

Part B[Back To Content Page](#)**1 Vision, Mission and Programme Educational Objectives (100)****Total Marks : 100.00****1.1 Vision and Mission (5)****Total Marks : 5.00****1.1.1 State the Vision and Mission of the institute and department (1)**

Institute Marks : 1.00

[\(List and articulate the vision and mission statements of the institute and department\)](#)**Vision of the Institute**

To be among the best of the institutions for engineers and technologists with attitudes, skills and knowledge and to become an epicentre of creative solutions.

Mission of the Institute

To achieve and impart quality education with an emphasis on practical skills and social relevance.

Vision of the Department

To be a center of global excellence and to emerge as a valuable resource for industry and society.

Mission of the Department

The Computer Science and Engineering department is committed

1. To produce qualified and competent computer professionals with international standards.
2. To foster innovative and application oriented research capabilities of young minds for the progress of society.
3. To inculcate strong ethical values and professional behavior so as to adapt the emerging changes in the field of computing technology.

1.1.2 Indicate how and where the Vision and Mission are published and disseminated (2)

Institute Marks : 2.00

[\(Describe in which media \(e.g. websites, curricula books\) the vision and mission are published and how these are disseminated among stakeholders\)](#)

Every effort is made to communicate Vision and Mission effectively to all stakeholders namely students, faculty, parents, industry, regulating authority, alumni and management.

Vision and Mission are published and disseminated through the following methods:

Print Media : College Diary, College Brochures

Electronic Media : College/Departmental Website, Display Monitors

Display Boards : Flexi-Boards, Permanent Wooden Boards

Direct Communication : Orientation Programmes to freshers /parents/ guardians, Induction Programmes to staff members

1.1.3 Mention the process for defining Vision and Mission of the department (2)

Institute Marks : 2.00

[Articulate the process involved in defining the vision and mission of the department from the vision and mission of the institute.\)](#)

The department established the vision and mission through a consultative process involving the stakeholders (students, alumni, faculty, industry, management) considering the scope of the department and the future societal requirements.

The process to arrive at the Mission and Vision of the department is as follows:

1. This process reviews aspirations of our Institution in the light of the vision and mission of our organization and some of best educational institutions running similar programmes.
2. Feedback from stakeholders is considered.
3. Departmental Development and Monitoring Committee (DDMC) makes the draft.
4. These proposals will be reviewed and ratified by the Governing Body.

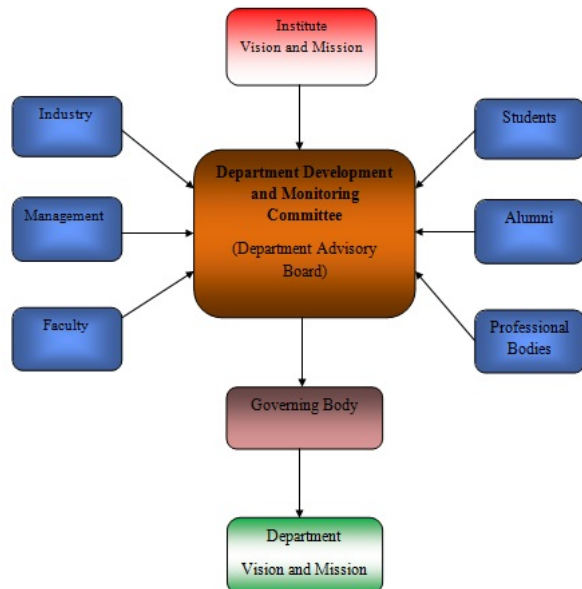


Figure 1: The process for defining the Mission and Vision of the department

1.2 Programme Educational Objectives (15)

Total Marks : 15.00

1.2.1 Describe the Programme Educational Objectives (PEOs) (2)

Institute Marks : 2.00

(List and articulate the programme educational objectives of the programme under accreditation)

Department of CSE is meant to prepare students to professionally thrive and to lead. During their progression:

PEO 1: Graduates will be prepared for a successful career in the field of Computer Science and Engineering.

PEO 2: Graduates will continue to learn and apply the acquired knowledge to solve engineering problems and appreciation of the arts, humanities and social sciences.

PEO 3: Graduates will have good and broad scientific and engineering knowledge base so as to comprehend, analyze, design and create novel products and solutions for real-time applications.

PEO 4: Graduates will understand professional and ethical responsibility, develop leadership, utilize membership opportunities, develop effective communication skills, team work skills, multidisciplinary approach, and life-long learning required for a successful professional career.

1.2.2 State how and where the PEOs are published and disseminated (2)

Institute Marks : 2.00

(Describe in which media (e.g. websites, curricula books) the PEOs are published and how these are disseminated among stakeholders)

Institute makes every effort to ensure Department PEOs are communicated effectively to all stakeholders namely students, faculty, parents, industry, alumni and management.

Presently PEOs are published and disseminated through the following methods:

Print Media: College Diary, College Brochures

Electronic Media: College/Departmental Website, Display Monitors

Display Boards: Flexi-Boards, Permanent Wooden Boards

Direct Communication: Orientation Programmes to freshers /parents/ guardians, Induction Programmes to staff members.

1.2.3 List the stakeholders of the programme (1)

Institute Marks : 1.00

(List stakeholders of the programme under consideration for accreditation and articulate their relevance)

The Stake holders for the programme are

1. Students
2. Faculty
3. Parents
4. Industry

5. Alumni

6. Management

Students: Students seek quality environment at the Institute which includes good infrastructure, qualified faculty, and conducive learning environment. Students expect that the qualification be well recognized for an employment at a reputed industry or for an admission in the best educational institution if opted for higher education or prepare one for career of own choice.

Faculty: Faculty acts as a facilitator for the students to achieve their goals. Faculty wants to improve their credentials and grow in profession. Faculty takes pride in associating with a good learning environment and expects results from their students for self satisfaction.

Parents: Parents seek quality education for their children for a better future through the institution. Parents seek better career for their wards. Parents expect that their feedback can be considered in the development of the institution.

Industry: In most cases industry needs to hire the best students from good institutions such that these well trained students are readily employable, trainable and contribute to their growth. Industry also sees institutions as a complementary asset to their R&D. Industry, being one of the direct beneficiary provides the necessary direction and growth plans.

Alumni: The Alumni take pride in their educational institution from where they graduated. The Alumni prefer to maintain traditions by guiding their juniors on approaches to get better professional growth. The present social networking sites have made better interaction between Alumni and students. The Alumni contributes to the institution at times financially and other times through technical guidance and also gives feedback for the development of the Institution.

Management: Management is interested to impart quality education by providing best infrastructure, qualified faculty members and latest equipments and softwares. Management is looking to attract the best students.

1.2.4 State the process for establishing the PEOs (5)

Institute Marks : 5.00

(Describe the process that periodically documents and demonstrates that the PEOs are based on the needs of the programme's various stakeholders.)

We draw upon the inputs from stake holders typically the faculty, alumni, industry, professional bodies input to formulate our PEOs.

Faculty: The faculty members of the department are one of the key stake holders empowered to evaluate the feedback received from all other stake holders, proposing improvements in the curriculum, the outcomes and objectives, and in implementing any ratified changes. All changes in the curriculum are initiated by the faculty. Additionally, all the faculty members continually interact with all of the other stakeholders, allowing for the opportunities to receive, apart from formal, the informal feedback also into the process.

Alumni: The Alumni provides vital inputs for drafting and review our PEOs. The inquiry includes opinion on the current courses, its shortfall, suggestive changes to be considered in the revising curriculum, their success in their careers and the suitability of the preparation attributed to the curriculum they were tutored in, any advice they have to give to the current students, and what they have to do for succeeding in their careers.

Regular input from alumni is obtained via the following interactions:

Surveys: Formatted Survey data is utilized to gather comprehensive information for scrutiny and analysis.

Alumni visits: Formal and informal visits by the alumni gives scope for direct personal interaction, discussions and also gives an opportunity to collect and record information required for improving the programme based on their professional experiences.

Employers: Input from employers plays a vital role in the formulation and review of the PEOs which reflects on the success and relevance of the designed courses. Employers are at the forefront of the practice of the profession; hence their feedback is important. They give us early indications of changing or new trends in the profession. The information is gathered from employers using both formal surveys and various informal interactions. In such interactions, employers are inquired about their views on the needs and direction of growth of the domain and correspondingly what the goals should be in educating the students.

Regular input from employers is obtained via the following interactions:

Surveys: Industry is directly or indirectly interacted with, during institutional visits for guest lectures, workshops, seminars, placement drives or for any other informal interaction and the opportunity is utilized to fill in the Survey Form designed for formulating PEOs.

Tours: Departments regularly arrange tours to industries as part of their courses education processes. Discussions with the industries, and the faculty visitors help gain additional information on the current needs of industry with regard to our graduates, and thereby contribute the understanding needed to formulate or revise our PEOs.

Professional Bodies: Professional Bodies like CII, NASSCOM periodically express the status of industry which are noted and utilized during formulating or reviewing the PEOs.

The PEOs are established through the following steps:

Step 1: Vision and Mission of the Institute / Department is taken as the basis to interact with all the key stake holders.

Step 2: All documents relating to the Programme and the department are reviewed. These include instructional materials which are collected for all the courses and reviewed. The Outcomes in terms of courses are listed for the programme and the Graduate attributes are taken into account apart from the information collected from Alumni in terms of career achievements, contribution to society, ethical practices and intellectual contributions.

Step 3: Program Coordinator consults the key stakeholders in the light of the current status of the institutes teaching learning environment, student and faculty quality and infrastructure. Feedback from prospective employers and current employers of the alumni are collected.

Step 4: Formation of a body of members functioning as a committee i.e., Programme Assessment Committee, which collects, reviews and recommends within the guidelines defined for the formulation of the PEOs. The Programme Coordinator summarizes their views in consultation with the Course and Module coordinators and submits them to the Board of Study of the programme. The Departmental Advisory Board , is also part of the activity. The recommendations of the Programme Assessment Committee are considered.

Step 5: The minutes of all the meetings is recorded and the actions are initiated.

Step 6: The established PEOs are suggested by Board of Studies are approved by the Academic Council.

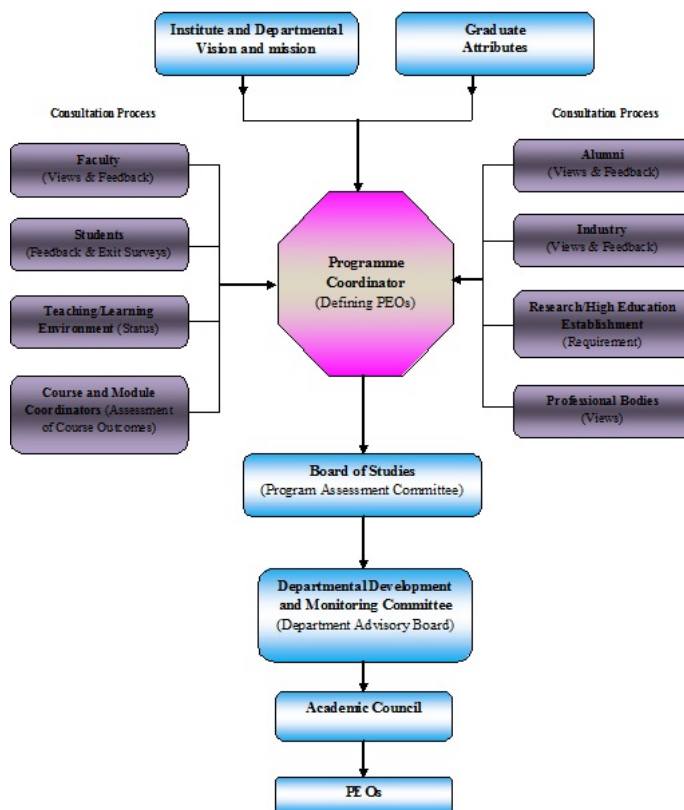


Figure 2: The process of establishing PEOs

1.2.5 Establish consistency of the PEOs with the Mission of the institute (5)

Institute Marks : 5.00

(Describe how the Programme Educational Objectives are consistent with the Mission of the department.)

The department mission is in consistence with that of the institute. The PEOs are consistent with the mission of department as described by mapping wherein it gives evidence on the agreement between mission and the PEOs. The Computer Science & Engineering-PEOs reflect the expected accomplishments of the graduates a few years after their graduation. These objectives are consistent with the Mission statement as is evident from the statement above.

By educating students in Computer Science & Engineering, they are being moulded for careers in professional practice, leadership and by providing them with a broad based education including communication and life-long learning skills. This also develops and strengthens their ability to solve practical problems of social relevance, for civic contribution as well as professional practice.

	Mission of Program		
PEOs	Mission	Mission	Mission

	Statement1: Competence	Statement2: Advance Research	Mission Statement3: Ethical and Professional Values
PEO1: Graduates will be prepared for a successful career in the field of Computer Science and Engineering .	H	M	M
PEO2: Graduates will continue to learn and apply the acquired knowledge to solve engineering problems and appreciation of the arts, humanities and social sciences.	M	M	H
PEO3: Graduates will have good and broad scientific and engineering knowledgebase so as to comprehend, analyze, design and create novel products and solutions for real-time applications.	H	M	M
PEO4: Graduates will understand professional and ethical responsibility, develop leadership, utilize membership opportunities, develop effective communication skills, team work skills, multidisciplinary approach, and life-long learning required for a successful professional career.	H	M	M

1.3 Achievement of Programme Educational Objectives (30)

Total Marks : 30.00

1.3.1 Justify the academic factors involved in achievement of the PEOs (15)

Institute Marks : 15.00

(Describe the broad curricular components that contribute towards the attainment of the Programme Educational Objectives.)

The following are the academic factors involved in the achievement of the PEOs:

1. By introducing courses in core engineering, basic sciences, mathematics, management, allied engineering and elective courses, seminars and projects that form the programme components, which contribute to the attainment of the Program Educational Objectives.

Course Component	PEOs	Curriculum Content (% of total number of credits of the program)	Credits
Mathematics	1 & 2	9%	18
Basic Sciences	1 & 2	7%	16
Humanities and Social Sciences	1, 3	5.5%	11
Professional Core	1,2 & 4	72.5%	142
Computing	1 & 2	6%	13

2. The academic factors are decided by Academic Council and Board of Studies committees which involve university professors, Industrial experts and subject experts from the departments. These committees play main role to frame the curriculum.
3. Student participation in Internship programmes and Major Projects.
4. By conducting continuing education and professional development programmes for the faculty.
5. By effective monitoring of all systems and processes including the feedback.
6. By providing budgetary resources and modern infrastructure.
7. By developing and maintaining quality in instructions.
8. By collaborating with leading institutions, professional bodies and industries to achieve education goals.
9. By effectively employing appropriate technologies to enhance instructions and student learning's.

1.3.2 Explain how administrative system helps in ensuring the Achievement of the PEOs (15)

Institute Marks : 15.00

(Describe the committees and their functions, working process and related regulations.)

To ensure achievement of PEOs and goals of Outcome Based Education a well structured administrative hierarchy exists in the institute. Administrative System to ensure achievement of PEOs is as follows:

1. **Course Coordinator:** Faculty member who teaches course, monitors and reviews activities related to attainment of course outcomes
2. **Module Coordinator:** Senior faculty coordinates and supervises the faculty teaching a particular course in a module (group of like courses).
3. **Programme Coordinator:** Interacts and maintains liaison with key stakeholders like students, faculty, and administration. He conducts and interprets various surveys required to assess to POs and PEOs.

In order to monitor and ensure Outcome Based Education the Institution level committees and department level committees are created.

1. Class Coordinators Committee
2. Board of Studies (Programme Assessment Committee)
3. Departmental Development and Monitoring Committee (Departmental Advisory Board)
4. Academic Council

Committee	Chair	Members	Responsibilities
Class Coordinators Committee (CCC)	Programme coordinator	<ol style="list-style-type: none"> 1. Faculty designated as class coordinators. 2. Faculty of a particular course. 3. Course and module coordinators. 4. Student representatives. 	<ol style="list-style-type: none"> 1. To tap the suggestions of the students, to enhance teaching-learning process. 2. To monitor and improve the relations and shortfalls between academics and teaching environment. 3. Review of activities related to attainment of course outcomes
Board of Studies (Programme Assessment Committee)	Programme Coordinator	<ol style="list-style-type: none"> 1. All teaching faculty of each course/ specialization offered and Module Coordinator. 2. Two external experts in the course concerned and nominated by the Academic Council. 3. One expert to be nominated by the Vice-chancellor from a panel of six recommended by Principal of the institute. 4. Not more than two persons to be co-opted for their expert knowledge including those belonging to the concerned profession or industry. 5. One post-graduate meritorious alumni nominated by the Principal. 6. The Chairman Board of Studies may with the approval of the Principal of the Institute co-opt: <ol style="list-style-type: none"> a) Experts from outside the institute whenever special courses of studies are to be formulated. b) Other members of the staff of the same faculty. 	<ol style="list-style-type: none"> 1. To prepare, frame and modify the syllabus for the various courses keeping in view POs of the programme. 2. Evaluates programme effectiveness and proposes continuous improvement. 3. To suggest panel of names for appointment of examiners and coordinate research, teaching, extension and other academic activities in the programme / institute. 4. To suggest new methodologies for innovative teaching and evaluation techniques and tools. 5. To review implementation of institutional quality assurance in the department for improving programme. 6. Guiding in evolving POs and COs based on assessment.
Departmental Development and Monitoring Committee (Departmental Advisory Board)	Head of the Department	<ol style="list-style-type: none"> 1. All faculty are members- one among them will act as Secretary. 2. Members may be co-opted from other programmes, University and industry as per requirement. 	<ol style="list-style-type: none"> 1. To formalize the departmental mission and vision. 2. To plan and monitor the growth of programmes of the department 3. Develops and recommends new or revised PEOs. 4. To ensure infrastructure, support facilities and activities to ensure for attainment of PEOs.
		<ol style="list-style-type: none"> 1. Heads of Departments 2. Four faculty members other than the HODs representing the various categories (by rotation and seniority). 3. Four persons including educationalists of repute, one person 	<ol style="list-style-type: none"> 1. To exercise general supervision over the academic work of the institute, to give directions regarding method(s) of instruction, evaluation, research and improvements in academic standards. 2. To scrutinize and approve the proposals of the Board of Studies related to programs and their educational objectives, academic regulations, curricula, syllabi, their objectives and outcomes and modifications, instructional

Academic Council	Principal	<p>from the industry and engineering related to the activities of the institute, who are not in the service of the institute and nominated by the Governing Body.</p> <p>4. Two nominees of the parent university.</p> <p>5. A faculty member nominated by the Principal of the institute to act as Member Secretary.</p>	<p>and evaluation arrangements, methods, procedures etc.</p> <p>3. To make regulations regarding the admission of students to different programs of study in</p> <p>4. To recommend to the Governing Body the proposals of institution for new programs of study.</p> <p>5. To recommend to the Governing Body, institution of scholarships, studentships, fellowships, prizes and medals, and to frame regulations for the award of the same.</p> <p>6. To advise the Governing Body on suggestion(s) pertaining to academic affairs made by it.</p> <p>7. To perform such other functions as may be assigned by the Governing Body.</p>
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Sample copy of each meeting to be attached in Annexure

1.4 Assessment of the Achievement of Programme Educational Objectives (40)

Total Marks : 40.00

1.4.1 Indicate tools and processes used in assessment of the attainment of the PEOs (10)

Institute Marks : 10.00

Describe the assessment process that periodically documents and demonstrates the degree to which the Programme Educational Objectives are attained. Also include information on:

a) A listing and description of the assessment processes used to gather the data upon which the evaluation of each programme educational objective is based. Examples of data collection processes may include, but are not limited to, employer surveys, graduate surveys, focus groups, industrial advisory committee meetings, or other processes that are relevant and appropriate to the programme;

b) The frequency with which these assessment processes are carried out.

a. The following assessment processes are used for the assessment of the achievement of the PEOs

	Method	Assessment Tool	Description
1	Direct	Oral & Written Exams	Objective, subjective, theory, practical, seminar and viva evaluation
2		Projects	Mini & Major project evaluation
3		Exit Student Survey	Passing out students
4	Indirect	Alumni Survey	Old batches of the students
5		Employer Survey	Industries which recruits
6		Industry Survey	Leading industry in the domain of particular programme

PEOs (Program Educational Objectives) relate to the career and professional accomplishments of students after they graduate from the program. Consequently, assessment and evaluation of the objectives requires assessment tools that can be applied after graduation. The PEO's assessment process and methods are tabulated. However, keeping the significance of contribution of the curriculum and the assessment opportunities such as placement data and higher education entrance performance, these assessments are taken as supplementary evidence.

