nominated by the Principal.</p> <p>The chairman, Board of Studies, may with the approval of the Principal of the college, co-opt Experts from outside the institution as special invitees, whenever special courses of studies are to be formulated.</p>	<ul style="list-style-type: none"> Coordinate research, teaching, extension and other academic activities in the department college. 		
5	Library Advisory Committee	<p>Chaired by Dean, Academics</p> <p>Librarian – Coordinator and Convener</p> <p>Departmental representatives</p>	<ul style="list-style-type: none"> To coordinate Library resource review, weed out and disposal process. 	Once in every semester	Over 90% of the members attend the meeting
6	Academic Audit Committee	<p>Not below the rank of Principal/former Principal of a college as chairperson</p> <p>One senior professor drawn from other reputed colleges for each program – by Chairperson IQAC</p>	<ul style="list-style-type: none"> This committee is constituted to conduct Academic Audit of all programs as per the format prepared by IQAC of the institution on the lines of NBA 	Once in a year	100% of the members attend the meeting
7	Examination Results processing committee	<p>Chairperson – Principal</p> <p>Convener – CoE</p> <p>Members – HoDs</p> <p>Affiliating University Nominee</p>	<ul style="list-style-type: none"> The committee meets soon after the valuation of answer booklets is completed before processing the results The committee monitors the implementation of moderation and grafting, if any, as applicable and 	During the processing of the results of semester end examinations	100% of the members attend the meeting

			approved by the affiliating university.		
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8	Grievance Redressal Committee	<ul style="list-style-type: none"> • Chairperson - Principal • Member - JNTUH Nominee • Member - CTE, TS nominee • Member – Dean, student affairs • Convener - Registrar 	<ul style="list-style-type: none"> • The committee meets as and when a complaint received from Faculty / Staff. • Proceedings of the committee should be prepared within 48 hrs of every meeting and submitted to the Chair person. The term of the committee will be for three years 	As and when needed	60% of the members attend the meeting
9	Women Protection Cell	<ul style="list-style-type: none"> • Presiding officer – Senior female faculty of the institution • External member – From any reputed voluntary organization • Staff members - One person from each department • Two female Student representatives 	<ul style="list-style-type: none"> • The committee will enquire into the complaints received, on sexual harassment, from women staff or students. • All women (both students and staff) can address their grievances to the cell. 	At least once in a year	2/3 rd of the members attend the meeting
10	Anti-Ragging Committee	<ul style="list-style-type: none"> • Chairperson - Principal • Convener – Dean, student affairs • Two senior professors as coordinators • Other member representatives from all the departments • Student members 	<ul style="list-style-type: none"> • The anti-ragging squad monitors and ensures that no ragging incidents will happen 	Before the commencement of first semester of each academic year and as and when required	2/3 rd of the members attend the meeting

Note: Many other non-statutory administrative committees have been formed and have been functioning facilitating smooth functioning of administration of the institution.

A separate manual is in place detailing the roles and responsibilities of various positions/committees, placed on the institution's website

Note: A few sample minutes of the meetings and action taken reports are given in Annexure – 10.1.3

Service Rules

The institution has first published a HR policy manual with service rules in the year 2011 and subsequently amended in 2015 and later in 2020, which outlines the service rules as well as policies for faculty and staff development, leave rules, incentives, other monetary benefits and code of conduct and discipline within the institution. In the academic year 2023-24 encashment of earned leave has also been included. The institution adheres to the rules and regulations specified by Statutory Regulatory Authorities. Service rules are made available on institution's website, placed in center for learning resources, department library and also given to every employee at the time of joining the institution, and also appraised of the same during interview and as soon as they join the institution.

HR policy manual with service rules attached herewith in **Annexure 10.1.3b**

Recruitment and promotional policies

The institution constitutes staff selection committees for recruitment of faculty meeting the eligibility norms of AICTE/Affiliated University, with the following composition

1. Chairman of the Governing Body of the Institution - Chairperson
 2. Principal-Member
 3. Head of the department concerned-Member
 4. Two subject- experts nominated by Principal-Members
- The Faculty selection process is as follows:
 - The faculty requirement is projected by the Heads of departments, 4-6 months before the commencement of Academic year, taking into account the existing faculty strength in terms of specialization and cadre.
 - The faculty balance, in terms of experience and fresh talent, for various specializations and cadre ratio are worked out by the Principal and Chairman in consultation with the HoDs and Deans of Schools, following UGC/JNTUH norms. The number of posts in each category for all the departments are sanctioned by the Governing Body, satisfying the requirements as outlined above.
Advertisements are issued in widely circulated newspapers as well as placed on institutional website, inviting applications by post/e-mail from eligible candidates to fill the sanctioned posts. In addition, senior faculty members make use of their contacts to elicit good response from distinguished faculty working in other institutions or experts from industry/R&D organizations.
 - The applications are shortlisted based on the eligibility criteria and credentials.
 - In many cases, applicants are requested to deliver a brief lecture on a topic of the applicant's choice in the presence of Chairman, Principal, Head of the Department, Dean of respective school, and two subject experts as members, comprising the selection committee.
 - The candidates are provisionally selected based on merit and appointments made with the approval of Chairman.

- The candidates thus appointed are required to appear later for interview before Staff Selection Committee consisting of Chairman of the Governing Body as Chairman of Selection committee, Principal of the college, HoD, besides two subject experts not connected to the college, and two subject experts, nominated by the Vice chancellor of the affiliating university as members. The appointments made by the college subsequently are confirmed after the appointees complete their probationary period.