CSE Program Educational Objectives	Assessment Tools	Process Used in assessment		Documentation
		Assessment Cycle	Evaluation Cycle	
PEO1: Graduates will be prepared for a successful career in the field of Computer Science and Engineering.	Placements: 60% of CSE graduates are currently employed in leading Industries.	Every year	Every year	Department & Institute
	Alumni Survey: CSE Alumni rate the overall quality of educational experience as well as gives the insight for improving the program.	Every year	Every year	Department & Institute
PEO2:	Mid Examinations, Quizzicals & viva: Written mid examinations are clearly linked to learning objectives.	Twice in a semester	Every semester	Department & Institute
	Semester Examination:			

Graduates will continue to learn and apply the acquired knowledge to solve engineering problems and appreciation of the arts, humanities and social sciences.	These help in assessing the overall development of the students, which directly link to attainment of PEOs.	Every Semester	Every Semester	Department & Institute
	Assignments, written Lab & project Reports: These are direct assessment methods which help in evaluation of PEOs	Quarterly	Quarterly	Department
PEO3: Graduates will have good and broad scientific and engineering knowledgebase so as to comprehend, analyze, design and create novel products and solutions for real-time applications.	Alumni Survey: Alumni are asked to rate the quality of preparation to demonstrate abilities which they feel needed by under graduate.	Every year	Every year	Institute & Department
	Employer Survey: 70% of CSE employers responding to the Employer Survey will indicate they are either very satisfied or satisfied with CSE graduates performance	Every year	Every year	Institute & Department
	Board of Studies: Will meet annually and provide feedback to improve the quality of the program, also evaluate the senior project design teams.	Every year	Every year	Department
PEO 4: Graduates will understand professional and ethical responsibility, develop leadership, utilize membership opportunities, and develop effective communication skills, team work skills, multidisciplinary approach, and life-long learning required for a successful professional career.	Alumni Survey: One or more abilities are listed which reflect this objective. Alumni are asked to rate the quality of preparation to demonstrate each ability they feel they received from their UG education.	Every year	Every year	Department

b) Frequency of the Assessment Processes

Assessment Tool	Description	Assessment Cycle	Evaluation Cycle	Documentation and Maintenance
Mid Exams	Internal Evaluation	Twice in a semester	Twice in a semester	Marks are recorded in department and examination cell.
End Exams	External Evaluation	Once in a semester	Once in a semester	Result Recorded at examination cell and department
Assignments	Before Every Mid Exam	Twice in a semester	Twice in a semester	Course Register
Viva	End of the Semester	Once in a semester	Once in a semester	Lab Register
Seminars	General and Technical	Once in a semester	Once in a semester	Course Register
Lab Exams	Internal and External experimental evaluation	Once in a semester	Once in a semester	Lab record, Examination Cell
Comprehensive Viva	All Core Courses	Once in four years	Once in four years	Question Paper, Objective Question Paper, Examination Cell
Projects	Mini and Major project evaluation	Once in four years	Once in four years	Examination Cell
Surveys	All Stake Holders	Once in a year	Once in a year	Recorded in department

1.4.2 Give evidences for the attainment of the PEOs (30)

Institute Marks : 30.00

File Name
Result Analysis
Minutes of Meeting
Feedback from Stakeholders
New Minutes of Meeting

The criteria for level of attainment of PEOs have been formulated for the essential processes indicated before. The existing alumni and graduate performances and surveys are presented as a representative data for future discussions.

PEO	Assessment	Good	Average	Below Average	Attainment
PEO 1: Graduates will be prepared for a successful career in the field of Computer Science and Engineering.	Placements	70 % above placement record	40 - 70 % placement record	Less than 50% of students selected off campus	70% placements are done in recent passed out batch.
	Performance	70% above distinctions	40-70% with distinctions	Below 40% with distinctions	75% distinctions
	Higher Education	25% above graduates pursue higher education	15-25% of graduates pursue higher education	Below 15% of graduates pursue higher education	30 % for higher education
	Alumni	Above 80% satisfied their training.	70-75% satisfied their training.	65-70% satisfied their training.	82% satisfied.
	Industry	Returned for subsequent placement drives with more intake	Returned for subsequent placement drives	Reluctant to come for placement drives	Returned for placement drives
	Employer	Highly satisfied graduates performance	Satisfied graduates performance	Not satisfied graduates performance	Highly satisfied as they repeated placement drives
PEO 2: Graduates will continue to learn and apply the acquired knowledge to solve engineering problems and appreciation of the arts, humanities and social sciences.	Alumni Survey	65% above graduates are in application development.	40-65% graduates are in application development	Below 40% graduates are in bench waiting for task	68% are in development tasks
	Employer survey	Above 60% of graduates were able to analyze societal problems	40-60% of graduates were able to analyze societal problems	Below 40% of graduates were able to analyze real time problems	65% graduates were able to analyze societal problems
PEO 3: Graduates will have good and broad scientific and engineering knowledgebase so as to comprehend, analyze, design and create novel products and solutions for real-time applications.	Student Exit Survey	Above 80% graduates are satisfied with their curriculum	60-80% graduates are satisfied with their curriculum	60% below graduates are satisfied with their curriculum	Above 90% graduates are satisfied with their curriculum
	Alumni Survey	Above 80% graduates working large teams	50-80% graduates working in large tams	Below 50% graduates working in large teams	Above 80% graduates working large teams
	Employer Survey	Above 60% of graduates posses good communication abilities	50-60% of graduates posses good communication abilities	Below 50% of graduates posses good communication abilities	Above 75% of graduates posses good communication abilities
	Industry Survey	Above 70% graduates are familiar with modern tool usage	40-70% graduates are familiar with modern tool usage	40% below graduates are familiar with modern tool usage	Above 90% graduates are familiar with modern tool usage.
PEO 4: Graduates will understand professional and ethical responsibility, develop leadership, utilize membership opportunities, develop effective communication	Alumni Survey	Above 50% have undergone for additional courses and qualifications.	40 -50% have undergone for additional courses and qualifications.	25-40% have undergone for additional courses and qualifications.	35% have undergone for additional courses and qualifications.

skills, team work skills, multidisciplinary approach, and life-long learning required for a successful professional career.	Employer Survey	Above 70% of graduates posses good management skills	50-70% of graduates posses good management skills	Below 40% of graduates posses good management skills	Above 70% of graduates posses good management skills
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1.5 Indicate how the PEOs have been redefining in the past (10)

Total Marks : 10.00

Institute Marks : 10.00

(Articulate with rationale how the results of the evaluation of PEOs have been used to review/redefine the PEOs)

The Department of CSE is continuously striving towards the implementation of Outcome based education(OBE) and thereby to improve the quality of students by monitoring the attainment of the PEOs on a regular basis considering criteria such as Placements, Performance, Higher education and Surveys from Alumni , Employer, as shown in the table below

PEO	Assessment	Good	Average	Below Average	Attainment	Action taken to improve the attainment of PEOs
PEO 1: Graduates will be prepared for a successful career in the field of Computer Science and Engineering.	Placements	70 % above placement record	40 - 70 % placement record	Less than 50% of students selected off campus	AVERAGE,40% placements are done in recent passed out batch.	CRT training
	Performance	70% above distinctions	40-70% with distinction	Below40% with distinctions	GOOD,73% distinctions	Remedial classes have been conducted on regular basis for II,III and IV years for enhancing the pass percentage
	Higher Education	25% above graduates pursue higher education	15-25% of graduates pursue higher education	Below 15% of graduates pursue higher education	22 % for higher education	Seminars, Workshops are conducted on regular basis to provide knowledge and information regarding different Organizations offering Higher Education.
	Alumni	Above 80% satisfied by institutional practices.	70-75% satisfied by institutional practices.	65-70% satisfied by institutional practices.	GOOD,78% satisfied.	Alumni meets at regular intervals to further improve the attainment
	Industry	Returned for subsequent placement drives with more intake	Returned for subsequent placement drives	Reluctant to come for placement drives	Returned for placement drives	NA
	Employer	Highly satisfied graduates performance	Satisfied graduates performance	Not satisfied graduates performance	Highly satisfied as they repeated placement drives	NA
PEO 2: Graduates will continue to learn and apply the acquired knowledge to solve engineering problems and appreciation of the arts, humanities and social sciences.	Alumni Survey	65% above graduates are in application development.	40-65% graduates are in application development	Below 40% graduates are in bench waiting for task	GOOD, 65% are in development tasks	Industry requirement based training modules are introduced for further improvement.
	Employer survey	Above 60% of graduates be able to analyze real time problems	40-60% of graduates be able to analyze real time problems	Below 40% of graduates be able to analyze real time problems	GOOD, 60% graduates were able to analyze real time problems	Live project implementation is enforced
PEO 3:	Student Exit	Above 80% graduates are satisfied with	60-80% graduates are satisfied with	60% below graduates are satisfied with	Above 90% graduates are	NA

<p>Graduates will have good and broad scientific and engineering knowledgebase so as to comprehend, analyze, design and create novel products and solutions for real-time applications.</p>	Survey	their curriculum	their curriculum	their curriculum	satisfied with their curriculum	
	Alumni Survey	Above 80% graduates working large teams	50-80% graduates working in large teams	Below 50% graduates working in large teams	Above 80% graduates working large teams	NA
	Employer Survey	Above 60% of graduates posses good communication abilities	50-60% of graduates posses good communication abilities	Below 50% of graduates posses good communication abilities	Above 75% of graduates posses good communication abilities	Seminars, Workshops are conducted on regular basis to provide skills.
	Industry Survey	Above 70% graduates are familiar with modern tool usage	40-70% graduates are familiar with modern tool usage	40% below graduates are familiar with modern tool usage	Above 90% graduates are familiar with modern tool usage.	NA
<p>PEO 4: Graduates will understand professional and ethical responsibility, develop leadership, utilize membership opportunities, develop effective communication skills, team work skills, multidisciplinary approach, and life-long learning required for a successful professional career.</p>	Alumni Survey	Below 50% have undergone for additional courses and qualifications.	Below 75% have undergone for additional courses and qualifications.	Everyone have undergone for additional courses and qualifications.	GOOD,28% have undergone for additional courses and qualifications.	NA
	Employer Survey	Above 70% of graduates posses good management skills	50-70% of graduates posses good management skills	Below 40% of graduates posses good management skills	Above 60% of graduates posses good management skills	Seminars, Workshops are conducted on regular basis to provide skills.

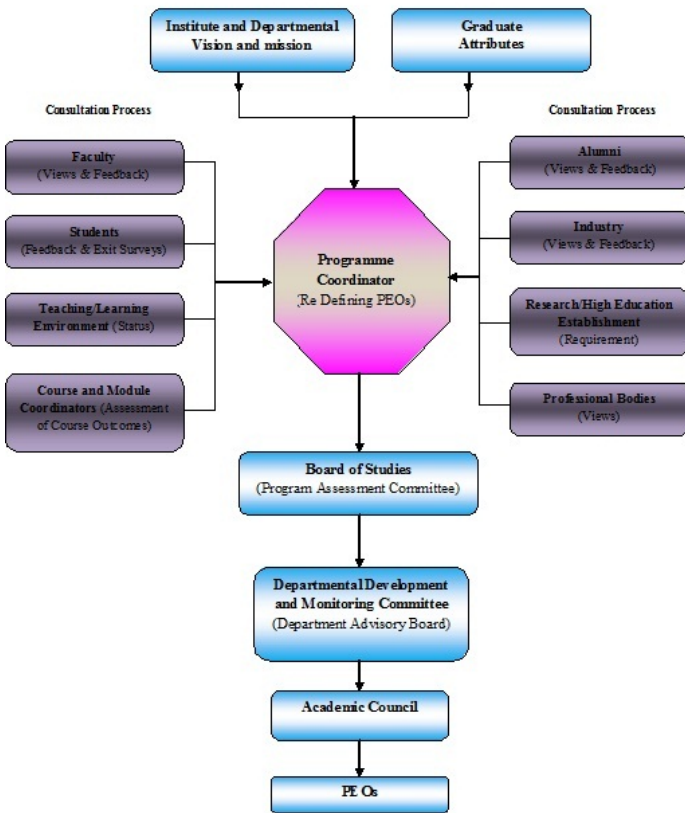


Figure 3: Redefining of Programme Educational Objectives

2.1 Definition and Validation of Course Outcomes and Programme Outcomes (30)

Total Marks : 30.00

2.1.1 List the Course Outcomes(COs) and Programme Outcomes (POs) (2)

Institute Marks : 2.00

(List the course outcomes of the courses in programme curriculum and programme outcomes of the programme under accreditation)

List of Course Outcomes

Course Outcomes of I year B.Tech Computer Science and Engineering

I B.Tech I Semester		
Code	Course	Course Outcomes
GR14A1001	LINEAR ALGEBRA AND SINGLE VARIABLE CALCULUS	1. Recognize the concepts of matrix rank to analyze linear algebraic systems 2. Compute eigen values and vectors for engineering applications 3. Illustrate the concepts of Mean Value Theorems to Describe the Medical Imaging and Industrial Automation. 4. Differentiate various differential equations using elementary techniques (Exact or linear constant coefficient equations) 5. Demonstrate model and solve linear dynamical systems 6. Apply concepts of higher order differential equations to solve typical problems in Electrical circuits. 7. Identify the physical phenomena of Simple harmonic motion by concepts of Differential equations.
GR14A1002	ADVANCED CALCULUS	1. Solve problems on function optimization with and without constraints 2. Apply the knowledge of curve tracing and geometry to precisely estimate areas and volumes. 3. Classify the concepts of applications of integration. 4. Explain the real significance of applications of multiple integrals. 5. Apply the knowledge of multiple integrals in solving problems in vector fields 6. Classify the concepts of differential calculus with physical . 7. Categorize the verification and evaluation of vector integral theorems geometrically
GR14A1007	ENGINEERING PHYSICS	1. Identify and describe various bonds between the atoms and properties of various materials. 2. Explain the behavior of free electrons and how they are responsible for exhibition of various properties. 3. Classify various magnetic materials and apply knowledge gained in various fields. 4. Differentiate different dielectric materials and its utilization. 5. Analyze why Laser light is more powerful than normal light and its applications in various fields. 6. Demonstrate the application of optical fibers in communication. 7. Extend the knowledge of

		characterization techniques to know the composition of Nano material.
GR14A1009	COMPUTER PROGRAMMING	1. Comprehend the basic concepts of computers, software, hardware, generations of programming languages, program development steps, algorithms, flowcharts.
		2. Comprehend the pre-programming C-concepts such as C-Tokens like keywords, data-types.
		3. Comprehend the concepts of operators, evaluation of expressions, I/O statements.
		4. Analyze the concepts of decision making such as branching, looping, unconditional jumping.
		5. Comprehend the C-language features such as arrays, strings, functions, pointers, structures, files.
		6. Design and develop C-Programs for various general problems and their implementation.
		7. Design and develop C-Programs for Complex problems independently
GR14A1005	ENGLISH	1. Identify and compare a wide range of text to know the importance of lifelong learning.
		2. Relate and develop English language proficiency with an emphasis on LSRW skills.
		3. Infer and interrelate academic subjects through English language skills for better understanding of technical intricacies.
		4. Organize ideas appropriately and fluently in social and professional areas.
		5. Implement English language skills to meet the corporate needs.
		6. Translate and demonstrate self in social and professional situations.
		7. Distinguish and construct literary sense through wide range of selections from various genres.
	FUNDAMENTALS OF ELECTRONICS AND ENGINEERING	1. Comprehend the fundamentals of construction of the semiconducting materials, fabrication of elements working principles and operation of semiconductors.
		2. Analyze the concept with the working principles of forward and reverse bias characteristics.
		3. Demonstrate the basic skills in design and analysis of filter circuits, biasing circuits.
		4. Discriminate the principle, construction and operation BJT, FETs and MOSFETs
		5. Interpret the different techniques for FET and MOSFET circuit designs
		6. Interpret the performance and analysis-volt amp characteristics of a BJT and FET amplifiers.
		7. Analyze the small signal low frequency

GR14A1019		Transistor amplifiers using h-parameters.
GR14A1025	ENGINEERING WORKSHOP	<ol style="list-style-type: none"> 1. Design and model different prototypes in the Carpentry trade such as Cross lap joint, Dove tail joint 2. Demonstrate straight fit, V-fit by making models. 3. Construct various basic prototypes in the trade of tin smithy such as rectangular tray and open scoop etc. 4. Analyze to make in the trade of Tin Smithy such as Rectangular tray and Open Cylinder 5. Apply various House Wiring techniques such as Connecting one lamp with one switch, 6. Develop various basic house wiring techniques such as two lamps with one switch, Connecting a Fluorescent tube, Series Wiring, Go down wiring 7. Demonstrate to develop various basic prototypes in the trade of Welding such as Lap joint, Lap Tee joint, Butt joint and Corner joint
GR14A1027	COMPUTER PROGRAMMING LAB	<ol style="list-style-type: none"> 1. Analyze and debug a given program 2. Use basic concepts, decision making and looping and c library functions for program development. 3. Develop programs using arrays and strings. 4. Illustrate recursive and non recursive programming approaches. 5. Apply concepts of pointers and dynamic memory allocation for program development. 6. Apply fundamental, derived or user defined data types for problem solving. 7. Experiment files operations and demonstrates command line arguments.
GR14A1029	ENGINEERING PHYSICS LAB	<ol style="list-style-type: none"> 1. Identify the usage of CRO, digital multi meter to record various physical quantities. 2. Distinguish the characteristics and behavior of dielectric materials in a practical manner. 3. Calculate losses in optical fiber and interpret them to the optical communication systems. 4. Quantify the type of semiconductor and measurement of energy gap in a semiconductor. 5. Investigate the properties of light like interference and diffraction through experimentation. 6. Examine the behavior of magnetic materials with the help of graph. 7. Analyze the characteristics of light emitting diodes for their optimum utilization.
I B.Tech II Semester		
	TRANSFORM CALCULUS	<ol style="list-style-type: none"> 1. Calculate definite integral values using Beta and Gamma Functions 2. Develop the skill of evaluating Laplace and inverse Laplace transform to solve linear systems under initial and boundary conditions 3. Illustrate the concepts of Laplace Transform to find the solutions of physical problems such as Electrical circuits. 4. Interpret the Fourier series and Fourier transform in the context of signals and systems. 5. Solve difference equations by Z-Transform. 6. Formulate Partial differential equations

GR14A1003	AND FOURIER SERIES	<p>by eliminating arbitrary functions and arbitrary constants.</p> <p>7. Compile the solution of Boundary value problems (PDE) by Fourier Transform Method.</p>
GR14A1004	NUMERICAL METHODS	<p>1. Develop the skill of determining approximate solutions to problems having no analytical Solutions in different contexts</p> <p>2. Solve problems related to cubic spline fitting and approximation of functions using B-splines and least squares</p> <p>3. Develop the skill of finding approximate solutions to problems arising in linear differential Equations</p> <p>4. Identify how the numerical methods play a vital role in many areas in engineering for example Dynamics, elasticity, heat transfer, electromagnetic theory and quantum mechanics.</p> <p>5. Interpret the mathematical results in physical or other terms to see what it practically means and implies.</p> <p>6. Explain the concept of interpolation is useful in predicting future out comes base on the present knowledge.</p> <p>7. Solve the model by selecting and applying a suitable mathematical method.</p>
GR14A1008	ENGINEERING CHEMISTRY	<p>1. Analyse water for the industry required specifications.</p> <p>2. Comprehend the fundamental principles of electrochemistry for energy production and corrosion Prevention.</p> <p>3. Identify the origin of different types of engineering materials used in modern technology.</p> <p>4. Identify new materials for novel applications.</p> <p>5. Develop the skills required for synthesis and analysis of materials.</p> <p>6. Relate the structure of materials to their properties and applications.</p> <p>7. Illustrate the processing of fossil fuels for the effective utilization of chemical energy and the necessity of sustainable, environmentally-friendly energy sources like solar energy.</p>
GR14A1010	DATA STRUCTURES	<p>1. Classify and infer various data structures.</p> <p>2. Demonstrate operations like insert, delete, search and display of various data structures.</p> <p>3. Exemplify and experiment applications of various data structures.</p> <p>4. List applications of data structures in real time environments.</p> <p>5. Compare and contrast static and dynamic data structure implementations.</p> <p>6. Demonstrate different methods of traversing trees and construct trees from traversals.</p> <p>7. Implement searching and sorting techniques and analyze their performance.</p>
		<p>1. Demonstrate different types of lines, the use of different types of pencils and drafter to represent</p> <p>2. Illustrate the basic drawing techniques, conic sections, cycloid curves, involutes and engineering</p> <p>3. Comprehend the basic concept of principle of planes of projections in front view and top view.</p> <p>4. Implement the orthographic projections of points, lines, planes and solids</p>

GR14A1023	ENGINEERING GRAPHICS	<p>5. Analyze the structure which was hypostatically designed ex: development of surfaces, section of</p> <p>6. Explain the logic to convert pictorial vies to orthographic projections and orthographic projections to</p> <p>7. Evaluate conversions of isometric views to orthographic views helps in inventing new machinery.</p>
GR14A1018	BASIC ELECTRICAL ENGINEERING	<p>1. Comprehend the basics of Electrical Engineering and practical implementation of Electrical fundamentals.</p> <p>2. Illustrate applications of commonly used electric machinery.</p> <p>3. Identify the methods for numerical solutions to fundamental electrical engineering.</p> <p>4. Apply the basic principles involved in electrical engineering concepts.</p> <p>5. Analyze the practical methods of basic house wiring.</p> <p>6. Identify methods to solve AC circuits.</p> <p>7. Comprehend basics of electric machines like induction motors, generators, transformers etc. used in industries.</p>
GR14A1024	BUSINESS COMMUNICATION AND SOFT SKILLS	<p>1. Interpret and categorize the role and importance of various forms of communication skills.</p> <p>2. Apply and relate verbal and non-verbal communication with reference to professional contexts.</p> <p>3. Appraise professional responsibilities in an analytical manner</p> <p>4. Plan and organize the activity of sequencing ideas in an efficacious style.</p> <p>5. Evaluate and illustrate a neutral and correct form of English.</p> <p>6. Distinguish and prioritize behavior in formal situations.</p> <p>7. Combine business communication skills & soft skills to meet the requirement of corporate communication.</p>
GR14A1026	IT WORKSHOP	<p>1. Recognize different peripherals and install different system and application softwares.</p> <p>2. Analyze and use of web browsers and related tools for information extraction.</p> <p>3. Create different documents, presentations and spreadsheet applications.</p> <p>4. Recognize different network devices and their usage and identify and use different cables.</p> <p>5. Explore the internet for information extraction and other innovative applications.</p> <p>6. Design a static webpage.</p> <p>7. Design and develop Database.</p>
		<p>1. Perform analysis of water to the required industrial standards.</p> <p>2. Apply the redox and acid-base titrations for analysing materials used in routine usage like cement, coal, acid in lead acid battery, etc.,</p> <p>3. Develop the skills required for assessing the quality of materials used in industries.</p> <p>4. Identify novel ways of instrumental</p>

GR14A1030	ENGINEERING CHEMISTRY LAB	methods of analysis.
		5. Identify the correlation between the measured property and the corresponding application.
		6. Comprehend scientific method of designing experiment and learn the skill necessary to perform it.
		7. Illustrate how to innovate to design alternative energy sources utilizing chemistry for sustainable environment for future generations

Course Outcomes of II year B.Tech Computer Science and Engineering

II B.Tech I Semester		
GR14A2011	PROBABILITY AND STATISTICS	1. Estimate the chance of occurrence of various uncertain events in different random experiments with strong basics in probability
		2. Evaluate random processes which occur in engineering application covered by binomial poisson exponential normal and uniform distributions
		3. Apply various sample techniques
		4. Estimate the models using Regression Analysis.
		5. Estimate system performance measures in different queuing processors
		6. Apply inferential statistics to make predictions or judgments about the population from which the data is drawn
		7. Develop models for stochastic processes
GR14A2062	MATHEMATICAL FOUNDATION OF COMPUTER SCIENCE	1. Apply mathematical and predicate logic for various applications in computer science.
		2. Formulate and solve recurrence relations
		3. Solving mathematical as well as graphical problems in a systematic and logical manner.
		4. Solve problems involving sets, functions, relations, graphs and trees, boolean algebra.
		5. Familiar in calculating number of possible outcomes of elementary combinatorial processes such as permutations and combinations.
		6. Apply Discrete structures in computer science for various applications.
		7. Understand definitions and proofs using basic discrete mathematics
GR14A2063	DATABASE MANAGEMENT SYSTEMS	1. Recognize the different application of Databases
		2. Generate relational model i.e., tables based on the conceptual ER models.
		3. Produce the database schema from relational model.
		4. Execute database language for e.g. SQL to manipulate the data in the database.
		5. Implement normalization techniques on the created database.
		6. Compare the different transactions control mechanisms.
		7. Organize file organizations and indexing mechanisms for real time applications
		1. Differentiate between procedure oriented and object oriented programming
		2. Implement data structures operations like insertion, searching, deletion and traversing.
		3. Exemplifying and experiment basic data structures using C++ .

GR14A2064	ADVANCED DATA STRUCTURES THROUGH C++	<p>4. Compare and contrast the benefits of dynamic and static data structures implementations</p> <p>5. Generate dictionary using hashing, balanced trees.</p> <p>6. Critique various data structures' performances.</p> <p>7. Recognize data structures concepts in other domains like databases, compiler construction.</p>
GR14A2065	DIGITAL LOGIC DESIGN	<p>1. Apply knowledge of fundamental Boolean principles and manipulation to design Logic Circuits.</p> <p>2. Apply various techniques of Boolean function simplification to create minimal expressions.</p> <p>3. Create combinational circuits for a specified behavior with minimal specification.</p> <p>4. Apply state minimization and reduction to synthesize Sequential circuits.</p> <p>5. Realize combinational circuitry using Combinational PLDs</p> <p>6. Synthesize and simulate combinational and sequential circuits using HDL</p> <p>7. Test HDL models of combinational and sequential circuits.</p>
GR14A2066	ADVANCED DATA STRUCTURES THROUGH C++ LAB	<p>1. Implement object oriented programming concepts to develop classes.</p> <p>2. Exemplifying and experiment basic data structures using C++ .</p> <p>3. Critique operations like -insertion, deletion, traversing of different data structures.</p> <p>4. Recall OOPS concepts to choose data structures for real world problems.</p> <p>5. Analyse the various data structures performance.</p> <p>6. Implement the dictionary using hashing .</p> <p>7. Develop a simple projects using C++.</p>
GR14A2067	DATABASES LAB	<p>1. Check different database schemas for any given problem.</p> <p>2. Generate queries on a data base using SQL commands.</p> <p>3. Implement SQL functions on the retrieved query results.</p> <p>4. Develop indexes for better query performance.</p> <p>5. Use the views to provide data security.</p> <p>6. Recognize appropriate aggregate operators to provide grouping of data.</p> <p>7. Exemplify DCL commands to provide security to the data base</p>
		<p>1. Identify the logic gates to solve the real world problems.</p> <p>2. Validate and check the various combinational circuits like adders, comparators, multiplexers and checkers.</p>

GR14A2068	DIGITAL LOGIC DESIGN LAB	<p>3. Verify various sequential circuits like flip flops, registers, counters.</p> <p>4. Translate the Boolean expressions using hardware description language.</p> <p>5. Implement the sequential and combinational circuits over hardware description language.</p> <p>6. Analyze and synthesize logic circuits.</p> <p>7. Design any Boolean function using universal gates such as NAND and NOR.</p>
GR14A2001	ENVIRONMENTAL SCIENCE	<p>1. Importance of environment, its purpose, design and perspectives</p> <p>2. Environmental issues related to the exploitation of natural resources and development of the mankind</p> <p>3. Role of professionals in protecting the environment from degradation</p> <p>4. The solutions for environmental problems created by local, national and global Developmental activities.</p> <p>5. Critically evaluate literature on environmental problems;</p> <p>6. Develop relevant research questions for environmental investigation</p> <p>7. Use methods and tools of environmental research, including statistical analysis, GIS, and other techniques;</p>
II B.Tech II Sem		
GR14A2104	MANAGERIAL ECONOMICS AND FINANCIAL ANALYSIS	<p>1. understand the markets and competition;</p> <p>2. forecast the demand;</p> <p>3. plan the operations and the production;</p> <p>4. choose an appropriate form of organisation;</p> <p>5. know the cost and decide the price of the products and/or services produced, and</p> <p>6. understand the financial statements and make financial analysis.</p> <p>7. To understand the global economic and environmental studies and try to use the related tools of the management concepts</p>
GR14A2069	OPERATING SYSTEMS	<p>1. Describe functions ,structures of operating systems</p> <p>2. Comprehend various process management concepts including scheduling, synchronization, deadlocks</p> <p>3. Learn the concepts of memory management including virtual memory.</p> <p>4. Solve issues related to file system interface and implementation disk management.</p> <p>5. Recognize protection and security mechanisms and familiar with various types of operating systems including UNIX.</p> <p>6. Analyze the sharing of system resources among the users.</p> <p>7. Differentiate various types of operating systems.</p>
GR14A2070	OBJECT ORIENTED PROGRAMMING THROUGH JAVA	<p>1. Distinguish between higher threading and multi threading</p> <p>2. Differentiate between procedure oriented programming and object oriented programming.</p> <p>3. Apply object oriented programming features and concepts for solving a given problem.</p> <p>4. Use java standard API library to write complex programs.</p> <p>5. Implement object oriented programming concepts using java</p> <p>6. Find the errors and trace the output of the program.</p> <p>7. Develop interactive programs using applets and swings.</p>
		<p>1. Recall regular languages and finite automata</p> <p>2. Recall broad overview of the theoretical foundations of computer science</p> <p>3. Acquire a fundamental understanding of the core concepts in automata theory and formal languages</p>

GR14A2071	FORMAL LANGUAGES AND AUTOMATA THEORY	<p>4. Design grammars and automata(recognizers) for different language classes</p> <p>5. Organize formal language classes and prove language membership properties</p> <p>6. Compare theorems establishing key properties of formal languages and automata</p> <p>7. Check computational models including (but not limited to) decidability and intractability</p>
GR14A2076	COMPUTER ORGANIZATION	<p>1. Demonstrate knowledge of register organization of a basic computer system</p> <p>2. Infer control unit organization and micro programmed control.</p> <p>3. Check the performance of central processing unit of a basic computer system.</p> <p>4. Impliment various algorithms to perform arithmetic operations and propose suitable hardware for them.</p> <p>5. Demonstrate knowledge of register organization of a basic computer system</p> <p>6. Infer control unit organization and micro programmed control.</p> <p>7. Check the performance of central processing unit of a basic computer system.</p>
GR14A2072	OBJECT ORIENTED PROGRAMMING THROUGH JAVA LAB	<p>1. Differentiate between procedure oriented programming and object oriented programming</p> <p>2. Implement object oriented programming features and concepts for solving given problem</p> <p>3. Produce complex programs using Java standard API Library</p> <p>4. Evaluate the quality of program and improve it</p> <p>5. Recognize required validations in the internet programming</p> <p>6. Check for errors and do needed corrections of the program</p> <p>7. Generate interactive programs using applets and swings.</p>
GR14A2073	OPERATING SYSTEMS LAB	<p>1. Evaluate the performance of different types of CPU scheduling algorithms.</p> <p>2. Compare different page replacement policies.</p> <p>3. Compare the types of fragmentations that results with different paging techniques of memory management.</p> <p>4. Implement algorithms for disk scheduling techniques and evaluate their performance.</p> <p>5. Implement file organization techniques.</p> <p>6. Recognize need of Banker's algorithm for deadlock avoidance.</p> <p>7. Critique the use of semaphores for producer-consumer, readers'-writers' problem, Dining Philosophers problems</p>
GR14A2074	ADVANCED DATABASES LAB	<p>1. Implement a programming logic for a relational database</p> <p>2. Develop a trigger for the table and database</p> <p>3. Check the applications of procedure and functions</p> <p>4. Organize tables in to packages</p> <p>5. Distinguish stored procedures and application procedures</p> <p>6. Summarize the purpose of PL/SQL Named blocks</p> <p>7. Evaluate run time errors using the concept of exception handling</p>
		<p>1. Choose the right value system by self analysis and right understanding</p> <p>2. Make use of positive thinking, dignity of labour for building harmony and peace in self, family and</p>

GR14A2002	VALUE EDUCATION AND ETHICS	society
		3. Analysing the importance of personality on effective behaviour
		4. Identify and solve ethical dilemmas by finding value based and sustainable solutions in professional life.
		5. Find sustainable technological solutions for saving environment
		6. Compile value and ethical systems for continuous happiness and prosperity
		7. Take part in effective team work bringing out win-win solutions for complex problems

Course Outcomes of III year B.Tech Computer Science and Engineering

III B.Tech I Semester		
GR14A3103	UNIX AND SHELL PROGRAMMING	1. Recognize the functionality of UNIX Operating System Utilities and commands.
		2. Exemplify shell programs in the UNIX environment while exploring OS features.
		3. Develop C programs using Unix Commands.
		4. Implement awk scripts in UNIX environment.
		5. Differentiate various methods for Inter Process Communication in UNIX.
		6. Evaluate the performance of visual and screen editors.
		7. Generate applications based on UNIX Operating System functionalities.
GR14A3051	COMPILER DESIGN	1. Infer the basic concept of compiler design
		2. Classify different phases and passes of Compiler.
		3. Differentiate the process of Parsing types i.e. Top-down and Bottom-up parser.
		4. Implement semantic rules into a parser that performs attribution while parsing.
		5. Check different error detection and correction methods
		6. Design principles in the construction of software system
		7. Generate a compiler for a concise programming language.
GR14A2055	MICRO CONTROLLERS	1. Compare the functionally and architectures of microprocessors and microcontrollers
		2. Analyze assembly language programming techniques
		3. Explain the implementation of 8051 instruction set
		4. Analyze assembly language programming concepts
		5. Acquainted with design of microcontrollers
		6. Interface various devices with microcontrollers
		7. Design various programs to run several applications
GR14A3052	COMPUTER NETWORKS	1. Recognize different types of network topologies.
		2. Explain connecting components used for different layers in Network model.
		3. Summarize various kinds of transmission media used in wired networks and wireless networks for communication.
		4. Critique different routing technologies involved in Unicasting and Broadcasting networks.
		5. Compare the performance of Internet Protocol (IP), Transport Control Protocol (TCP) and User Datagram Protocol used (UDP) in Internet.
		6. Analyze and use appropriate network protocols in real time applications for efficiency.
		7. Design and implement network applications for real time applications.