Promotion Policy:

All eligible faculty members are considered for promotion to higher positions subject to availability of vacancy, and their satisfactory performance in the present position. The following procedure is followed in this regard:

1. All the HoDs are required to initiate action before the end of academic year for projecting the faculty requirements for the succeeding academic year and obtain the sanction of the competent authority for additional posts, indicating separately the posts to be filled by recruitment and those by internal promotion.
2. Departmental Promotion Committee (DPC) is constituted by the competent authority having the following composition.
 - i. Principal- Chairman
 - ii. HoD (of department concerned)- Member
 - iii. Subject expert- Member (Nominated by the Principal)
 - iv. Registrar- Member Convener

The Chairman can opt external experts from the industry or academia as additional members, if felt necessary.

1. Establishment section prepares a list of eligible candidates for promotion, once every year (April/May) as per the eligibility norms notified vide GCET/Academic/009/2014-15, dated 8-07-2014. The period of service of the members shall be reckoned as of 30th June of the year, for this purpose. This list will be forwarded to the Chairman of DPC.
2. DPC screens the list of eligible candidates and shortlist the candidates based on their view of their performance appraisal reports and the availability of vacancies, and fix a date for personal interview/presentation.
3. Establishment section informs the shortlisted candidates about the date and venue of promotion interview/ presentation.
4. DPC conducts the interview and submit a list of recommended candidates, in order of merit, giving due weightage to seniority, performance in the job, and performance in the interview.
5. The recommendations of the committee are reviewed by the Secretary GCET, and a final decision taken on it.
6. Establishment section prepares the promotion order and puts up to Principal for his signature and there upon issues to the faculty concerned.
7. All promotions are effective prospectively, that is, from the date of the order or the date on which the promote takes charge, whichever is later.

10.1.4 Decentralization in working and grievance redressal mechanism (5)

Geethanjali College of Engineering and Technology has a well laid practice of decentralization with participative management towards collective decision making. Towards this, Institutional administration is decentralized into various schools, departments, divisions/cells each one chaired by a senior faculty/staff member. They are empowered to form committees and subcommittees for taking decisions judiciously. The roles and responsibilities of each committee/cell bearers and authorities and the structure of such organizational units are defined at the time of formation of such committees.

As a sample, the functions of the College Academic Committee, is given in the table below. The committee comprises, Principal, Deans, Heads of the Departments, and other in-charges of various units meet regularly to discuss on various aspects for their effective implementation leading to growth and development of the institution.

College Academic Committee

Position/Faculty	Functions and Responsibilities of College Academic Committee	
Principal - Dr. S Udaya Kumar	<ol style="list-style-type: none"> 1. Arranging teaching requirements for successful completion of academic programs of the college and supervising the same periodically. 2. Facilitating Dean, Examinations for making arrangements for conducting examinations 3. Recommending the Governing Body for providing the necessary infrastructural, human resources and other requirements for progressing towards achievement of the vision of the college. 4. Facilitating supervision of the functioning of computing and IT infrastructure, Central library and other learning resources of the college. 5. Facilitating promotion of research culture in the college through collaboration and corroboration among faculty. 6. Encouraging collaboration with other academic institutes and industry. 7. Creating a conducive environment in order to develop entrepreneurship. 8. Ensuring discipline among students. 9. Facilitating and supervising the co-curricular activities of the students. 10. Recommending the Management for encouraging students with awards, stipends, scholarships, medals and prizes and so on. 11. Inspiring students to be creative and innovative and recommending management to encourage them with financial support towards the same. 12. Motivating and guiding students in order to utilize the services of CACHE of the College. 13. Appointing committees from amongst the college teaching faculty and experts from outside, in order to sort out and advise on specific academic issues and consequently acting on the recommendations of such committees after due consideration. 14. Appointing a review committee periodically, in order to review all the college academic activities and consequently acting on its recommendations after due consideration. 15. Planning and executing the overall academic growth of the college by making recommendations to the Governing Body, wherever necessary. 	
Dean -Academics – Dr. P VijaiBhaskar		
Dean, Studentaffairs – Dr AS Madhusudhan Rao		
Registrar/Dean-Admin- Dr. R. Prasanna Kumar		
Dean -School of CS & IT- Dr. V. Madhusudhan Rao		
Dean-School of E & CE- Prof. B. Harikumar		
Dean, Industry-Institute Interaction - Prof OVPR Sivakumar		
Dean RD and C – Dr. P Srihari		
Dean Training for Placement and Career Development – Dr. B. V. Swathi		
Controller of Examinations – Dr. Md. Shoukath Ali		
Coordinator IQAC – Dr. B.L. Prakash		
Heads of Departments Dr.G. Sreelakshmi – ECE Dr.A.Srilakshmi–CSE Dr. K.Srinivas - IT and IoT Dr. L. Venkateswarlu – CSE (AIML) Dr. G.Kalyani - CSE (CS) Dr. L.Kiran Kumar Reddy CSE(DS) Dr.D.Radhika – EEE Dr. R. Sudarshan –ME Dr. V. V. Praveen Kumar - CE Dr. G.Neeraja Rani – FE Dr. J. PardhaSaradhi –MBA		
<p>Note: A manual containing functions roles and responsibilities of various positions is made available in Center for Learning Resources and Department Library and placed on institutional website</p>		

Delegation and Empowerment of various positions with associated responsibilities

Position	Functions
Governing Body	<ul style="list-style-type: none"> • Frames directives and policies based on core values principles and guiding principles of the College. • Amends and approve policies from time to time • Approves budgets
Principal	<ul style="list-style-type: none"> • Designs and defines the organization's structure. • Defines and delegates responsibilities of various positions in the organization • Ensures periodic monitoring & evaluation of various processes & sub-processes • Looks after the overall development of institute Mobilizes external resources to strengthen the institute • Plans and provides necessary facilities / equipment for development. • Instills confidence and devotion in every member of the College • Ensures effective purchase procedure is followed • Defines quality policies and objectives • Prepares annual budget • Conducts periodic meeting of various bodies such as Governing Body, Academic Council, and Grievance Redressal Committee, etc. • Manages accounts and finance • Manages employee recruitment process
Dean, Academics	<ul style="list-style-type: none"> • Ensures execution of academic calendar for UG and PG programs • Conducts periodic meeting of Academic Council • Coordinates result analysis with CoE, and suggests corrective measures to Principal • Initiates remedial teaching measures • Facilitates proper conduct of co-curricular activities • Oversees student, and faculty counseling • Oversees first year student orientation program • Oversees Faculty Development Programs (FDPs) <ul style="list-style-type: none"> ➤ Identifying training needs of faculty ➤ Notify the faculty about various FDPs ➤ Arrange FDPs ➤ Proposing annual budget for FDPs ➤ Maintain FDP records

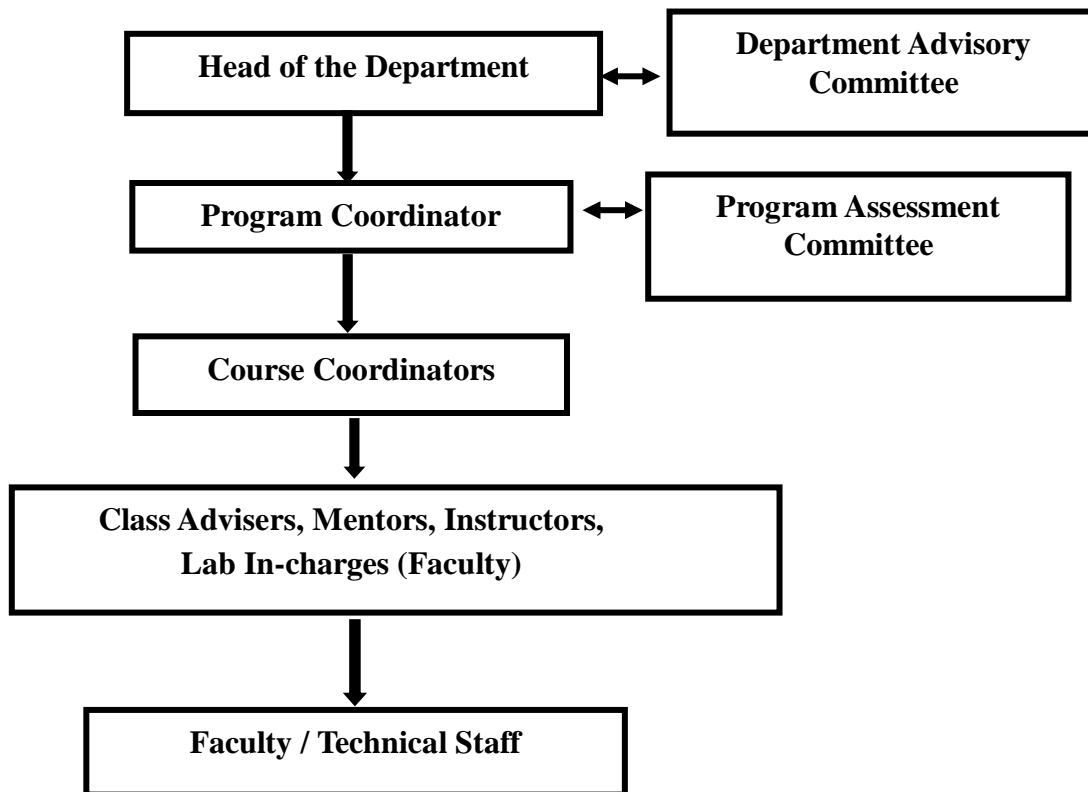
Registrar	<ul style="list-style-type: none"> • Staff (NT) Recruitment and development • Coordinates recruitment process of faculty • Coordinates Purchase Process • Coordinates Governing Meeting • Discharges routine duties of Principal during absence of Principal • Coordinates Resource Provision to all concerned • Coordinates Preparation of Budget • Coordinates Office Administration • Coordinates in the preparation of Compliance reports to AICTE, APSCHE, DTE & University • Oversee Employee Attendance System & Maintain the monthly attendance report • Coordinates mobilization of Resource Generation <ul style="list-style-type: none"> ➤ Identifying training needs of nonteaching staff ➤ Notify the nonteaching staff about various Employee Development programs ➤ Arrange such Employee Development Programs ➤ Proposing annual budget for Employee Development Programs ➤ Maintain Employee training records
Dean Student Affairs	<p>Facilitates</p> <ul style="list-style-type: none"> • Formation of student council • Proper conduct of co-curricular and Extra Curricular activities • Proper conduct of sports activities • Students Counseling • Student discipline • Anti-ragging • Student health care
Controller of Examinations	<p>Facilitates</p> <ul style="list-style-type: none"> • Schedule and conduct of Internal theory, lab and semester end examinations (SEE) theory and lab • Communicates with all external examiners recommended by Principal for arranging question papers for SEE theory and also for smooth conduction of lab examinations
Dean, R & D	<ul style="list-style-type: none"> • Coordinates all R & D Activities • Coordinates publication of College's Annual Technical Magazine
Head of Department	<ul style="list-style-type: none"> • Plans, executes, and monitors all academic and support activities of the department • Maintains discipline and culture in the department • Maintains the department neat and clean