		7. Produce security algorithms in different networks for protection.
GR14A3053	PRINCIPLES OF PROGRAMMING LANGUAGE	<p>1. Recognize the criteria for evaluating programming languages and language constructs including programming paradigms</p> <p>2. Exemplify formal methods of syntax.</p> <p>3. Implement dividing a program into sub-programs in order to increase the readability and reusability.</p> <p>4. critique application of logic programming language and functional programming language.</p> <p>5. Examine abstract data types, concurrency.</p> <p>6. Compare functional and imperative languages.</p> <p>7. Illustrate how to handle the exceptions.</p>
GR14A2059	MICRO CONTROLLERS LAB	<p>1. Cicrocontrollers</p> <p>2. Analyze the code and build simple real time applications using microcontrollers</p> <p>3. Know the skill to write, upload the programs on LED patterns, Switches and LEDs Compile and compose the programs on LED patterns, Switches and LEDs</p> <p>4. Describe the LCD and UART based programs</p> <p>5. Interpret with various applications using TRIAC, ADC and DAC</p> <p>6. Discriminate the Control based programs</p> <p>7. Interpret with RF 433 MHz, Bluetooth and ZigBee transmitter and Receiver</p>
GR14A3054	ADVANCED JAVA PROGRAMMING LAB	<p>1. Critique solutions for a range of problems using object-oriented programming.</p> <p>2. Design and implement simple GUI applications</p> <p>3. Implement advanced java programming concepts</p> <p>4. Recognize complex data objects as whole entities, rather than by twiddling with their elements</p> <p>5. Generate self explanatory program solving mechanisms.</p> <p>6. Exemplify programs with networking and multithreading concepts</p> <p>7. Recall the concepts of basic java language</p>
GR14A3055	ADVANCED UNIX PROGRAMMING AND COMPILER DESIGN LAB	<p>1. Implement the functionality of UNIX utilities and system calls in SHELL environment.</p> <p>2. Attribute Inter Process Communication to pipes and FIFOs.</p> <p>3. Develop and validate C programs in UNIX environment for system administration and various kinds of applications.</p> <p>4. Interpret and define the role of lexical analyzer and use of regular expressions.</p> <p>5. Check programs for implementing parsing techniques.</p> <p>6. Explain the working of lex and yacc compiler</p> <p>7. Implement SHELL programs in UNIX environment.</p>

III B.Tech II SEM		
GR14A3056	DESIGN AND ANALYSIS OF ALGORITHMS	<ol style="list-style-type: none"> 1. Recognize that algorithms can be expressed in a language independent manner (as pseudo codes). 2. Critique the efficiency of the algorithms. 3. Attribute various searching and sorting algorithms for different applications. 4. Exemplifying various techniques like divide and conquer, greedy and dynamic approach in solving problems. 5. Plan the appropriate algorithm design techniques for real world problems. 6. Comparing performances of various problem solving techniques and selecting the best suitable approach. 7. Differentiate between deterministic and non-deterministic problems
GR14A3057	SOFTWARE ENGINEERING	<ol style="list-style-type: none"> 1. Plan to solve engineering problems. 2. Recognize the professional and ethical responsibility. 3. Implement the schedule of software development. 4. Attribute the impact of engineering solutions to global, economic, environmental, and societal context. 5. Compare different life cycle models. 6. Critique based on cyclomatic complexity of different softwares being developed. 7. Design and maintain software systems.
GR14A3058	INFORMATION SECURITY	<ol style="list-style-type: none"> 1. Implement the applications defined with confidentiality, integrity, and authentication. 2. Interpret various cryptographic algorithms. 3. Summarize intrusion and intrusion detection, Web security and firewalls. 4. Compare various message authentication algorithms. 5. Recognize the threats to information security 6. Differentiate the Key Management techniques 7. Critique the issues with structure of Authentication Service and Electronic Mail Security
GR14A3059	WEB TECHNOLOGIES	<ol style="list-style-type: none"> 1. Recall html, JavaScript, CSS and applet codes . 2. Implement hierarchy of objects in HTML and XML. 3. Design dynamic and interactive web pages by embedding Java Script code in HTML. 4. design a creative and dynamic website 5. Critique different technologies used for WEB designing 6. Analyze and create XML documents and XML Schema 7. Analyze and built interactive web applications using ASP and ASP.NET
	SCRIPTING LANGUAGES	<ol style="list-style-type: none"> 1. Organize computing requirements appropriate to solution of a problem on hand. 2. Generate applications using PHP, Python 3. Implement connecting Web pages with DB 4. Exemplify form containing several fields and be able to process the data provided on the form by a user in a PHP-based script. 5. Recall basic PHP syntax for variable use, and standard language constructs, such as conditionals and loops. 6. Implement the syntax and use of PHP object-oriented classes. 7. Critique the syntax and functions available to deal with file processing for files on the server as well as processing web URLs.

GR14A3060		
GR14A3061	ARTIFICIAL INTELLIGENCE AND NEURAL NETWORKS	<ol style="list-style-type: none"> 1. Implement Heuristic approach for dealing with real world problems 2. Recognize Proposition logic for fact representation 3. Compare Optimization techniques available for solving the problems 4. Implement Back propagation networks for machine learning 5. Analyze Feature learning techniques for classifying/recognizing the patterns 6. Check Training and validation mechanisms of Artificial neural networks for abstraction 7. Generate solutions using Adaptive resonance theory for scientific problems
GR14A3062	MULTICORE COMPUTING AND ARCHITECTURE	<ol style="list-style-type: none"> 1. Classify multicore architectures 2. Distinguish between higher threading and multi threading 3. Implement SIMD techniques for data driven real time applications 4. Implement Programming skills of OMP for scientific problems 5. Recall MPI concepts while dealing with parallel problems 6. Analyze Scheduling in multi-threaded environment 7. Check load balancing in multi core environment
GR14A3101	INDUSTRY ORIENTED MINI PROJECT	<ol style="list-style-type: none"> 1. Work in a team. 2. Analyze, design and implement a real time problem. 3. Understand the various phases involved in developing a product. 4. Produce the project in product based form. 5. Express /interpret their views with out hesitation 6. Lose their stage fear and develop self - confidence 7. Present the project orally and in written report.
GR14A3100	ADVANCED ENGLISH COMMUNICATIONS SKILL LAB	<ol style="list-style-type: none"> 1. Ability to explore and utilize different forms of communication to convey one's ideas in various professional contexts. 2. Ability to engineer self-presentation and socializing. 3. Ability to appear various international online exams like GRE, TOEFEL, IELTS. 4. Ability to prepare technical writing for effective professional documentation. 5. Express / interpret their views with out hesitation 6. Ability to design and build various behavioral aspects in relation to problem solving. 7. Able to gain expertise to share opinions and express views precisely.
GR14A3063	WEB TECHNOLOGIES LAB	<ol style="list-style-type: none"> 1. Generate Java Applications. 2. Recall programming skills on internet based applications. 3. Design and develop sophisticated web sites and applications. 4. Compare the web projects developed with traditional projects 5. Critique procedures of internet programming. 6. Implement the important HTML tags for designing static pages and separate design from content using Cascading Style sheet. 7. Compare the Use of web application development software tools i.e. Ajax, PHP and XML etc.

IV B.Tech I Semester		
GR11A3065	OBJECT ORIENTED ANALYSIS AND DESIGN	<ol style="list-style-type: none"> 1. Exemplify the interface between classes and objects 2. Create class diagrams that model both the domain model and design model of a software system 3. Create interaction diagrams that model the dynamic aspects of a software system. 4. Critique all the nine UML diagrams drawn for a software design 5. Recognize business classes, attributes and relationships and construct the domain model as a class diagram using Rational Rose. 6. Check Component and Deployment diagrams for Real time Systems 7. Produce Forward and reverse engineering design for all UML Diagrams
GR11A4077	SOFTWARE TESTING METHODOLOGIES	<ol style="list-style-type: none"> 1. Create a model for testing and criticize various consequences of bugs. 2. Interpret sensitization and instrumentation of paths 3. Apply a path testing technique for a given software. 4. Check various state testing techniques for exploring state related bugs. 5. Recognize domains for data items used in an application. 6. Design test cases based on decision tables. 7. Attribute graph matrices techniques for the simplification of testing process.
GR11A3102	MANAGEMENT SCIENCE	<ol style="list-style-type: none"> 1. To define and describe the functional areas of management 2. Ability to increase the efficiency of factors of production and to maximize results with minimum efforts. 3. To construct a comprehensive approach in students enabling understanding of their role in organization and how role fits in the development of the enterprise. 4. To extend management/business exposure to technical students. 5. Ability to Maximize Prosperity of both the employer and employees. 6. To recognize, relate and apply the integration of business management with science and technology. 7. To extend the understanding in engineering students about the need for marketing in science and technology.
GR11A4078	MOBILE COMPUTING AND APPLICATIONS	<ol style="list-style-type: none"> 1. Explain the concepts and features of mobile computing. 2. Recognize the important issues of developing mobile computing systems and applications. 3. Summarize the underlying technologies using in mobile computing. 4. Critique the working of the underlying mobile communication networks , their technical features, and kinds of applications they can support. 5. Produce a solution with appropriate technology and tools for mobile applications. 6. Check developed mobile application. 7. Compare and define the different architectures and applications of mobile computing in real time.
		<ol style="list-style-type: none"> 1. Understand the features, advantages and challenges of Cloud Computing , compare their operation, implementation and performance. 2. Understand, Analyze and Compare different types of Clouds and Cloud Services. 3. Execute/Provide Cloud computing solutions for individual users as well as enterprises. 4. Evaluate, Collaborate and work in teams to contribute and give feedback on case studies on different cloud computing solutions. 5. Understanding and Validating the financial,

GR11A4087	CLOUD COMPUTING	<p>and technological implications in selecting Cloud Computing Paradigm for an organization.</p> <p>6. Understand and Analyze the Challenges and Risks involved in the Cloud.</p> <p>7. Create/Deploying of an Application on a Cloud</p>
GR11A4080	NATURAL LANGUAGE PROCESSING	<p>1. Summarize linguistic phenomena and an ability to model them with formal grammars</p> <p>2. Check proper experimental methodology for training and evaluating empirical NLP systems</p> <p>3. Create statistical models over strings and trees</p> <p>4. Design, implement, and analyze NLP algorithms</p> <p>5. Compare the work done in different research papers of natural language processing domain.</p> <p>6. Differentiate parameters used for supervised and unsupervised training methods</p> <p>7. Recognize the role of machine learning and language models.</p>
GR11A4081	MACHINE LEARNING	<p>1. Analyse data operations on variety of databases.</p> <p>2. Apply predictive data analytic methods.</p> <p>3. Implement the Fit statistical models on machine learning.</p> <p>4. Critique the results to produce business intelligence.</p> <p>5. Analyze trends in analytical data using data mining, segmentation and decision trees.</p> <p>6. Exemplify data analytic tools.</p> <p>7. Implement appropriate tools for data visualization.</p>
GR11A4082	MOBILE APPLICATION DEVELOPMENT	<p>1. Recall the key technological principles and methods for delivering and maintaining mobile applications,</p> <p>2. Evaluate suitable software tools and APIs for the development of a particular mobile application</p> <p>3. Implement High level and Low level Displays of mobile and Storing data by using Record Management System(RMS)</p> <p>4. Produce mobile applications using an appropriate software development environment with Database.</p> <p>5. Critique requirements for mobile platforms to establish appropriate strategies for development and deployment,</p> <p>6. Interpret a scenario, plan, design and develop a prototype hybrid and native mobile application,</p> <p>7. Differentiate leading edge developments in mobile application development.</p>
GR11A3068	DISTRIBUTED DATABASES	<p>1. Demonstration of the Distributed Database environment</p> <p>2. Applicability to solve the fragment queries</p> <p>3. Capability of understanding the architecture of the distributed database environment.</p> <p>4. Definition of the Transaction and the Concurrency issues</p> <p>5. Analysing the reliability of the Distributed Database</p> <p>6. Outlining of the object databases</p> <p>7. Capability to understand data integration issues</p>
		<p>1. Implement client server applications in the UNIX environment while exploring OS features.</p> <p>2. Exemplify inter-process communications using semaphores, shared memory, message queues.</p> <p>3. Develop TCP Client Server applications..</p> <p>4. Develop UDP Client server applications</p>

GR11A4083	ADVANCED NETWORK PROGRAMMING LAB	<p>5. Differentiate CONNECTION ORIENTED and CONNECTIONLESS communication between client server</p> <p>6. Generate Socket Programming in Linux environment</p> <p>7. Implement the peer to peer communication in Linux Platform</p>
GR11A4084	SCRIPTING LANGUAGES LAB	<p>1. Recall process of executing a PHP-based script on a webserver.</p> <p>2. Compare different Data Base languages.</p> <p>3. Generate complete web applications using PHP and MySQL.</p> <p>4. Analyze requirements of software system for the purpose of implementing in PERL/PYTHON.</p> <p>5. Implement simple graphical user interfaces that drive their programs.</p> <p>6. Critique the paradigm for dealing with form-based data, both from the syntax of HTML forms, and how they are accessed inside a PHP-based script.</p> <p>7. Organize websites to load data from them (web scraping).</p>
GR11A4085	OBJECT ORIENTED ANALYSIS AND DESIGN LAB	<p>1. Recall the fundamental principle of object oriented programming.</p> <p>2. Compare the design based on the different diagrams drawn to find any missing requirements.</p> <p>3. Implement UML diagrams for Library management system.</p> <p>4. Organize different diagrams into packages.</p> <p>5. Critique the applications developed for Railway reservation system and ATM.</p> <p>6. Generate USE CASE diagrams for different applications</p> <p>7. Produce multiple design artifacts for projects.</p>
IV B.Tech II Semester		
GR11A3067	DATAWARE HOUSING AND DATA MINING	<p>1. Recognize the need for data mining and its applications.</p> <p>2. Create data mart or data warehouse for any organization</p> <p>3. Apply Preprocessing statistical methods for any given raw data</p> <p>4. Exemplify queries using DMQL</p> <p>5. Implement data mining techniques to extract knowledge</p> <p>6. Implement new data mining tools.</p> <p>7. Check recent trends in data mining such as web mining, spatial-temporal mining</p>
GR11A4086	REAL TIME OPERATING SYSTEMS	<p>1. Generate embedded system applications.</p> <p>2. Compare the solutions for deadlocks.</p> <p>3. Check applying of divisible load theory and fault tolerance in RTOS.</p> <p>4. Explain real time concepts such as preemptive multitasking, task priorities etc.,</p> <p>5. Apply formal methods to the analysis and design of real time systems.</p> <p>6. Implement real time operating system kernel.</p> <p>7. Summarize the time management of the real time operating system.</p>
		<p>1. Appraise and apply evidence practice (EBP) to formulate effective solutions to deal with contemporary performance problems and issues associated with the delivery of business information systems.</p> <p>2. Create a consultant report that critically evaluates important design principles and operations involving business intelligence and that offers effective recommendations aimed at enhancing business outcomes.</p>

GR11A4097	BUSINESS INTELLIGENCE	<p>3. Devise a framework to assess company/industry performance and to apply it to produce a performance report of a nominated entity..</p> <p>4. Exemplify the concepts and architectures of data warehousing</p> <p>5. Evaluate the importance and implementation of learning theory to construct and apply practices that facilitate aspects of personal and institutional change.</p> <p>6. Summarize the impact of business reporting, information visualization and dash boards</p> <p>7. Demonstrate competence in oral, written, and visual communication in business reports and presentations</p>
GR11A4088	IMAGE PROCESSING AND PATTERN RECOGNITION	<p>1. Implement 2D,3D image representations</p> <p>2. Apply image transformations for smoothing and enhancements</p> <p>3. Recall neighborhood operators for images</p> <p>4. Check Discrete Wavelet Transforms for image compression</p> <p>5. Implement mathematical transformations such as scaling rotation etc..</p> <p>6. Check image transformation techniques using MAT LAB.</p> <p>7. Design projects on object recognition</p>
GR11A4089	CYBER SECURITY	<p>1. Attribute different types of cyber criminals and the motives behind them.</p> <p>2. Infer different types of cyber-attacks and steps involved in planning Cybercrime.</p> <p>3. Exemplifying the security challenges faced by the mobile workforce and their implications.</p> <p>4. Differentiate various tools and methods used in Cybercrime.</p> <p>5. Recall, implement and follow the cyber law.</p> <p>6. Classifying different methods of phishing and identity theft.</p> <p>7. Plan for the digital forensic tools.</p>
GR11A4090	DESIGN PATTERNS	<p>1. Apply Singleton Pattern to provide controlled access to the sole instance of a class.</p> <p>2. Apply Composite Pattern to represent whole-part hierarchies of objects.</p> <p>3. Explain Factory Method Pattern to eliminate the need to hard-code specific class names.</p> <p>4. Attribute Strategy Pattern to configure a class with one of many alternate behaviors..</p> <p>5. Produce creational patterns to help make systems independent of how its objects are created.</p> <p>6. Plan structural patterns to compose classes and objects into larger structures.</p> <p>7. Critique other behavioral pattern to manage algorithms and assign responsibilities to objects</p>
GR11A4091	E-COMMERCE	<p>1. Summarize nature and types of e-commerce.</p> <p>2. Differentiate all types of business models.</p> <p>3. Attribute the appropriate technologies to develop and deliver e-commerce applications.</p> <p>4. Plan suitable software, hardware and e-com tools for developing a better web application.</p> <p>5. Implement a robust, safe and secured online payment system.</p> <p>6. Recognize online content and management.</p> <p>7. Interpret about the current e-commerce development and usage of effective internet.</p>
		<p>1. Recall basic concepts and applications of data warehouse and data mining.</p> <p>2. Implement various data mining techniques using weka tool</p>

GR11A4092	DATAWARE HOUSING AND DATA MINING LAB	<p>3. Implement data mining methods for classification.</p> <p>4. Check recent trends in data mining such as web mining, spatial-temporal mining.</p> <p>5. Generate new methods for clustering data.</p> <p>6. Exemplifying Queries using DMQL</p> <p>7. Evaluate Apriori and FP Growth Algorithms for Association Rule Mining.</p>
GR11A4143	SEMINAR	<p>1. A more advanced knowledge of the region including research and writing in a seminar format.</p> <p>2. Self-study on multidisciplinary areas related to CSE engineering.</p> <p>3. Develop required skills for technical presentation</p> <p>4. Improves the communication, presentation skills</p> <p>5. Develop self- confidence</p> <p>6. Concentrate on specific topic in scientific and engineering fields.</p> <p>7. Discuss new trends among group of students and faculties.</p>
GR11A4142	COMPREHENSIVE VIVA	<p>1. Ability to articulate knowledge on various fundamentals.</p> <p>2. Ability to articulate knowledge on design concepts.</p> <p>3. Ability to define engineering basics, Applications, concepts.</p> <p>4. Improves in-depth knowledge about the Core subjects</p> <p>5. Learn about the real time interview process</p> <p>6. Ability to express sufficient knowledge in selected course.</p> <p>7. Ability to respond face interview, oral presentation and oral examination.</p>
GR11A4144	MAJOR PROJECT	<p>1. Applying theoretical concepts into working model.</p> <p>2. Improve their communication skills and team work.</p> <p>3. Plan, implement and document the problem solution.</p> <p>4. Analyze, design, and develop while providing solution to the problem.</p> <p>5. Ability to work in a team</p> <p>6. Learn the real time environment and possess leadership qualities</p> <p>7. Use the latest technologies and tools which are sort after by the industries.</p>

Programme Outcomes:

Based on the Computer Science and Engineering department's educational objectives, students will achieve the following specific Program Outcomes

- a. Ability to apply knowledge of mathematics, science, and engineering.
- b. Ability to design and conduct experiments, as well as to analyze and interpret data.