	<ul style="list-style-type: none"> • Picks and promotes strengths of students / faculty / staff • Proposes Department Budget • Adheres to Quality Management System (QMS) Procedures • Maintains records of departmental activities and achievements
I/C IQAC (Internal Quality Assurance Cell)	<ul style="list-style-type: none"> • QMS coordination • Establish, implement and maintain quality management system • Arranging internal and external audits • Maintain up-to-date master documents with history of revision.
I/C Maintenance	<ul style="list-style-type: none"> • Maintaining updated building plans • Overall building maintenance and Campus • Coordinates Maintenance and Housekeeping
Administrative Officer	<ul style="list-style-type: none"> • Arranges campaign of admissions under B category • Executes the B category admission process • Designs and prints admission brochure • Coordinate day to day activities of office • Maintains album containing photographs of all events and buildings • Publicizes events • Liaison with TSCHE, University, DTE, AICTE, etc.
I/C Alumni Association	<ul style="list-style-type: none"> • Facilitates formation and registration of Alumni Association • Arranges periodic meetings of Alumni association • Ensures alumni registration • Prepares alumni news letter • Arranges annual alumni meet over Dinner • Proposes alumni association's annual budget
I/C Workshop	<ul style="list-style-type: none"> • Smooth running of college workshop • Preparing Material Requirement • Oversee the college bus service • Oversee the generator facility
Systems Manager (I/c Computing, Internet, and website facilities)	<p>Facilitates in</p> <ul style="list-style-type: none"> • Maintenance and upkeep of all computer systems, and campus network • Maintenance and updating college website • Arranging maintenance of all software used in the central computing facility
In-charge of Establishment	<ul style="list-style-type: none"> • Service Registers • Faculty personal files • Maintain minutes of meetings(all) • AICTE, JNTUH affiliation application process

Accounts officer	<ul style="list-style-type: none"> • Annual College Budget
Dean, Training for Placements and career development	<ul style="list-style-type: none"> • Liaisons with industry • Identifies and provides for training needs of students • Arranges campus interviews • Proposes annual T & P budget • Prepares database of some top international/national companies consisting of their addresses, details of operations, their expectations, their HR team etc. for which services of some students could be utilized. • Assists students develop and implement successful job search strategies. • Works with faculty members/department Heads and administration to integrate career planning and academic curriculum as well as coordinate Project Work/ Summer Training/internship programs.
I/C Learning Resources and Library	<ul style="list-style-type: none"> • Plan and execute modus operandi of routine activity of the library • Plan and propose expansion / development • Maintain library discipline and culture • With the help of Librarian, prepare annual budget for library • By coordinating with HoDs, arrange printing of lab manuals, record books, assignment books and ensure that these are available at least one week before the commencement of the semester.
I/C Counseling Cell	<p>Coordinates with Dean, Student Affairs and Assists Director, Acad. in</p> <ul style="list-style-type: none"> • Facilitating career guidance to students • Assisting students suffering from psychological disorders • Arranging for professional counsellors • Maintaining record of counseling activities • Conducting student academic counseling • Arranging remedial classes for weaker students
I/C Transport	<ul style="list-style-type: none"> • Maintains buses meant for faculty and students • Provides bus schedules and takes all the necessary logistics of transport
I/C Student Professional and extra-curricular Activities	<p>Dean Student Affairs</p> <ul style="list-style-type: none"> • Organize events through students professional societies / chapters • Organize paper and design contests • Encourage student participation • Publication of technical magazine and news letters • Record of student participation and achievements in Co-curricular and extracurricular activities • Maintain record of such events

Grievance Redressal Committee	<p>Resolve Grievances, if any/to forward the cases to proper authority for further action/process.</p> <p>Functions:</p> <ol style="list-style-type: none"> 1. Accept formal complaints about the grievances, from students, faculty, and staff. 2. To develop and implement a system for dealing with grievances that have been reported. 3. If required, report the findings to management for further action. 4. Listen to, document, and examine the issues brought to their attention by staff and students, and take appropriate action as soon as possible. 5. To respond to complaints based on the veracity and seriousness of the concerns levelled. 6. To represent grievances to the appropriate department, this may include maintenance, transportation, academics, and facilities, among other things. 7. Periodic meetings should be held to discuss whether the grievances have been resolved. 8. Follow up on these issues at regular intervals until they are finally resolved. 9. If necessary, to preserve tight confidentiality.
Physical Director	<ul style="list-style-type: none"> • Ensure smooth conduct of sports • Ensure proper use of sports facilities • Purchasing of sport items • Encourages students to participate in zonal tournaments • Creation and upkeep of sports facilities • Proposing annual budget for sports • Oversees security
In-charge of NCC and NSS	<ul style="list-style-type: none"> • Organizes NCC training camps and facilitates students to involve in NSS activities. Report the same to office of Principal on monthly basis

Decentralization at Department – A typical administrative set-up at department



Some of the Committees

- Department Advisory Committee
- Program Assessment Committee
- Program Coordinator
 - Class Advisers (Section Advisor)
 - Mentors
 - Course coordinators
- Technical Events Organizing Committee
- Time table Coordinator
- Alumni Coordinator
- Placements Coordinator
- Examination Branch Coordinator
- Department Disciplinary Committee
- Department Purchase and Budget Committee

- ❑ Quality Assessment Committee
 - Question Paper Evaluation Committee
 - Projects Review Committee
 - Technical Seminar Evaluation Committee

Grievance Redressal Mechanism

The staff and students having grievances may submit their grievances in writing to Grievances Redressal Committee. Matters on which HODs can take decisions are examined and resolved at departmental level by Departmental Grievance Redressal Committees. Matters concerning the college as whole are examined and resolved by institutional level Grievance Redressal Committees. The Committees also take note of complaints and suggestions dropped in the suggestion boxes placed at strategic locations. Where the solution requires certain changes in policies, procedures, systems etc., the issues are discussed and resolved by College Academic Committee or Governing Body. As part of grievance redressal mechanism, anti-ragging committees and sexual harassment committees are constituted to address grievances specifically relating to ragging and sexual harassment respectively.

S.No.	Names of Academic and Administrative bodies	Membership	Functions and responsibilities
1.	College level Grievance Redressal Committee	<ol style="list-style-type: none"> 1. Dr AS Madhusudhan Rao - Dean Student affair - Chairman 2. All Department HoDs- Members 3. A lady staff member from all departments 4. A BC/SC/ST – faculty member 	<ol style="list-style-type: none"> 1. To enquire into complaints received from the aggrieved students or staff of the college including ragging 2. To recommend to the Principal of the college, the penalty to be imposed.
2.	Women Protection cell	<ol style="list-style-type: none"> 1. Dr.V. S. Triveni – Presiding officer 2. A. Srilakshimi – Member 3. S. Jyothirmayee– Member 4. M. Vasanthi – Member 5. G.NaveenRam – Member 6. Two Student representatives 	<ol style="list-style-type: none"> 1. To enquire into all complaints of sexual harassment received from woman staff and/or students 2. To recommend punishments to those found guilty of sexual harassment 3. Recommend measures for ensuring safety and protection of the aggrieved woman staff member

3.	Anti-ragging Committee	<ol style="list-style-type: none"> 1. Principal-Chairman 2. All Deans 3. All HoDs 4. Physical Director 5. Police personnel (C.I.(1),S.I. (2) of Keesara Police station) 	<ol style="list-style-type: none"> 1. To ensure compliance with the provision of applicable regulations as well as provisions of law in force concerning ragging 2. Monitor and oversee the performance of the Anti-Ragging Squad in prevention of ragging in the institution.
4.	Anti-ragging squad	Assistant Professors (21) from all departments	<ol style="list-style-type: none"> 1. To make surprise visits to places in and around the college, vulnerable to incidents and having the potential for ragging. 2. To conduct on the spot enquiry of any incidents of ragging reported/observed and submit report with recommendation to the Principal.

10.1.5. Delegation of Financial Powers (5)

(Institution should explicitly mention financial powers delegated to the Principal, Heads of Departments and relevant in-charges. Demonstrate the utilization of financial powers for each year of the assessment years)

Heads of the departments and Deans are given an imprest amount of rupees fifty thousand (50,000/-) for meeting any expenditure pertaining to their department. As and when the amount is spent it will be replenished with rupees fifty thousand (50,000/-) again.

Principal is given cheque power of rupees one lakh (1,00,000/-)

Other in-charges are given an amount of rupees ten thousand (10,000/-)

10.1.6 Transparency and availability of correct/unambiguous information in public domain (5)

Information on Policies, Rules, Processes is made available on Institutional website. Hard copies are made available in centre for learning resources, department library, HoD and IQAC. Transparency and accountability in the conduct and evaluation process of the examination system is maintained, wherein student shall be shown the answer booklets of mid-term examinations. The semester end examination answer booklets shall be shown on demand.

10.2 Budget Allocation, Utilization, and Public Accounting at Institute level (15)

Total Income at Institute level: for CFY, CFYm1, CFYm2 & CFYm3

CFY: Current Financial Year – CFYm1 (Current Financial Year minus 1), CFYm2 (Current Financial Year minus 2), CFYm3 (Current Financial Year minus 3)

TableB.10.2a-CFY2023-2024. All amounts mentioned in the tables are in lakhs of rupees

Total Income in CFY - 2023-24				Actual expenditure in CFY - 2023-24 till February 2024 (Un Audited Amt)			Total No. of students in CFY -2023-24
Fee	Govt.	Grant(s)	Other Sources (specify)	Recurring including Salaries	Non-recurring	Special Projects/Any other, specify	Expenditure per student
50,57,00,000	-	3,56,000	11,80,52,000	48,17,44,000	7,16,45,000	5,07,000	128216.67

Total Income in CFYm1 - 2022-23				Actual expenditure in CFYm1 -2022-23			Total No. of students in CFYm1 -2022-23
Fee	Govt.	Grant(s)	Other Sources (specify)	Recurring including Salaries	Non-recurring	Special Projects/Any other, specify	Expenditure per student
43,04,38,000	-	2,33,000	10,79,40,000	53,28,52,000	14,34,45,000	4,72,000	157755.01

Total Income in CFYm2 - 2021-22				Actual expenditure in CFYm2 -2021-22			Total No. of students in CFYm2 -2021-22
Fee	Govt.	Grant(s)	Other Sources (specify)	Recurring including Salaries	Non-recurring	Special Projects/Any other, specify	Expenditure per student
38,71,93,000	-	8,68,000	9,05,01,000	43,06,64,000	7,34,00,000	14,96,000	124829.63

Total Income in CFYm3 - 2020-21				Actual expenditure in CFYm3 -2020-21			Total No. of students in CFYm3 -2020-21
Fee	Govt.	Grant(s)	Other Sources (specify)	Recurring including Salaries	Non-recurring	Special Projects/Any other, specify	Expenditure per student
35,03,67,000	-	24,15,000	5,71,62,000	39,10,54,000	5,51,69,000	38,70,000	115764.66

Table B: 10.2a

**Note: Similar tables are to be prepared for CFYm1, CFYm2 & CFYm3.
All amounts mentioned in the tables are in lakhs of rupees.**

Items	Budgeted in CFY - 2023-24	Actual expenses in CFY - 2023-24 (till Feb'24) Unaudited	Budgeted in CFYm1 - 2022-23	Actual Expenses in CFYm1 - 2022-23	Budgeted in CFYm2 - 2021-22	Actual Expenses in CFYm2 - 2021-22	Budgeted in CFYm3 - 2020-21	Actual Expenses CFYm3 - 2020-21
Infrastructure Built-Up	500.00	441.15	450.00	1159.58	540.00	556.31	500.00	487.35
Library	37.00	38.13	30.00	34.12	30.00	27.73	30.00	16.60
Laboratory equipment	173.00	228.63	150.00	245.47	170.00	164.96	100.00	86.44
Laboratory consumables	50.00	91.97	35.00	74.27	25.00	26.54	26.00	15.92
Teaching and non-teaching staff salary	3025.00	2682.19	2700.00	2516.67	2335.00	2154.00	2230.00	1999.95
Maintenance and spares	1143.63	1404.00	1064.40	2014.23	1067.80	1292.83	839.26	1157.35
R and D	57.00	60.26	30.00	11.92	20.00	8.54	42.00	3.77
Training and Travel	100.00	75.50	125.00	141.01	75.00	116.65	70.00	45.05
Miscellaneous expenses*	55.00	20.31	55.00	34.85	65.00	19.38	63.50	9.27
Others, specify	819.00	497.00	500.00	535.57	600.00	688.66	500.00	576.88
Total	5959.63	5538.96	5139.40	6767.69	4927.80	5055.60	4400.76	4503.18