- c. Ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.
 - d. Ability to function on multi-disciplinary teams.
 - e. Ability to identify, formulates, and solves engineering problems.
 - f. Understanding of professional and ethical responsibility.
 - g. Ability to communicate effectively.
 - h. Broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.
 - i. Recognition of the need for, and an ability to engage in life-long learning.
 - j. Knowledge of contemporary issues.
 - k. Ability to utilize experimental, statistical and computational methods and tools necessary for engineering practice.
- I(PSO).** Ability to create and or use Computer Science and Engineering related software tools, to get employment and succeed in higher studies.

2.1.2 State how and where the POs are published and disseminated (3)

Institute Marks : 3.00

(Describe in which media (e.g. websites, curricula books) the POs are published and how these are disseminated among stakeholders)

Every effort is made to ensure POs are communicated effectively to all stakeholders namely students, faculty, parents, industry, alumni and management.

POs are published and disseminated through the following methods:

Print Media : Departmental Brochure/Booklets, Course Registers

Electronic Media: College/Departmental Website, Display Monitors

Display Boards: Notice Boards

Direct Communication: Orientation Programmes to freshers/parents, Induction Programmes to staff members

2.1.3 Indicate processes employed for defining of the POs (5)

Institute Marks : 5.00

(Describe the process that periodically documents and demonstrates that the POs are defined in alignment with the graduate attributes prescribed by the NBA.)

POs are defined and developed for each program with the consultation and involvement of various stakeholders from management, industry, alumni, faculty, and students. Their interests, suggestions and contributions in defining and developing the POs are taken into account.

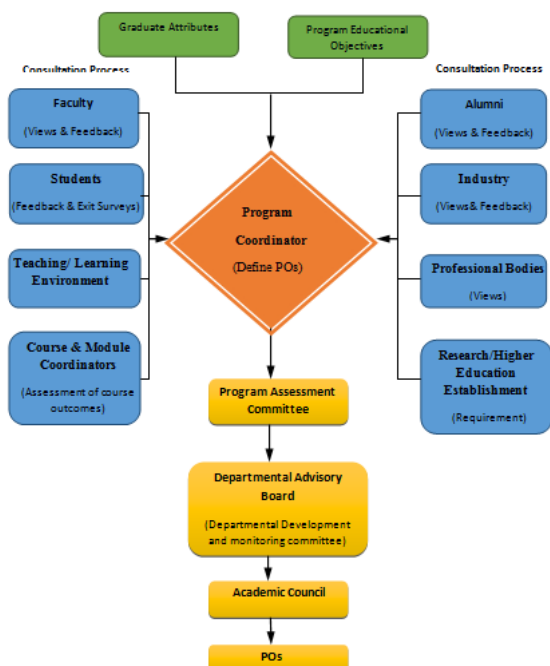


Figure4: **Process for Defining POs**

2.1.4 Indicate how the defined POs are aligned to the Graduate Attributes prescribed by the NBA (10)

Institute Marks : 10.00

(Indicate how the POs defined for the programme are aligned with the Graduate Attributes of NBA as articulated in accreditation manual.)

The following are the graduate attributes prescribed by the NBA

- Engineering knowledge
- Problem analysis
- Design/Development of solutions
- Conduct investigation of complex problems
- Modern tool usage
- The engineer and society
- Environment and sustainability
- Ethics
- Individual and team work
- Communication
- Life-long learning
- Project management and finance

Programme Outcomes are aligned to the Graduate Attributes as given below

Graduate Attributes	Programme Outcomes												
	a	b	c	d	e	f	g	h	i	j	k	l(PSO)	
Engineering knowledge	X												X
Problem analysis and Interpretation		X											X
Design/Development of solutions			X										X
Conduct investigation of complex problems				X									X
Modern tool usage					X								X
The engineer and society						X							X
Environment and sustainability							X						X
Ethics								X					X
Individual and team work									X				X
Communication										X			X
Life long learning											X		X
Project management and finance													X

2.1.5 Establish the correlation between the POs and the PEOs (10)

Institute Marks : 10.00

(Explain how the defined POs of the program correlate with the PEOs)

The Correlation of between Programme Outcomes and Programme Educational Objectives

Programme Educational Objective(PEO)	Programme Outcomes(PO)
<p>PEO 1:</p> <p>Graduates will be prepared for a successful career in the field of Computer Science and Engineering.</p>	<p>a.Ability to apply knowledge of mathematics, science, and engineering.</p> <p>b.Ability to design and conduct experiments, as well as to analyze and interpret data.</p> <p>e.Ability to identify, formulates, and solves engineering problems.</p> <p>h.Broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.</p> <p>j.Knowledge of contemporary issues.</p> <p>k . Ability to utilize experimental, statistical and computational methods and tools necessary for engineering practice.</p> <p>l. Ability to create and or use Computer Science and Engineering related software tools, to get employment and succeed in higher studies.</p>
<p>PEO 2:</p>	<p>a.Ability to apply knowledge of mathematics, science, and engineering.</p> <p>c.Ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and</p>

Graduates will continue to learn and apply the acquired knowledge to solve engineering problems and appreciation of the arts, humanities and social sciences.	<p>sustainability.</p> <p>d. Ability to function on multi-disciplinary teams</p> <p>e. Ability to identify, formulates, and solves engineering problems.</p> <p>f. Understanding of professional and ethical responsibility.</p> <p>g. Ability to communicate effectively</p> <p>l. Ability to create and or use Computer Science and Engineering related software tools, to get employment and succeed in higher studies.</p>
<p>PEO 3:</p> <p>Graduates will have good and broad scientific and engineering knowledgebase so as to comprehend, analyze, design and create novel products and solutions for real-time applications.</p>	<p>e. Ability to identify, formulates, and solves engineering problems</p> <p>f. Understanding of professional and ethical responsibility.</p> <p>g. Ability to communicate effectively.</p> <p>h. Broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.</p> <p>i. Recognition of the need for, and an ability to engage in life-long learning.</p> <p>j. Knowledge of contemporary issues.</p> <p>k. Ability to utilize experimental, statistical and computational methods and tools necessary for engineering practice.</p> <p>l. Ability to create and or use Computer Science and Engineering related software tools, to get employment and succeed in higher studies.</p>
<p>PEO 4:</p> <p>Graduates will understand professional and ethical responsibility, develop leadership, utilize membership opportunities, develop effective communication skills, team work skills, multidisciplinary approach, and life-long learning required for a successful professional career.</p>	<p>d. Ability to function on multi-disciplinary teams</p> <p>e. Ability to identify, formulates, and solves engineering problems.</p> <p>f. Understanding of professional and ethical responsibility.</p> <p>g. Ability to communicate effectively.</p> <p>h. Broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.</p> <p>i. Recognition of the need for, and an ability to engage in life-long learning.</p> <p>k. Ability to utilize experimental, statistical and computational methods and tools necessary for engineering practice.</p> <p>l. Ability to create and or use Computer Science and Engineering related software tools, to get employment and succeed in higher studies.</p>

Mapping of Programme Educational Objectives with Programme Outcomes

Programme Educational Objectives(PEOs)	Programme Outcomes											
	a	b	c	d	e	f	g	h	i	j	k	l
Graduates will be prepared for a successful career in the field of Computer Science and Engineering.	M	M	M	M	M	M	M	M	M	M	M	H
Graduates will continue to learn and apply the acquired knowledge to solve engineering problems and appreciation of the arts, humanities and social sciences.	H	H	M	M	M	M	M	H	M	M	M	M
Graduates will have good and broad scientific and engineering knowledgebase so as to comprehend, analyze, design and create novel products and solutions for real-time applications.	M	M	H	M	H	M	M	H	M	M	M	M
Graduates will understand professional and ethical responsibility, develop leadership, utilize membership opportunities, and develop effective communication skills, team work skills, multidisciplinary approach, and life-long learning required for a successful professional career.	M	M	M	H	M	H	H	M	H	M	M	M

2.2 Attainment of Programme Outcomes (40)**Total Marks : 40.00**

2.2.1 Illustrate how course outcomes contribute to the POs (10)

Institute Marks : 10.00

(Provide the correlation between the course outcomes and the programme outcomes. The strength of the correlation may also be indicated)

Correlation between Course Outcome and Program Outcomes of I B.Tech Computer Science and Engineering

Course Code	Course Title	Course Outcomes	Programme Outcomes												
			a	b	c	d	e	f	g	h	i	j	k	l	
GR14A1001	LINEAR ALGEBRA AND SINGLE VARIABLE CALCULUS	Recognize the concepts of matrix rank to analyze linear algebraic systems	H			M			M		M			H	H
		Compute eigen values and vectors for engineering applications	M			M		M	M		M			H	M
		Illustrate the concepts of Mean Value Theorems to Describe the Medical Imaging and Industrial Automation.	H			M		M			M			M	M
		Differentiate various differential equations using elementary techniques (Exact or linear constant coefficient equations)	H			M		H	M	M				H	M
		Demonstrate model and solve linear dynamical systems	M		H		M	M				H		H	M
		Apply concepts of higher order differential equations to solve typical problems in Electrical circuits.	H	M			M	M				H			
		Identify the physical phenomena of Simple harmonic motion by concepts of Differential equations.		H	H			M		M				M	M
		Solve problems on function optimization with and without constraints	M	M	H		H		M	M			H		

GR14A1002	ADVANCED CALCULUS	Apply the knowledge of curve tracing and geometry to precisely estimate areas and volumes.	M	M	H		H			M		M		M
		Classify the concepts of applications of integration.	H	M				M		M			H	M
		Explain the real significance of applications of multiple integrals.	H		M		H			M		M	H	M
		Apply the knowledge of multiple integrals in solving problems in vector fields	H	M			M			M	M			M
		Classify the concepts of differential calculus with physical interpretation.	M	H		M				M	M		H	M
		Categorize the verification and evaluation of vector integral theorems geometrically	H	M	M		H			M			H	
GR14A1007	ENGINEERING PHYSICS	Identify and describe various bonds between the atoms and properties of various materials.	H	H	M	M	H			M		M	H	
		Explain the behavior of free electrons and how they are responsible for exhibition of various properties.	H		M	M	H			M		M	H	
		Classify various magnetic materials and apply knowledge gained in various fields.	H	M		M	M	H		H		M		
		Differentiate different dielectric materials and its utilization.	H	H		M	H			M		M	H	
		Analyze why Laser light is more powerful than normal light and its applications in various fields.	H	H	M	H	M			M		M	H	
		Demonstrate the application of optical fibers in communication.	H	H	M	M	H			M		M	H	
		Extend the knowledge of characterization techniques to know the composition of Nano material.	H	H	M	M	H			M		M	H	
		Comprehend the basic concepts of computers, software, hardware, generations of programming languages, program development steps, algorithms, flowcharts.	H	H	H	M	H			M		M	H	
		Comprehend the pre-programming C-concepts such as C-Tokens like keywords, data-types.	M	H		M	H			M		M	H	
		Comprehend the concepts of operators, evaluation of expressions, I/O statements.	H	H	H	M	H				M		M	H
		Analyze the concepts of decision making such as branching, looping, unconditional jumping.	H	M	H	M	H			M			M	
		Comprehend the C-language features such as	H	H	H	M	H			M		M	M	H

GR14A1009	COMPUTER PROGRAMMING	arrays, strings, functions, pointers, structures, files.																				
		Design and develop C-Programs for various general problems and their implementation.	H			M	H				M							M	H			
		Design and develop C-Programs for Complex problems independently	H	M	H	M	H											M		M	H	
GR14A1005	ENGLISH	Identify and compare a wide range of text to know the importance of lifelong learning.	M			M			M	H	M	M								M		
		Relate and develop English language proficiency with an emphasis on LSRW skills.	M			H			M	H			M								M	
		Infer and interrelate academic subjects through English language skills for better understanding of technical intricacies.	H		M	M					H		M								M	
		Organize ideas appropriately and fluently in social and professional areas.	M			M			M	H	M	M									M	
		Implement English language skills to meet the corporate needs.	H			M			H	H	M										M	
		Translate and demonstrate self in social and professional situations.	H			M			M	H	M	M									M	
		Distinguish and construct literary sense through wide range of selections from various genres.	M			H			M	H		M									M	
GR14A1019	FUNDAMENTALS OF ELECTRONICS AND ENGINEERING	Comprehend the fundamentals of construction of the semiconducting materials, fabrication of elements working principles and operation of semiconductors.	M	M	H			H											M	H		
		Analyze the concept with the working principles of forward and reverse bias characteristics.	H	M				H				M							M	M		
		Demonstrate the basic skills in design and analysis of filter circuits, biasing circuits.	M	M	H					M										M	H	
		Discriminate the principle, construction and operation BJTs, FETs and MOSFETs	H		H			H												M	H	
		Interpret the different techniques for FET and MOSFET circuit designs	M	M	H			H												M	H	
		Interpret the performance and analysis-volt amp characteristics of a BJT and FET amplifiers.	M	H	M			H												M	H	
		Analyze the small signal low frequency Transistor amplifiers using h-parameters.	M	M	H			H					M							M	H	
ENGINEERING WORKSHOP		Design and model different prototypes in the Carpentry trade such as Cross lap joint, Dove tail joint	H	H	M	M	H					M							M	H		
		Demonstrate straight fit, V-fit by making models.	H	M	H					M	M									H	M	
		Construct various basic prototypes in the trade of tin smithy such as rectangular tray and open scoop etc.	M	H	H					M										M	M	
		Analyze to make in the trade of Tin Smithy such as Rectangular tray and Open Cylinder	H	M				H					M	M						H	M	
		Apply various House Wiring techniques such as Connecting one lamp with one switch,	H			M	H	H												M	M	H
		Develop various basic house wiring techniques such as two lamps with one switch, Connecting a Fluorescent tube, Series Wiring, Go down wiring	H	H	M	M	H							M							M	H
		Demonstrate to develop various basic																				

GR14A1025		Demonstrate to develop various basic prototypes in the trade of Welding such as Lap joint, Lap Tee joint, Butt joint and Corner joint	M	H	H	M	H				M		H	M	
GR14A1027	COMPUTER PROGRAMMING LAB	Analyze and debug a given program	M			M			M		M		H	M	
		Use basic concepts, decision making and looping and c library functions for program development.	H	M	M				H			M	M		
		Develop programs using arrays and strings.	H			H	M		M		M	M		H	M
		Illustrate recursive and non recursive programming approaches.	M				M					M		H	M
		Apply concepts of pointers and dynamic memory allocation for program development.	M				H		M			M		H	M
		Apply fundamental, derived or user defined data types for problem solving.	M				M			M		M		H	M
		Experiment files operations and demonstrates command line arguments.	M				M	M				H		M	M
GR14A1029	ENGINEERING PHYSICS LAB	Identify the usage of CRO, digital multi meter to record various physical quantities.	M			M			M		M		H	M	
		Distinguish the characteristics and behavior of dielectric materials in a practical manner.	H				M		M			H		H	M
		Calculate losses in optical fiber and interpret them to the optical communication systems.	M			H	M	H			H		H	M	
		Quantify the type of semiconductor and measurement of energy gap in a semiconductor.	M				M			M		M		H	M
		Investigate the properties of light like interference and diffraction through experimentation.	M				H		M			M		H	M
		Examine the behavior of magnetic materials with the help of graph.	M				M			M		M		H	M
		Analyze the characteristics of light emitting diodes for their optimum utilization.	M				M			M		H		M	M
GR14A1003	TRANSFORM CALCULUS AND FOURIER SERIES	Calculate definite integral values using Beta and Gamma Functions	H				M		M		M		H	H	
		Develop the skill of evaluating Laplace and inverse Laplace transform to solve linear systems under initial and boundary conditions	M				M			M		M		H	M
		Illustrate the concepts of Laplace Transform to find the solutions of physical problems such as Electrical circuits.	H				M			M		M		M	M
		Interpret the Fourier series and Fourier transform in the context of signals and systems.	H				M			M	M			H	M
		Solve difference equations by Z-Transform.	M					M				H		H	M
		Formulate Partial differential equations by eliminating arbitrary functions and arbitrary constants.	H	M			M			M		H			
		Compile the solution of Boundary value problems (PDE) by Fourier Transform Method.		H	H					M		M		M	M
		Develop the skill of determining approximate solutions to problems having no analytical	M	M	H		H			M			H		