10.2.1 Adequacy of Budget Allocation (5)

The Head of the department instructs the concerned in-charges to submit the budget required for the ensuing academic year. Each division/unit in-charge submits, both, recurring and non-recurring budget required. Based on the budget estimates submitted by various in-charges, a final budget proposal shall be prepared with the following items

- Equipment
- Consumables
- Maintenance and spares
- Co-curricular, and Extra-curricular activities at department and at college level
- R and D, Students, Faculty and Staff Development programs
- Training for Placements
- Furniture and Fixtures
- Operational and miscellaneous expenses

Budget requirements under 'recurring' and 'non-recurring' heads are collected from every department before the commencement of the financial year. Finally, office of the Registrar (Dean, Administration) consolidates the budget requirements sent by each department / section, prepares budget proposal of the college and places it before the finance committee, which reviews the same under the chairmanship of Principal. After approval by the finance committee, the Principal presents it to the Secretary of the trust and Chairman of the college, who scrutinizes the proposals further at a meeting specifically convened for this purpose with the Principal, Finance Committee, Deans, HoDs and in-charges, and the budget is given the final shape. This budget proposal is then presented to the governing body and its approval obtained. The Chairman of the governing body places the budget before the Trust, which approves the budget. The approved budget is forwarded to the Principal, HoDs, faculty and staff for information and initiation of actions, as necessary.

The adequacy of the budget provided by the institute to the departments is ensured through provisions for maintenance of existing equipment and procurement of new items for the department, to meet the academic requirements and other requirements listed above. Since the yearly budget is prepared according to the needs and requirements of the departments/units taking into consideration the annual intake of students, laboratory and infrastructure developments through a series of consultations with Deans, HoDs, and in-charges, who are responsible for implementation of academic programs/plans, the allocations made are found to be adequate. The budget allocation and utilization for the last three years has been found to be adequate.

10.2.2 Utilization of Allocated Funds (5)

Department/Unit head is responsible for utilization of the funds allocated. Department/Unit head prepares a plan for purchase/procurement, conduct of activities and monitors the execution of the same. The department/Unit head during their monthly meetings, takes stock of utilization of funds allocated under various heads, and if found underutilized, identifies the reasons, if any, directs the concerned for corrective action, which shall be verified in the subsequent meeting. The finance committee reviews the funds utilization twice a year. Utilization of allocated funds during the budget year is thus ensured, which is seen from the following Table.

Table No: 10.2.2 Utilization of allocated funds

Year	Budget Allocation(Rupees)	Budge Utilization(Rupees)
2022.23	513940000	676769000
2021-22	492780000	505560000
2020-21	440076000	450318000

10.2.3. Availability of the audited statements on the institute's website (5)

Audited statements are made available on our website

10.3. Program Specific Budget Allocation, Utilization (30)

Total Budget at program level: For CFY, CFY_{m1}, CFY_{m2} & CFY_{m3}

CFY: Current Financial Year – CFY_{m1} (Current Financial Year minus 1) CFY_{m2} (Current Financial Year minus 2) CFY_{m3} (Current Financial Year minus3). All amounts mentioned in the tables are in lakhs of rupees.

Total Budget in CFY - 2023-24		Actual expenditure in CFY - 2023-24 till February 2024(Un Audited Amt)		Total No. of students in CFY - 2023-24
Non recurring	Recurring	Non recurring	Recurring	Expenditure per student
4.00	15.50	1.22	8.28	-

Total Budget in CFYm1 - 2022-23		Actual expenditure in CFYm1 - 2022-23		Total No. of students in CFYm1 - 2022-23
Non recurring	Recurring	Non recurring	Recurring	Expenditure per student
5.00	9.50	3.10	7.70	-

Total Budget in CFYm2 - 2021-22		Actual expenditure in CFYm2 - 2021-22		Total No. of students in CFYm2 - 2021-22
Non recurring	Recurring	Non recurring	Recurring	Expenditure per student
5.50	9.00	3.82	8.17	-

Total Budget in CFYm3- 2020-21		Actual expenditure in CFYm3 - 2020-21		Total No. of students in CFYm3 - 2020-21
Non recurring	Recurring	Non recurring	Recurring	Expenditure per student
2.50	10.00	1.50	7.27	-

Table B: 10.3a

Note: Similar tables are to be prepared for CFYm1, CFYm2 & CFYm3.

Items	Budgeted in CFY - 2023-24	Actual expenses in CFY -2023-24 (till Feb'24) Unaudited	Budgeted in CFYm1 -2022-23	Actual Expenses in CFYm1 - 2022-23	Budgeted in CFYm2 - 2021-22	Actual Expenses in CFYm2 - 2021-22	Budgeted in CFYm3 - 2020-21	Actual Expenses CFYm3 - 2020-21
Laboratory equipment	2.00	-	2.00	0.63	1.00	-	0.50	-
Software	-	-	-	-	-	-	-	-
Laboratory consumable	5.00	1.50	2.50	2.06	3.00	2.58	3.00	1.87
Maintenance and spares	1.00	1.22	2.50	2.47	4.00	3.82	2.00	1.50
R and D	1.00	-	0.50	-	0.50	-	-	-
Training and Travel	5.00	3.75	5.00	4.04	4.00	3.81	5.00	3.75
Miscellaneous expenses*	5.50	3.03	2.00	1.60	2.00	1.78	2.00	1.65
Total	19.50	9.50	14.50	10.80	14.50	11.99	12.50	8.77