GR14A1004	NUMERICAL METHODS	Solutions in different contexts																			
		Solve problems related to cubic spline fitting and approximation of functions using B-splines and least squares	M	M	H		H					M						M		M	
		Develop the skill of finding approximate solutions to problems arising in linear differential Equations	H	M					M		M									H	M
		Identify how the numerical methods play a vital role in many areas in engineering for example Dynamics, elasticity, heat transfer, electromagnetic theory and quantum mechanics.	H		M		H				M									H	M
		Interpret the mathematical results in physical or other terms to see what it practically means and implies.	H	M				M			M										M
		Explain the concept of interpolation is useful in predicting future out comes base on the present knowledge.	M		M		M				M									H	M
		Solve the model by selecting and applying a suitable mathematical method.	H	M	M		H				M									H	
GR14A1008	ENGINEERING CHEMISTRY	Analyse water for the industry required specifications.	H	H	M	M	H			M								M	H		
		Comprehend the fundamental principles of electrochemistry for energy production and corrosion Prevention.	H		M	M	H				M								M	H	
		Identify the origin of different types of engineering materials used in modern technology.	H			M		M				M								H	H
		Identify new materials for novel applications.	M			M					M		M							H	M
		Develop the skills required for synthesis and analysis of materials.	H			M					M		M							M	M
		Relate the structure of materials to their properties and applications.	H			M					M		M							M	M
		Illustrate the processing of fossil fuels for the effective utilization of chemical energy and the necessity of sustainable, environmentally-friendly energy sources like solar energy.	M			M	M												H		H
		Classify and infer various data structures.	H	M					M										H		
		Demonstrate operations like insert, delete, search and display of various data structures.		H	H					M	M									M	M

GR14A1010	DATA STRUCTURES	Exemplify and experiment applications of various data structures.	M	M	H		H			M				H	
		List applications of data structures in real time environments.	M	M	H		H			M		M			
		Compare and contrast static and dynamic data structure implementations.	H	M				M		M				H	M
		Demonstrate different methods of traversing trees and construct trees from traversals.	H		M		H			M				H	M
		Implement searching and sorting techniques and analyze their performance.	H	M			M			M					M
GR14A1023	ENGINEERING GRAPHICS	Demonstrate different types of lines, the use of different types of pencils and drafter to represent	M			M		M	M				H	M	
		Illustrate the basic drawing techniques, conic sections, cycloid curves, involutes and engineering	H	M	M		H							H	
		Comprehend the basic concept of principle of planes of projections in front view and top view.	H	H	M	M	H			M				M	H
		Implement the orthographic projections of points, lines, planes and solids	H		M	M	H			M				M	H
		Analyze the structure which was hypostatically designed ex: development of surfaces, section of	H			H		M			H			M	
		Explain the logic to convert pictorial vies to orthographic projections and orthographic projections to	H	H		M	H			M				M	H
		Evaluate conversions of isometric views to orthographic views helps in inventing new machinery.	H	H	M	H	M			M				M	H
GR14A1018	BASIC ELECTRICAL ENGINEERING	Comprehend the basics of Electrical Engineering and practical implementation of Electrical fundamentals.	H	H	M	M	H			M			M	H	
		Illustrate applications of commonly used electric machinery.	H	H	M	M	H			M				M	H
		Identify the methods for numerical solutions to fundamental electrical engineering.	H	H	H	M	H							M	H
		Apply the basic principles involved in electrical engineering concepts.	M	H		M	H			M				M	H
		Analyze the practical methods of basic house wiring.	H	H	H	M	H				M			M	H
		Identify methods to solve AC circuits.	H	M	H	M	H			M				M	
		Comprehend basics of electric machines like induction motors, generators, transformers etc. used in industries.	H	H	H	M	H			M		M		M	H

GR14A1024	BUSINESS COMMUNICATION AND SOFT SKILLS	Interpret and categorize the role and importance of various forms of communication skills.	H			M	H			M			M	H		
		Apply and relate verbal and non-verbal communication with reference to professional contexts.	H	M	H	M	H			M	M			M	H	
		Appraise professional responsibilities in an analytical manner				M		M	H	M	M				M	
		Plan and organize the activity of sequencing ideas in an efficacious style.	M			H		M	H		M				M	
		Evaluate and illustrate a neutral and correct form of English.	H		M	M			H		M			M		
		Distinguish and prioritize behavior in formal situations.	M			M		M	H	M	M				M	
		Combine business communication skills & soft skills to meet the requirement of corporate communication.	H			M		H	H	M					M	
GR14A1026	IT WORKSHOP	Recognize different peripherals and install different system and application softwares.				M		M	H	M	M			M		
		Analyze and use of web browsers and related tools for information extraction.	M			H		M	H		M			M		
		Create different documents, presentations and spreadsheet applications.	M	M	H		H							M	H	
		Recognize different network devices and their usage and identify and use different cables.	H	M			H			M		M	M			
		Explore the internet for information extraction and other innovative applications.	M	M	H			M			M				H	
		Design a static webpage.	H		H		H			M					M	H
		Design and develop Database.	M	M	H		H			M					M	H
GR14A1030	ENGINEERING CHEMISTRY LAB	Perform analysis of water to the required industrial standards.	M	H	M		H							M	H	
		Apply the redox and acid-base titrations for analysing materials used in routine usage like cement, coal, acid in lead acid battery, etc.,	M	M	H		H				M			M	H	
		Develop the skills required for assessing the quality of materials used in industries.	H	H	M	M	H					M			M	H
		Identify novel ways of instrumental methods of analysis.	H	M	H			M	M						H	M
		Identify the correlation between the measured property and the corresponding application.	M	H	H			M			M				H	M
		Comprehend scientific method of designing experiment and learn the skill necessary to perform it.	H	M		H			M	M		H				M
		Illustrate how to innovate to design alternative energy sources utilizing chemistry for sustainable environment for future generations	H		M	H	H									M

Correlation between Course Outcome and Program Outcomes of II B.Tech Computer Science and Engineering

Course Code	Course Title	Course Outcomes	Programme Outcomes													
			a	b	c	d	e	f	g	h	i	j	k	l		
GR14A2011	PROBABILITY AND STATISTICS	Estimate the chance of occurrence of various uncertain events in different random experiments with strong basics in probability	H	M		M	H			M				H		
		Evaluate random processes which occur in engineering application covered by binomial poisson exponential normal and uniform distributions	H	H			H			M				H		
		Apply various sample techniques	H	H			H			M				H		
		Estimate the models using Regression Analysis.	H	H			H			M				H		
		Estimate system performance measures in different queuing processors	H	H			H			M		H				
		Apply inferential statistics to make predictions or judgments about the population from which the data is drawn	H				H			M					H	
		Develop models for stochastic processes	H	H			H					M			H	
		Apply mathematical and predicate logic for various applications in computer science.	H		H	H	H		M				M	H	H	
		Formulate and solve recurrence relations	H	H	M		M			M				M	H	

GR14A2062	MATHEMATICAL FOUNDATION OF COMPUTER SCIENCE	Solving mathematical as well as graphical problems in a systematic and logical manner.	H	H	M		M		M			H	H	
		Solve problems involving sets, functions, relations, graphs and trees, boolean algebra.	H		H		M	M		H	M			
		Familiar in calculating number of possible outcomes of elementary combinatorial processes such as permutations and combinations.	H	M	H	M	M			M			M	H
		Apply Discrete structures in computer science for various applications.		H			H		M					M
GR14A2063	DATABASE MANAGEMENT SYSTEMS	Recognize the different application of Databases	H	H	M		H		M			M	H	
		Generate relational model i.e., tables based on the conceptual ER models.	H		H	H	H		M		M	H	H	
		Produce the database schema from relational model.		M	H		H		M			M	H	
		Execute database language for e.g. SQL to manipulate the data in the database.	H	M		M	M			M		M	H	
		Implement normalization techniques on the created database.	H		H	M			H	M				
		Compare the different transactions control mechanisms.	H	H		M	H			M			M	H
		Organize file organizations and indexing mechanisms for real time applications	H	H		M	H		M				M	H
GR14A2064	ADVANCED DATA STRUCTURES THROUGH C++	Differentiate between procedure oriented and object oriented programming	H	H		H	M				M	M	H	
		Implement data structures operations like insertion, searching, deletion and traversing.	H	H		M	H			M		M	M	H
		Exemplifying and experiment basic data structures using C++ .	M	H	H		H			M				M
		Compare and contrast the benefits of dynamic and static data structures implementations	H	H		H	M			M			M	H
		Generate dictionary using hashing, balanced trees.		H	M		H		M			M	M	
		Critique various data structures' performances.	H		H		M				M			H
		Recognize data structures concepts in other domains like databases, compiler construction.	H	H			M			M			M	
GR14A2065	DIGITAL LOGIC DESIGN	Apply knowledge of fundamental Boolean principles and manipulation to design Logic Circuits.	H	H			M				M		M	
		Apply various techniques of Boolean function simplification to create minimal expressions.	H	M	M		M			M			H	
		Create combinational circuits for a specified behavior with minimal specification.		H			M					H	H	
		Apply state minimization and reduction to synthesize Sequential circuits.		H			M			M		H	H	
		Realize combinational circuitry using Combinational PLDs	H	H		M			H					M
		Synthesize and simulate combinational and sequential circuits using HDL	H	H			M		M				M	H
		Test HDL models of combinational and sequential circuits.	H				M			M			M	H
		Implement object oriented programming concepts to develop classes.	H	M	M		M	M		M			M	
		Exemplifying and experiment basic data structures	H	H	M	H	M		M				M	H

GR14A2104	ECONOMICS AND FINANCIAL ANALYSIS	To understand the global economic and environmental issues and try to use the related tools of the management concepts	H	M	M		M		H	H		M				
		understand the markets and competition;	H	M	M		M						M	H		
GR14A2069	OPERATING SYSTEMS	Describe functions ,structures of operating systems	H	M	H	M				H		M				
		Comprehend various process management concepts including scheduling, synchronization, deadlocks	H	M			M						M	M		
		Learn the concepts of memory management including virtual memory.	H	M	M		M			M			M	H		
		Solve issues related to file system interface and implementation disk management.	H	M	M		M				M		M	H		
		Recognize protection and security mechanisms and familiar with various types of operating systems including UNIX.	H	H	M		H						M	M	H	
		Analyze the sharing of system resources among the users.	H	M			M			M				M		
		Differentiate various types of operating systems.	H				M					M		M	H	
GR14A2070	OBJECT ORIENTED PROGRAMMING THROUGH JAVA	Distinguish between higher threading and multi threading	H	H	M	H	M		M				M	H		
		Differentiate between procedure oriented programming and object oriented programming.	H		H	H	H							H	H	
		Apply object oriented programming features and concepts for solving a given problem.	H	M					H		H			M		
		Use java standard API library to write complex programs.	H	H	M		H							M	H	
		Implement object oriented programming concepts using java	H	H	M	M								M	H	
		Find the errors and trace the output of the program.	H	M			M			M				M	H	
		Develop interactive programs using applets and swings.		H			M					M		M		
GR14A2071	FORMAL LANGUAGES AND AUTOMATA THEORY	Recall regular languages and finite automata		H	H		M			M			M	M		
		Recall broad overview of the theoretical foundations of computer science		H	H		M			M				M	M	
		Acquire a fundamental understanding of the core concepts in automata theory and formal languages	H	H	M		M								H	
		Design grammars and automata(recognizers) for different language classes	H	M	M				M					M	M	
		Organize formal language classes and prove language membership properties	H	M			M				M				H	
		Compare theorems establishing key properties of formal languages and automata	H	H			M		M					M	H	
		Check computational models including (but not limited to) decidability and intractability		M			M					M		M	H	
GR14A2076	COMPUTER ORGANIZATION	Demonstrate knowledge of register organization of a basic computer system		M	M			M		M			M	H		
		Infer control unit organization and micro programmed control.	H	M	M		M				M		M	H		
		Check the performance of central processing unit of a basic computer system.	H			M		M				H				
		Impliment various algorithms to perform arithmetic operations and propose suitable hardware for them.		M			M		M					H		
		Demonstrate knowledge of register organization of a basic computer system		M	M				M		M			M	M	
		Infer control unit organization and micro programmed control.		M	M		H		H		H					
		Check the performance of central processing unit of a basic computer system.	H	M		M			M					M	H	
		Differentiate between procedure oriented programming and object oriented programming	H			M				H		M				
		Implement object oriented programming features and concepts for solving given problem	H				H		M	M				H		
		Produce complex programs using Java standard	H	M			M		M		M		M			

GR14A3053	PROGRAMMING LANGUAGE	Examine object and type concurrency.	LVI	LVI	LVI	LVI	LVI	LVI	LVI	LVI	LVI	LVI	LVI	LVI	LVI	LVI	LVI				
		Compare functional and imperative languages.	H	M			M										M				
		Illustrate how to handle the exceptions.	H	M			M										M				
GR14A2059	MICRO CONTROLLERS LAB	Comprehend the fundamentals in programming for microcontrollers	M	M	M	M				H	M						M				
		Analyze the code and build simple real time applications using microcontrollers		H	H	M	M	M	M									M			
		Know the skill to write, upload the programs on LED patterns, Switches and LEDs	H						M	M	M							M	H		
		Compile and compose the programs on LED patterns, Switches and LEDs																			
		Describe the LCD and UART based programs		M					M	M	M								M		
		Interpret with various applications using TRIAC, ADC and DAC		M	M	M	M	M	M										M		
		Discriminate the Control based programs	H	M															M		
		Interpret with RF 433 MHz, Bluetooth and ZigBee transmitter and Receiver	H	M					M										M	H	
GR14A3054	ADVANCED JAVA PROGRAMMING LAB	Critique solutions for a range of problems using object-oriented programming.	H	M	M			M										M			
		Design and implement simple GUI applications	H	M	M	M												M	H		
		Implement advanced java programming concepts	H	M	M	M	M											M	H		
		Recognize complex data objects as whole entities, rather than by twiddling with their elements	H	M	M				M										M		
		Generate self explanatory program solving mechanisms.	H	M	M				M										M	M	
		Exemplify programs with networking and multithreading concepts	H	M	M				M										M	H	
		Recall the concepts of basic java language	H	M	M														M	H	
GR14A3055	ADVANCED UNIX PROGRAMMING AND COMPILER DESIGN LAB	Implement the functionality of UNIX utilities and system calls in SHELL environment.	H	M				M										M	H		
		Attribute Inter Process Communication to pipes and FIFOs.	H	M				M											M		
		Develop and validate C programs in UNIX environment for system administration and various kinds of applications.	H	M																	
		Interpret and define the role of lexical analyzer and use of regular expressions.	H	M					M											M	
		Check programs for implementing parsing techniques.	H						M											M	H
		Explain the working of lex and yacc compiler	H	M	M				M	M											M
		Implement SHELL programs in UNIX environment.	H	M	M				M												M
		Recognize that algorithms can be expressed in a language independent	H	M				M											M	H	

GR14A3100	COMMUNICATIONS SKILL LAB	Ability to design and build various behavioral aspects in relation to problem solving.	H					M						M	H	
		Express /interpret their views with out hesitation	H		M	M	M	H		M					H	
		Able to gain expertise to share opinions and express views precisely.		M			H				M	M	H			
GR14A3063	WEB TECHNOLOGIES LAB	Generate Java Applications.	H					M						M		
		Recall programming skills on internet based applications.	H	M			M									
		Design and develop sophisticated web sites and applications.	H	M	H	H				M	M	M	M	H		
		Compare the web projects developed with traditional projects	H	M	M	H	H			H	M	H	H	H		
		Critique procedures of internet programming.	H				M							M	H	
		Implement the important HTML tags for designing static pages and separate design from content using Cascading Style sheet.	H	M	M		M	M								M
		Compare the Use of web application development software tools i.e. Ajax, PHP and XML etc.	H	H	H	M					H	M	M	M	H	

Correlation between Course Outcome and Program Outcomes of IV B.Tech Computer Science and Engineering

Course Code	Course Title	Course Outcomes	Programme Outcomes													
			a	b	c	d	e	f	g	h	i	j	k	l		
GR11A3065	OBJECT ORIENTED ANALYSIS AND DESIGN	Exemplify the interface between classes and objects	H	M			M							M	H	
		Create class diagrams that model both the domain model and design model of a software system	H	M			M							M		
		Create interaction diagrams that model the dynamic aspects of a software system.	H	M												
		Critique all the nine UML diagrams drawn for a software design	H	M			M								M	
		Recognize business classes, attributes and relationships and construct the domain model as a class diagram using Rational Rose.	H	M	H		M	M							M	
		Check Component and Deployment diagrams for Real time Systems			H					M					M	M
		Produce Forward and reverse engineering design for all UML Diagrams	H	M	M		M								M	
GR11A4077	SOFTWARE TESTING METHODOLOGIES	Create a model for testing and criticize various consequences of bugs.	H	M		M								M	H	
		Interpret sensitization and instrumentation of paths	H		H		M							M		
		Apply a path testing technique for a given software.			H	M		M						H	M	H
		Check various state testing techniques for exploring state related bugs.	H	M	H		M	M						M		
		Recognize domains for data items used in an application.				H				M				M	M	
		Design test cases based on decision tables.	H	M			M									H
		Attribute graph matrices techniques for the simplification of testing process.			M	M	M									
		To define and describe the functional areas of management		M	H		H						H	M		
		Ability to increase the efficiency of														