10.3.1. Adequacy of budget allocation (10)

(Institution needs to justify that the budget allocated over the assessment years was adequate for the program)

The process of budget allocation is as follows:

- The Budget coordinator collects funds requirements from the faculty of the department, prepares the departmental budget estimates. HoD calls a meeting of all the faculty concern to discuss the proposals. A final budget estimate is submitted to the Principal.
- The Principal scrutinizes the proposals further at a meeting specifically convened for the purpose with HoD, and other department committee coordinators involved in the preparation of the budget. The budget is given final shape in this meeting and is submitted to Secretary for approval.
- Secretary discusses proposals with the Principal and HoDs and gives provisional approval to the budget with or without modifications.
- The Governing body discusses the proposals at the Governing Body Meeting and approves the budget.
- Since the budget allocations are made following a series of consultations with HoDs who are responsible for implementation of academic programs/plans, the allocations made are adequate.

10.3.2. Utilization of allocated funds (20)

(Institution needs to state how the budget was utilized during the last three assessment years)

All the faculty in charges concerned are responsible for utilization of the funds allocated to their respective activities like purchase of laboratory equipment , library book, conducting FDPs/ STTPs/ Guest lectures and publication of research papers etc. The in charges prepare their plans for purchase, investments and activities and monitor the execution of the plans. The HoD reviews the funds utilization every month in Department meetings. Utilization of allocated funds during the budget year is thus ensured.

10.4 Library and Internet (20)

(Indicate whether zero deficiency report was received by the Institution for all the assessment years. Effective availability/purchase records and utilization of facilities/equipment etc. to be documented and demonstrated)

Zero deficiency report was received by the Institution for all the assessment years. A sample zero deficiency report of Library for Academic Year 2023-2024, downloaded from the college AICTE portal is given below:

All India Council for Technical Education
(An Autonomous Organization, Under Ministry of HRD, Govt. of India)
Nelson Mandela Marg, Vasant Kunj, New Delhi-110070 Website: <https://www.aicte-india.org>



APPROVAL PROCESS 2023-24
Application Deficiency Report

Library Facilities				
Sr. No.	Particulars	Available	Required	Deficiency
1.	Volumes	56423	31450	No
2.	Titles	19088	4300	No
3.	Journals	208	72	No
4.	Library Management Software	1	1	No
5.	Reading Room Seating Capacity	250	150	No
6.	MultiMediaPC	10	10	No

Quality of Learning Resources (hard/soft) (10)

- Relevance of the available learning resources including r e-resources
- Accessibility to students
- Support to students for self-learning activities.

GCET has a Centre for Learning Resources in an independent building with built up area of 1263 sq.m with a seating capacity of 250 students. A Digital Information center with 25 systems is also part of Centre for Learning Resources to provide online access to resources.

Library facilities:



Books: 44813

Back Volumes: 4369

Thesis: 3486

a) Non Print:

b) Electronic (e-books-11124, e-journals-13555)

c) Special Collections: 7500

(Example: Text Books, reference books, handbooks etc.)

OPAC (Online Public Access Catalog): Through this catalogue one can search the CLR database to know the status of the library book. One can search this OPAC by entering the Name of the Title/Author/Publisher/Accession Number of the Book Student/ faculty can reserve any desired book.

Federated searching tools to search articles in multiple databases: CLR provides federated search which is used to search multiple content with one query, which allows a user to search multiple database at once in real time.

Ex: KOHA web OPAC (183.82.168)

CLR Website: Institutional website

In-house/remote access to e-publications

Students and staff can access e-resources using knimbus remote access (with individual user login and passwords) as a part of the digital information centre.

Library automation:- KOHA, Ez Library Software

Students and staff can access OPAC using KOHA (with individual user login and passwords) as a part of the digital information center.

Total number of computers for public access: 25

Total number of printers for public access: 2

Internet band width/speed: 2GiGa byte

Institutional Repository: 192.168.0.10

Content management system for e-learning: yes

List for participation in resource sharing network

- Average number of walk-ins per day: 730
- Average number of books issues/returned per day: 107
- Ratio of library books to students enrolled: 1:5
- Average number of login to OPAC per day: 5-10
- Average number of login to e-resources per day: 2-3
- Number of information literacy trainings organized: 1
- Manuscripts
- Reference
- Reprography: YES
- ILL (Inter Library Loan Service): DELNET
- Information Deployment and Notification: YES
- OPAC: KOHA
- Internet Access: YES
- Downloads: YES
- Printouts: YES
- Reading list/ Bibliography compilation: YES
- Abstract/Indexing: YES
- In-house/remote access to e-resources: YES
- User Orientation: YES
- Assistance in searching Databases: YES
- INFLIBNET/IUC facilities: INFLIBNET
- **Manuscripts** : No
- **References** : Separate reference section is provided for the users of the Library where students and staff can refer to books like dictionaries, encyclopedias, almanacs, etc.
- **Reprography**: Photocopying facility is available in the CLR
- **ILL (Inter Library Loan Service)**: DELNET
- **Information deployment and notification**:
- **CLR Website**
- www.gcet.edu.in (college website provides required information)
- <https://sites.google.com/view/gcetlibraryinf>
- **Notice board** : Displays new arrivals, Seminars, Conferences conducted by other colleges, college calendar etc.
- **Download** :E-journals, E-books, Articles, Videos, Course files and LabManuals

- **Printing :** CLR has a printer for users.
- **Reading list/ Bibliography compilation:** CLR books are arranged course wise, using Dewey decimal classification and shelf list cards helps the user in finding the required information easily.
- **In-house/remote access to e-resources:** Students and faculty can access the CLR information within the campus (through LAN). Remote access can be done for some of the important documents through college website.
- **User orientation and awareness:** User orientation sessions will be conducted for new users of the CLR.
- **Assistance in searching databases:** CLR staff assists the users in searching the database: OPAC.