GR11A3102	MANAGEMENT SCIENCE	Ability to increase the efficiency of factors of production and to maximize results with minimum efforts.		M	H	M		M			M	M	M	
		To construct a comprehensive approach in students enabling understanding of their role in organization and how role fits in the development of the enterprise.		M		M		H		M				
		To extend management/business exposure to technical students.	H	M	H		M	M				M		
		Ability to Maximize Prosperity of both the employer and employees.		M			H			M	M	H		
		To recognize, relate and apply the integration of business management with science and technology.	H				M						M	
		To extend the understanding in engineering students about the need for marketing in science and technology.	H	M			M							
GR11A4078	MOBILE COMPUTING AND APPLICATIONS	Explain the concepts and features of mobile computing.	H	M	M	H	H		H	M	H	H	H	
		Recognize the important issues of developing mobile computing systems and applications.	H	M	H		M	M				M		
		Summarize the underlying technologies using in mobile computing.				H			M			M	M	
		Critique the working of the underlying mobile communication networks , their technical features, and kinds of applications they can support.	H	H	H	M				H	M	M	M	H
		Produce a solution with appropriate technology and tools for mobile applications.	H	H	H		H			H	M	M	M	M
		Check developed mobile application.	M	M	M		H			M	M	H	H	H
		Compare and define the different architectures and applications of mobile computing in real time.		M		M				H	M		M	M
GR11A4087	CLOUD COMPUTING	Understand the features, advantages and challenges of Cloud Computing , compare their operation, implementation and performance.	M	M	H		M		M	M	M	M	M	
		Understand, Analyze and Compare different types of Clouds and Cloud Services.	M	M	M					M	M	M	M	
		Execute/Provide Cloud computing solutions for individual users as well as enterprises.	M	M	H		M			M	M	M	M	M
		Evaluate, Collaborate and work in teams to contribute and give feedback on case studies on different cloud computing solutions.	M	M	M	M	M	M	M	M	M	M	M	M
		Understanding and Validating the financial, and technological implications in selecting Cloud Computing Paradigm for an organization.	H	M			M						M	
		Understand and Analyze the Challenges and Risks involved in the Cloud.	H	M			M						M	
		Create/Deploying of an Application on a Cloud	M	M	M	M			H	M				M
NATURAL LANGUAGE		Summarize linguistic phenomena and an ability to model them with formal grammars		H	H	M	M	M	M				M	
		Check proper experimental methodology for training and evaluating empirical NLP systems	M	M	H		M			M	M	M	M	M
		Create statistical models over strings and trees		M			M	M	M					M
		Design, implement, and analyze NLP algorithms		M	M	M	M	M	M					M
		Compare the work done in different	H	M									M	

GR11A4097	BUSINESS INTELLIGENCE	company/industry performance and to apply it to produce a performance report of a nominated entity..	H	M	M								M	H			
		Exemplify the concepts and architectures of data warehousing	H	M	M			M		H			M		M		
		Evaluate the importance and implementation of learning theory to construct and apply practices that facilitate aspects of personal and institutional change.	H	M	M			M							M		
		Summarize the impact of business reporting ,information visualization and dash boards	H	H			M	M	M					H	M		
		Demonstrate competence in oral, written, and visual communication in business reports and presentations	H	M	M			M							M	M	
GR11A4088	IMAGE PROCESSING AND PATTERN RECOGNITION	Implement 2D,3D image representations	H	M	M			M						M	H		
		Apply image transformations for smoothing and enhancements	H	M	M										M	H	
		Recall neighborhood operators for images	M	M	H			M			M	M	M	M	M	M	
		Check Discrete Wavelet Transforms for image compression	H	M	M			M								M	
		Implement mathematical transformations such as scaling rotation etc..	H	M	M			M								M	
		Check image transformation techniques using MAT LAB.	H	M	M			M								M	M
		Design projects on object recognition	H	M	M			M								M	H
GR11A4089	CYBER SECURITY	Attribute different types of cyber criminals and the motives behind them.	H	M	M										M	H	
		Infer different types of cyber-attacks and steps involved in planning Cybercrime.	M	M	H			M			M	M	M	M	M	M	
		Exemplifying the security challenges faced by the mobile workforce and their implications.	H	M	M			M								M	
		Differentiate various tools and methods used in Cybercrime.	H	M	M			M								M	
		Recall, implement and follow the cyber law.	H	M	M			M								M	M
		Classifying different methods of phishing and identity theft.	H	M	M			M								M	H
		Plan for the digital forensic tools.	H	M	M											M	H
GR11A4090	DESIGN PATTERNS	Apply Singleton Pattern to provide controlled access to the sole instance of a class.	M	M	H			M				M	M	M	M	M	
		Apply Composite Pattern to represent whole-part hierarchies of objects.	H	M	M			M								M	
		Explain Factory Method Pattern to eliminate the need to hard-code specific class names.	H	M	M			M								M	
		Attribute Strategy Pattern to configure a class with one of many alternate behaviors..	H	M	M			M								M	M
		Produce creational patterns to help make systems independent of how its objects are created.	H	M	M			M								M	H
		Plan structural patterns to compose classes and objects into larger structures.	H	M	M											M	H
		Critique other behavioral pattern to manage algorithms and assign responsibilities to objects	M	M	H			M				M	M	M	M	M	M
		Summerize nature and types of e-commerce.	H	M	M			M							M		
		Differentiate all types of business models.	H	H				M								M	H
		Attribute the appropriate technologies to develop and deliver e-commerce applications.	H	H				M								H	H

GR11A4091	E-COMMERCE	Plan suitable software, hardware and e-com tools for developing a better web application.	M	M	H		M			M	M	M	M	M	
		Implement a robust, safe and secured online payment system.	H	H			M							M	H
		Recognize online content and management.	H	H			M							M	H
		Interpret about the current e-commerce development and usage of effective internet.	M	M	H		M			M	M	M	M	M	M
GR11A4092	DATAWARE HOUSING AND DATA MINING LAB	Recall basic concepts and applications of data warehouse and data mining.	H	M	M		M						M		
		Implement various data mining techniques using weka tool	H	M	M		M						M	M	
		Implement data mining methods for classification.	H	M	M		M						M	H	
		Check recent trends in data mining such as web mining, spatial-temporal mining.	H	M	M								M	H	
		Generate new methods for clustering data.	M	M	H		M			M	M	M	M	M	
		Exemplifying Queries using DMQL	H	M	M		H	H				M			
		Evaluate Apriori and FP growth algorithms for Association Rule Mining.	H	M	M		M						M		
GR11A4143	SEMINAR	A more advanced knowledge of the region including research and writing in a seminar format.	H	M	M		M						M	M	
		Self-study on multidisciplinary areas related to CSE engineering.	H	M	M		M						M	H	
		Develop required skills for technical presentation	H	M	M								M	H	
		Improvises the communication, presentation skills	H	M		M			M	H		H	M		
		Develop self- confidence	H		H		M	H			M				
		Concentrate on specific topic in scientific and engineering fields.	M	M	H		M			M	M	M	M	M	
		Discuss new trends among group of students and facilities.	H	M	M		M						M		
GR11A4142	COMPREHENSIVE VIVA	Ability to articulate knowledge on various fundamentals.	H	M	M		M						M	M	
		Ability to articulate knowledge on design concepts.	H	M	M		M						M	H	
		Ability to define engineering basics, Applications, concepts.	H	M	M								M	H	
		Improves in-depth knowledge about the Core subjects	H	M	M		M				M	H	M		
		Learn about the real time interview process	H	H		M	M	H	M				M		
		Ability to express sufficient knowledge in selected course.	M	M	H		M			M	M	M	M	M	
		Ability to respond face interview, oral presentation and oral examination.	H	M	M		M						M		
		Apply convert theoretical concepts into working model.	H	M	M		M						M	M	
		Improve their communication skills and team work.	H	M	M		M						M	H	
		Plan, implement and document the problem solution.	H	M	M								M	H	
		Analyze, design, and develop while	H	M	M		M						M		

GR11A4144	MAJOR PROJECT	providing solution to the problem.																			
		Ability to work in a team	H	M	M		H		M	M										H	
		Learn the real time environment and possess leadership qualities	H		M	M	M	H					M	M							
		Use the latest technologies and tools which are sort after by the industries.	H	M	M		M													M	M

2.2.2 Explain how modes of delivery of courses help in attainment of the POs (10)

Institute Marks : 10.00

(Describe the different course delivery methods/modes (e.g. lecture interspersed with discussion, asynchronous mode of interaction, group discussion, project etc.) used to deliver the courses and justify the effectiveness of these methods for the attainment of the POs. This may be further justified using the indirect assessment methods such as course-end surveys.)

Different delivery methods are employed with individuals and groups. Some implementation techniques, however, are common to most programmes. They include the following:

- Lectures/Presentation:** These are the effective ways of achieving educational objective and outcomes synchronously. The course objectives and outcomes could not be better achieved without these. Lectures are the best ways to get facts, make students think and get better in their attitudes. These make sure that the ground of the course is covered which improves the ability to design, formulate and solve the problems. Modes of delivery of lectures are PPT presentations and OHP presentations.
- Guest Lectures/Expert Lectures:** The invitation of guest speakers from various eminent institutes and industries helps the students and faculty to understand the current trends in various courses which leads to attainment of PO's. External resource persons also add value to the program, and help students to realize the link between education and the world outside along with professional responsibilities.
- Seminars / Workshops:** Department organizes seminars/workshops in topics of current relevance and interest to both students and faculty. These serve as a platform for sharing knowledge/expertise in advanced areas which results in collaborative attempt for further enhancement of the skills, techniques and modern engineering tools necessary for their engineering practice.
- Project Work:** Mini and a Main Project works in the curriculum give the practical and analytical exposures of students. They can learn and implement for subjective knowledge while developing project. This will empower them to work in teams, learn how to gather data and systematically arrange it in an understandable form.
- Road shows:** Road shows are organized for display of project works/for peers/ experts evaluation and source of inspiration and information for others.
- Mentoring and Counseling:** Mentoring concepts are integral part of the curriculum. All faculty members play an important role in counseling and motivating the students which helps in augmenting the program. It prepares students adequately for contemporary issues.
- Educational/Industrial Tours:** Another delivery strategy includes visits and educational/ Industrial tours. Resource centers, work places and others place of interest, help to explore all opportunities that have an impact on students. It allows students to think and make realistic decisions. This has proved successful in career exploration and decision making moulding them as life- long learners.
- Certification Courses:** With technology advancing at a rapid pace, opportunities for advanced applications of software are limitless. Certification courses will update the student skills and broaden their knowledge in the course which enhances their employability.
- Research projects:** encourage students to carry out small research projects on their own empowering them to know how to gather data and systematically arrange it in an understandable form. Students will also be trained to be more curious and able to gather information for them rather than wait to be spoon-fed; it prepares them adequately and allows them to take pride in themselves. Students are prepared to carry out their own research which serves in multiple ways. The documentation of the research benefits the students in their overall development.
- E-Resources:** Faculty provides course information and peripheral knowledge on the web so that students can asynchronously accept the same.

Attainment of Program Outcomes using different delivery methods

Delivery Methods	Programme Outcomes											
	a	b	c	d	e	f	g	h	i	j	k	l
Lectures/Presentation				X		X	X		X			
Guest Lecturers/Expert Lecturers				X			X		X			X
Seminars/Workshops		X	X						X	X	X	
Project Work	X								X			X
Road Shows	X		X	X	X	X	X	X	X	X	X	X
Mentoring and Counseling					X	X	X		X	X	X	X
Educational/Industrial Tours	X	X	X				X		X	X	X	
Certification Courses				X		X		X			X	X
Research Projects	X	X	X		X		X		X	X	X	
e-Resources	X					X			X		X	X

2.2.3 Indicate how assessment tools used to assess the impact of delivery of course/course content contribute towards the attainment of course outcomes/programme outcomes (10)

Institute Marks : 10.00

(Describe different types of course assessment and evaluation methods (both direct and indirect) in practice and their relevance towards the attainment of POs.)

The courses are so designed that their COs reflect the POs very well. The corresponding assessments direct and indirect are well thought of taking the help of Blooms Taxonomy. Correlate suitably with the COs. Thus, the assessment tools can assess the impact the delivery of course content contribute towards the attainment of COs.

The following assessment processes are used for achievement of the Program Outcomes

S.No	Method	Assessment Tool	Description
1	Direct	Mid Exams	Objective, Subjective exams
2		End Exams	Subjective written exams
3		Assignments	Course wise assignments
4		Viva	Course / Lab wise viva, Comprehensive viva
5		Seminars	Individual Seminars, Group seminars
6		Lab Exams	Internal and External Lab exams
7		Projects	Mini & Major projects evaluation
8	Indirect	Student Exit Survey	Passing out students
9		Alumni Survey	Old batches of the students
10		Employer Survey	Industries which recruits
11		Industry Survey	Leading industry in the domain of particular programme

2.2.4 Indicate the extent to which the laboratory and project course work are contributing towards attainment of the POs (10)

Institute Marks : 10.00

(Justify the balance between theory and practical for the attainment of the POs . Justify how the various project works (a sample of 20% best and average projects from total projects) carried as part of the programme curriculum contribute towards the attainment of the POs.)

All labs in the Programme are designed as per the curriculum requirements as well as to attain Programme Educational Objectives (PEOs) with the help of Program Outcomes (POs).

Association between Courses and Laboratories

Course	Associated Laboratory
GR14A1009: Computer Programming	GR14A1027: Computer Programming Lab
GR14A1007: Engineering Physics	GR14A1029- Engineering Physics Lab
Basic Engineering Subjects	GR14A1025: Engineering Workshop
Basic Engineering Subjects	GR14A1026-IT Workshop
GR14A1008: Engineering Chemistry	GR14A1030-Engineering Chemistry Lab
GR14A1005:English	GR14A1024: Business Communication and Soft skills Lab, GR14A3100: Advanced English Communication Skills Lab
GR14A2064: Advanced Data Structures through C++	GR14A2066:Advanced Data Structures Through C++ Lab
GR14A2063: Database Management Systems	GR14A2067: Databases lab GR14A2074: Advanced Databases Lab
GR14A2065: Digital Logic Design	GR14A2068: Digital Logic Design lab
GR14A2070: Object Oriented Programming through java	GR14A2072: Object Oriented Programming through java Lab GR14A3054: Advanced java Programming lab
GR14A2069: Operating Systems	GR14A2073: Operating Systems Lab
GR11A3060: Scripting Languages	GR11A4084: Scripting Languages Lab
GR14A2055:Micro controllers	GR14A2059Micro controllers Lab
GR11A3059: Web Technologies.	GR11A3063: Web Technologies Lab
GR14A3103:Unix and Shell Programming GR14A3051:Compiler Design	GR14A3055:Advanced Unix Programming and Compiler Design lab
GR11A3067: Data Warehousing and Data	GR11A4092: Data Warehousing and Data

Mining	Mining lab
GR11A3065: Object Oriented Analysis and Design	GR11A4085: Object Oriented Analysis and Design Lab

Description Of Laboratories:

Computer programming lab is exclusively used, it accommodates 65 students and various programs are executed. It is equipped with computers, printers and software's. Qualified faculty, staff with good condition of computer lab equipment has created an ambience for learning. In this lab student learns programming with C language through number of laboratory tasks.

Engineering Physics Lab is exclusively used, it accommodates 36 students and sufficient exercises are conducted. It is equipped with Computers, equipments, meters and required software. Qualified faculty, staff with good condition of lab equipment has created an ambience for learning. In this lab student learn how to measure values with multi meter, measure voltage, current and frequency using CRO, experiment on B-H curve, dielectric constant, energy gap in semiconductors, about magnetic field, Hall voltage, carrier concentration and carrier mobilation in semiconductors, optical fibers and laser diodes. In this lab student learns design, mathematical modelling and complex analysis of various physical components.

Engineering workshop is exclusively used, it accommodates 65 students and sufficient exercises are conducted. It is equipped with equipments and tools. Qualified faculty, staff with good condition of lab equipment has created an ambience for learning. In this workshop student learns carpentry, fitting, tin-smithy, electrical wiring, foundry, welding, plumbing and about power tools. In these workshop students learns how to use various tools for engineering applications.

IT workshop is exclusively used, it accommodates 36 students and sufficient exercises are conducted. It is equipped with computer components, peripherals, equipments and tools. Qualified faculty, staff with good condition of lab equipment has created an ambience for learning. In this workshop student learns pc hardware, hardware trouble shooting and software trouble shooting, world wide web surfing, booting, sear engines, latex, words, excel and conversions. In these workshop students learns how to use computer for various applications in engineering course.

Engineering Chemistry Lab is exclusively used, it accommodates 36 students and sufficient exercises are conducted. It is equipped with Computers, equipments, meters and required software. Qualified faculty, staff with good condition of lab equipment has created an ambience for learning. In this lab student learn how to measure values with volumetric analysis, mineral analysis, colorimetry, instrumental analysis and organic preparations. In this lab student learns design, mathematical modelling and complex analysis of various chemical components.

English Communication and Soft skills Lab is exclusively used, it accommodates 36 students and sufficient exercises are conducted. It is equipped with Computers, audio, video aids, required software. Qualified faculty, staff with good condition of lab equipment has created an ambience for learning. In this lab student learns about communication, interpersonal, soft personnel skills, Interview skills, body language, etiquettes, oral, written skills and phonetics

Advanced Data Structures Through C++ is exclusively used, it accommodates 36 students and sufficient programs are executed. It is equipped with Computers and required Software. Qualified faculty, staff with good condition of lab equipment has created an ambience for learning. In this lab student learn about various data structures like stacks, queues, trees, linked list, hash table implementation-trees and various application in C++.

Database Management System Lab is exclusively used, it accommodates 36 students and sufficient programs are executed. It is equipped with Computers and required Software. Qualified faculty, staff with good condition of lab equipment has created an ambience for learning. In this lab student learn about understanding of fundamental DBMS, various SQL statements -DDL, DML, TCL, and DCL. Creation and updating of tables, understand various queries and their execution. Design new database and modify the existing ones for new applications and reason about the efficiency of the result.