Details on the annual CLR budget and the amount spent for purchasing new books and journals.

F.Y	Budget Estimates (Rs)	Amount Spent (Rs.)			Total(Rs)
		Books	Journals (Print)	E-Resources	
2023-24	40,50,000.00	18,03,945.00	6,71,813.00	13,65,375.00	38,41,133.00
2022-23	37,83,000.00	15,06,501.00	6,57,230.00	12,50,318.00	34,14,049.00
2021-22	37,66,000.00	12,91,975.00	6,02,383.00	88,0296.00	27,74,654.00
2020-21	31,42,000.00	4,73,856.00	5,57,098.00	6,32,680.00	16,63,634.00
2019-20	25,45,000.00	9,35,524.00	4,99,296.00	6,31,612.00	20,66,432.00

The library provides feedback forms (direct approach method), to get the feedback from the users. The suggestions and complaints received as feedback are periodically reviewed by library committee and remedial measures are adopted for constructive feedback. With the approval of Management, library services are improved.

The college CLR was set up in the year 2005. The CLR shifted to new building specially constructed for the purpose, in 2012. The CLR premises are very spacious, well-ventilated, with excellent facilities. No major expansion is needed in the near future. The developments that have been made in the last four years have been in the form of additional book racks, software etc.

The amount spent towards this over the last four years are as follows.

F. Y	Book racks (Rs.)	Software/hardware (Rs.)	Miscellaneous (Rs.)	Total
2023-24	1,24,950.00	42,000.00 (Koha)	59,833.00	2,26,783.00
2022-23	29,476.00	-	3,31,563.00	3,61,039.00
2021-22	-	-	1,58,560.00	1,58,560.00
2020-21	-	-	30,425.00	30,425.00
2019-20	-	-	49,795.00	49,795.00

Note: 2023-24 utilization as on date (10.02.2024)

The first year students and the newly joined faculty and staff are given awareness on the rules and regulations of the CLR and also on how to effectively use the resources.

Accessibility to Students:

Students can access the clr during the working days as per the timings mentioned below:

Working days: 8 am To 6 pm.

Holidays : 9 am To 4 pm

During vacation: 9 am To 4 pm

Digital Information Center

- Accessibility of systems:25
- Name of the Internet provider: ACT, DUPL
- Available bandwidth: 2GiGa Byte
- Wi Fi availability: YES
- Backup instant recovery, SATA Disks 4TB
- Digital e-learning Video serving module
- Digital Media e-Library module with NVD Jukebox 1000
- Mail, Print, Proxy server modules and CD/DVD Mirror server module.

CLR Details (overall)

S. No.	Item	Quantity				
		2019-20	2020-21	2021-22	2022-23	2023-24 Till date
1.	Titles	6523	6625	6995	7629	8113
2.	Volumes	37591	38338	40469	42504	44813
3.	Added Volumes	1722	747	2131	2035	2309
	Added Titles	329	104	370	634	484
4.	Print Journals	170	190	208	208	208
5.	IEEE	185	192	192	242	245
6.	DELNET	1033	1048	1117	1729	1800
7.	K-HUB	3870	4352	5049	7778	10351
8	NLIST	Scholarly	Scholarly	Scholarly	Scholarly	Scholarly
09	Videos (NPTEL, YouTube)	1731	404	376	1180	2724
10	GATE Materials	38	0	61	160	90
11	Projects (Mini and Major)	295	220	234	459	-
12	E Books	1049	1371	1069	1364	780
13	NET Browsing and Web Downloads	3343	2337	14772	45737	41300
14	Audio – Visuals(CDs, DVDs)	17	39	39	57	71
Expenditure in Rupees		20.66	16.63	27.74	34.14	38.41

CLR Details Pertaining to CIVIL Department:

S. No.	Item	Quantity			
		2020-21	2021-22	2022-23	2023-24
1	Titles	504	565	590	627
2	Volumes	3066	3466	3566	3704
3	Added Volumes	172	400	100	138
	Added Titles	29	61	25	37
4	Print Journals	20	19	18	12
E Journals					
5	IEEE	8	8	9	9
6	DELNET	210	79	365	365
7	K-HUB	550	419	1053	1053
8	NLIST	Scholarly	Scholarly	Scholarly	Scholarly
9	Knimbus	--	--	180	180
10	Audio- Visuals (CDs)	12	18	58	34
11	Videos (NPTEL, You Tube,)	316	359	409	536
	Added	43	50	127	105
12	GATE Materials	46	56	78	10
	Added		10	22	15
13	Projects	889	930	973	973
	Added	47	41	43	-

14	E Books	419	551	740	841
	Added	224	132	189	101
15	Web downloads and Net browsing	777	2381	4125	4869
	Added	-	1604	1744	1744
Expenditure in Lakh rupees		2,40,860.00	3,82,240.00	2,46,660.00	2,12,202.00

Department Learning Resource Details:

The department maintains a separate Learning center for the faculty members and students. Apart from the textbooks transferred from the Centre for Learning Resources, the department has some donated books. Students can access these books during their DLC period or leisure time.

S.No.	Item	Quantity			
		2020-21	2021-22	2022-23	2023-24
1.	Textbooks and References	161	187	192	199
	Added	7	26	5	7

10.4.2 Internet (10)

Name of the Internet Provider: Act Enterprise, D-VoiS Communications Private Limited.

Available Bandwidth: 2Gbps

Wi-Fi Availability: Yes

Internet access in labs, classrooms, library and offices of all Departments: Yes

Security arrangements: Sophos Firewall and Quick Heal End point