Digital Logic Design Lab is exclusively used, it accommodates 36 students and sufficient programs are executed. It is equipped with both hardware and software facilities required by the students to perform the necessary experiments designed for this lab. Experiments are designed in such a way that the students become well aware of the concepts they learn in the theory sessions. Experiments are related to both digital hardware and Verilog Programming

Object Oriented Programming through java Lab is exclusively used, it accommodates 36 students and sufficient programs are executed. It is equipped with Computers and required Software. Qualified faculty, staff with good condition of lab equipment has created an ambience for learning. In this lab student learn about creating classes and objects using Java, implementing constructors and constructor overloading, solving problems using Inheritance and Polymorphism, create your own package and interface, handling exceptions arising in programs, use of multithreading in programs, use GUI components and applets in your programs, implement Sockets; and connect databases with your programs, enable the students to program client-server systems over transport layer protocols.

Operating Systems Lab is exclusively used, it accommodates 36 students and sufficient programs are executed. It is equipped with Computers and required Software. Qualified faculty, staff with good condition of lab equipment has created an ambience for learning. In this lab student learn about CPU scheduling algorithms, Page replacement algorithms, Semaphore solution for producer-consumer problem, memory management techniques.

Micro Controllers Lab is exclusively used, it accommodates 36 students and sufficient programs are executed. It is equipped with both hardware and software facilities required by the students to perform the necessary experiments designed for this lab. Students are able to control the DC motor speed using appropriate low level programming.

Web Technologies Lab is exclusively used, it accommodates 36 students and sufficient programs are executed. It is equipped with Computers and required Software. Qualified faculty, staff with good condition of lab equipment has created an ambience for learning. In this lab student learn about design the static web pages using HTML, CSS, Complex tags using XML, Document Type Definition, design the dynamic web pages using JSP, display session values using Servlet, retrieve data from access table and print it using servlet.

Advanced Unix Programming and Compiler Design Lab is exclusively used, it accommodates 36 students and sufficient programs are executed. It is equipped with Computers and required Software. Qualified faculty, staff with good condition of lab equipment has created an ambience for learning. In this lab students learn about various unix commands and learn the implementation of various parsers and the development of lexical Analyser and various other techniques.

Data Warehousing and Data Mining Lab is exclusively used, it accommodates 36 students and sufficient programs are executed. It is equipped with Software facilities required by the students to perform the programs designed for this lab. The programs include PL/SQL. The students will be aware of all the advanced topics of the DBMS. In this Lab Weka Tool is used to do the Programs.

Object Oriented Analysis and Design Lab is exclusively used, it accommodates 36 students and sufficient programs are executed. It is equipped with Software facilities required by the students to perform the programs designed for this lab. In this lab students will develop their skills which will be helpful for their mini and major projects and also this lab is helpful for designing the Projects in an efficient way.

Gender sensitization : Role of women is well understood. Society endeavors to create a world giving an equal opportunity as well as treating both men and women. This demands sensitization of youth towards respect the dignity of opposite sex. Hence this is introduced in the second year as a mandatory course with zero credits. Conduct and assessment is done like a laboratory course.

Mapping of Laboratories with Program Outcomes:

Name of the Lab	Program Outcomes											
	a	b	c	d	e	f	g	h	i	j	k	l
Computer Programming	X	X	X								X	X
Engineering Physics								X			X	X
Engineering Chemistry	X	X	X								X	X
English	X	X	X	X	X						X	X
Advanced Data Structures Through C++				X			X	X				
Database Management System	X	X	X								X	X
Digital Logic Design	X	X	X	X	X		X				X	X
Object Oriented Programming through java	X	X	X	X	X						X	X
Operating systems	X	X	X		X			X			X	X
Microcontrollers	X	X	X		X				X		X	X
Web technologies	X	X	X		X						X	X
Advanced Unix Programming and Compiler Design	X	X			X						X	X
Data Warehousing and Data Mining				X			X	X				
Object Oriented Analysis and Design	X	X	X	X				X			X	X

Project Course Work towards the attainment of Program Outcomes

Project Title	Type	Program Outcomes
Document clustering using word net ontologies based on ESVM and HSVM	Design and problem analysis	a,c,g,i,l
Text document clustering	Design and problem analysis	a,b,c,g,i,l
Voice transmission over LAN using Bluetooth	Design and problem analysis	e,f,h,i,j,l
Voice recognition	Design and Proto type	a,b,e,f,h,i
GRIET cloud messaging	Design and problem analysis	a,d,f
Document clustering of news articles using word net	Design and problem analysis	c,l
Hybrid scheme for text clustering	Problem analysis and simulation	a,c,i,l
Document clustering using correlation in similarity measure space	Design and problem analysis	b,c,i,k,l
Android application development (local tracker and intelligent alarm)	Problem analysis and simulation	a,b,c,e,i,k,l
Intelligent health care management	Design and problem analysis	b,c,e,i,j,k,l
Face tracking in real time videos	Problem analysis and simulation	b,c,g,i,k,l
Cooperative PDP for integrity verification in multi cloud storage	Design and problem analysis	b,c,k,l
Analysis of special data	Design and problem analysis	b,c,k,l
Separable reversible data hiding in encrypted images	Design and problem analysis	b,c,k,l
Document clustering of news articles using word net	Design and problem analysis	b,c,k,l
Predicting heart disease using PCAR algorithm	Design and problem analysis	b,c,k,l
Adaptive traffic control for virtual routing topologies	Design and problem analysis	b,c,k,l
Network traffic analysis	Design and problem analysis	b,c,k,l

Data handling in clouds	Design and problem analysis	b,c,k,l
Multi model bus reservation	Design and problem analysis	b,c,k,l

2.3 Assessment of the attainment of the Programme Outcomes (125)

Total Marks : 125.00

2.3.1 Describe assessment tools and processes used for assessing the attainment of each PO (25)

Institute Marks : 25.00

Describe the assessment process that periodically documents and demonstrates the degree to which the Programme Outcomes are attained. Also include information on:

- a) A listing and description of the assessment processes used to gather the data upon which the evaluation of each the programme educational objective is based. Examples of data collection processes may include, but are not limited to, specific exam questions, student portfolios, internally developed assessment exams, senior project presentations, nationally-normed exams, oral exams, focus groups, industrial advisory committee;
- b) The frequency with which these assessment processes are carried out.

a) The following assessment processes are used for achievement of the Program Outcomes

S.No	Method	Assessment Tool	Description
1	Direct	Mid Exams	Objective, Subjective exams
2		End Exams	Subjective written exams
3		Assignments	Course wise assignments
4		Viva	Course / Lab wise viva, Comprehensive viva
5		Seminars	Individual Seminars, Group seminars
6		Lab Exams	Internal and External Lab exams
7		Projects	Mini & Major projects evaluation
8	Indirect	Student Exit Survey	Passing out students
9		Alumni Survey	Old batches of the students
10		Employer Survey	Industries which recruits
11		Industry Survey	Leading industry in the domain of particular programme

Assessment of Program Outcomes by Direct and Indirect Methods

Direct Assessment			
PO	Contributing Courses	Attainment %	Average attainment
a	GR14A1001: Linear Algebra and Single Variable Calculus	81	88%
	GR14A1009: Computer Programming	81	
	GR14A1002: Advanced Calculus	90	
	GR14A1003: Transform Calculus and Fourier Series	95	
	GR14A1008: Engineering Chemistry	82	
	GR14A2062: Mathematical Foundations Of Computer Science	91	
	GR14A2065: Digital Logic Design	88	
	GR14A2076: Computer Organization	84	
	GR14A2011: Probability and Statistics	93	
	GR14A2071: Formal Languages and Automata Theory	84	
	GR14A1007: Engineering Physics	76	
	GR14A1005: English	96	
	GR14A3051: Compiler Design	88	

GR14A1023:Engineering Graphics	92
GR11A4142 :Comprehensive Viva	100

Direct Assessment			
PO	Contributing Courses	Attainment %	Average Attainment
b	GR14A1007: Engineering Physics	76	94.9%
	GR14A1027:Computer Programming Lab	97	
	GR14A2001: Environmental Science	99	
	GR14A2064: Advanced Data Structures through C++	97	
	GR14A2063:Database Management Systems	86	
	GR14A2066: Advanced Data Structures Through C++ Lab	99	
	GR14A2067: Databases lab	100	
	GR14A2072: Object Oriented Programming through java Lab	100	
	GR14A2069: Operating Systems	94	
	GR14A3056: Design and Analysis of Algorithms	95	
	GR14A3052: Computer Networks	95	
	GR14A2104: Managerial Economics and Financial Analysis	92	
	GR11A3059: Web Technologies	94	
	GR11A3067: Data Warehousing and Data Mining	96	
	GR11A3102: Management Science	99	
GR14A3101: Industry Oriented Mini Project	100		

Direct Assessment			
PO	Contributing Courses	Attainment %	Average Attainment
c	GR14A1009:Computer Programming	81	94.2%
	GR14A1025: Engineering Workshop Lab	97	
	GR14A2064: Advanced Data Structures Through C++ Lab	99	
	GR14A2067: Databases lab	100	
	GR14A2072: Object Oriented Programming through java Lab	100	
	GR14A3053: Principles of programming Languages	98	
	GR14A3051: Compiler Design	88	
	GR11A3059: Web Technologies	94	
	GR14A3058: Information Security	81	
	GR14A1023: Engineering Graphics	92	
	GR11A3102: Management Science	99	
	GR11A3060: Scripting Languages	96	
	GR11A4144:Project Work	100	

Direct Assessment			
PO	Contributing Courses	Attainment %	Average Attainment
d	GR14A1024: Business Communication and soft skillsLab	100	97%
	GR14A2076: Computer Organization	84	
	GR14A2073: Operating Systems Lab	99	
	GR14A3065: Object Oriented Analysis and design	91	
	GR14A3100: Advanced English Communication Skills Lab	100	
	GR11A3063: Web Technologies Lab	99	
	GR11A3067: Data Warehousing and Data Mining	96	
	GR14A4077: Software Testing Methodologies	100	
	GR11A3102: Management Science	99	
	GR14A3101: Industry Oriented Mini Project	100	
	GR11A4144:Project Work	100	

Direct Assessment			
PO	Contributing Courses	Attainment %	Average Attainment
	GR14A1009: Computer Programming	81	
	GR14A1007: Engineering Physics	76	
	GR14A1027: Computer Programming Lab	97	
	GR14A1026: IT Workshop Lab	98	
	GR14A2062:Mathematical Foundations Of Computer Science	91	
	GR14A2064: Advanced Data Structures through C++	97	

e	GR14A2066: Advanced Data Structures Through C++ Lab	99	93.6%
	GR14A2011: Probability and Statistics	93	
	GR14A3056: Design and Analysis of Algorithms	95	
	GR14A3057: Software Engineering	96	
	GR14A1023: Engineering Graphics	92	
	GR11A3067: Data Warehousing and Data Mining	96	
	GR11A3055: Unix Programming and Compiler Design Lab	100	
	GR14A3101: Industry Oriented Mini Project	100	

Direct Assessment			
PO	Contributing Courses	Attainment %	Average Attainment
f	GR14A1007: Engineering Physics	76	92.8%
	GR14A1027: Computer Programming Lab	97	
	GR14A1029: Engineering Physics Lab	85	
	GR14A1025: Engineering Workshop Lab	97	
	GR14A2001: Environmental Science	99	
	GR14A1026: IT Workshop Lab	98	
	GR14A2069: Operating Systems	94	
	GR14A3058: Information Security	82	
	GR14A3100: Advanced English Communication Skills Lab	100	
	GR14A3055: Unix Programming and Compiler Design Lab	100	

Direct Assessment			
PO	Contributing Courses	Attainment %	Average Attainment
g	GR14A1005: English	96	96.1%
	GR14A1027: Computer Programming Lab	97	
	GR14A1024: Business Communication and Soft skills Lab	100	
	GR14A2069: Operating Systems	94	
	GR14A3057: Software Engineering	96	
	GR14A3052: Computer Networks	95	
	GR14A3059: Web Technologies	94	
	GR14A3058: Information Security	92	
	GR11A3065: Object Oriented Analysis and design	91	
	GR14A3100: Advanced English Communication Skills Lab	100	
	GR11A3102: Management Science	99	
GR14A3101: Industry Oriented Mini Project	100		

Direct Assessment			
PO	Contributing Courses	Attainment %	Average Attainment
h	GR14A1009: Computer Programming	81	92.2%
	GR14A1003: Transform Calculus and Fourier Series	95	
	GR14A1026: IT Workshop Lab	98	
	GR14A2062: Mathematical Foundations Of Computer Science	91	
	GR14A2070: Object Oriented Programming through java	88	
	GR14A2065: Digital Logic Design	88	
	GR14A2072: Object Oriented Programming through java Lab	100	
	GR14A2069: Operating Systems	94	
	GR14A3053: Principles of programming Languages	99	
	GR14A3058: Information Security	82	
	GR11A3063: Web Technologies Lab	99	

Direct Assessment			
PO	Contributing Courses	Attainment %	Average Attainment
	GR14A1023: Engineering Graphics	92	93.5%
	GR14A1024: Business Communication and soft skills Lab	100	
	GR14A2070: Object Oriented Programming through java	88	
	GR14A2076: Computer Organization	84	
	GR14A2069: Operating Systems	94	
	GR14A3057: Software Engineering	96	
	GR11A3059: Web Technologies	94	

i	GR11A3067: Data Warehousing and Data Mining	96
	GR14A3103: Unix and Shell Programming	91
	GR11A4142: Comprehensive Viva	100

Direct Assessment			
PO	Contributing Courses	Attainment %	Average Attainment
j	GR14A1007: Engineering Physics	76	89%
	GR14A2062: Mathematical Foundations Of Computer Science	91	
	GR14A2063: Database Management Systems	86	
	GR14A2104: Managerial Economics and Financial Analysis	92	
	GR14A3101: Industry Oriented Mini Project	100	

Direct Assessment			
PO	Contributing Courses	Attainment %	Average Attainment
k	GR14A1009: Computer Programming	81	93.3%
	GR14A2063: Database Management Systems	86	
	GR14A2066: Advanced Data Structures Through C++ Lab	99	
	GR14A2072: Object Oriented Programming through java Lab	100	
	GR14A2069: Operating Systems	94	
	GR14A2011: Probability and Statistics	93	
	GR14A3056: Design and Analysis of Algorithms	95	
	GR14A2073: Operating Systems Lab	99	
	GR11A4084: Scripting Languages Lab	99	
	GR14A3057: Software Engineering	96	
	GR11A3059: Web Technologies	94	
	GR14A3058: Information Security	81	
	GR11A3065: Object Oriented Analysis and design	91	
	GR14A1023: Engineering Graphics	92	
GR14A3101: Industry Oriented Mini Project	100		

Direct Assessment			
PO	Contributing Courses	Attainment %	Average Attainment
l	GR14A1001: Linear Algebra and Single Variable Calculus	81	94.21%
	GR14A1009: Computer Programming	81	
	GR14A1002: Advanced Calculus	90	
	GR14A2070: Object Oriented Programming through java	97	
	GR14A2066: Advanced Data Structures Through C++ Lab	99	
	GR14A2072: Object Oriented Programming through java Lab	100	
	GR14A2071: Formal Languages and Automata Theory	84	
	GR14A3056: Design and Analysis of Algorithms	95	
	GR14A2073: Operating Systems Lab	99	
	GR11A3059: Web Technologies	94	
	GR14A3100: Advanced English Communication Skills Lab	100	
	GR11A3063: Web Technologies Lab	99	
	GR14A3101: Industry Oriented Mini Project	100	
	GR11A4144: Project Work	100	

Indirect Assessment		
Assessment Tool	Attainment Level	Average Attainment level in Indirect measure
Student Exit Survey	Good	Satisfactory
Alumni Survey	Good	Satisfactory
Employer Survey	Good	Satisfactory

Industry Survey	Good	Satisfactory
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Programme outcomes assessed through direct and indirect methods. Choosing criteria is where rubrics come in. A Rubric is a set of criteria for assessing student work or performance. Rubrics are particularly suited to learning outcomes that are complex or not easily quantifiable, for which there are no clear "right" or "wrong" answers, or which are not evaluated with standardized tests or surveys. Assessment of writing, oral communication, critical thinking, or information literacy often requires rubrics.

Rubrics have two dimensions: they identify the various characteristics of the outcome, and they specify various levels of achievement in each characteristic. Thus, a well-designed rubric consists of:

1. Clear definitions of each characteristic to be assessed for a given learning outcome, and
2. Clear descriptions of the different levels of achievement for each characteristic.

Because rubrics establish criteria, they can help make assessment more transparent, consistent, and objective. Faculty members and evaluators can use rubrics to communicate to students and each other what they see as excellent work, while student's gain an understanding of what is expected and how their performance will be assessed. Rubrics are also useful when there is more than one evaluator; rubrics can serve as standardized scoring guides that assist different evaluators to determine the quality of student work in a consistent manner.

CSE Program Outcome	Assessment Evidence Source or Tool
a) Ability to apply knowledge of mathematics, science, and engineering.	Mathematics, Physics and Basics of Engineering, quality assessment review, alumni and other surveys ,faculty reviews course outcome data and results are analyzed
b) Ability to design and conduct experiments, as well as to analyze and interpret data.	Exit surveys data, faculty reviews and results are analyzed
c) Ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.	Course feedback, professional body survey, result are analyzed.
d) Ability to function on multi-disciplinary teams.	Mini project, Project Work, Lab work and its outcomes with Several Stake holders, results are analyzed.
e) Ability to identify, formulates, and solves engineering problems.	Courses like Software Engineering, Design and analysis of Algorithms, Operating Systems, Web Technologies and its outcomes with several surveys and outcomes of the courses are analyzed.
f) Understanding of professional and ethical responsibility.	Data collected and analyzed from alumni survey , employer survey .
g) Ability to communicate effectively..	Results of the courses like English, English Lab, Advanced English Lab, and surveys of several stake holders are analyzed.
h) Broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.	Results of usage of modern tools and subject outcomes, surveys data analyzed.
i) Recognition of the need for, and an ability to engage in life-long learning.	Alumni and senior faculty survey data is analyzed
j) Knowledge of contemporary issues.	FDPs, workshops, Conferences are organized and their feedback analyzed.
k) Ability to utilize experimental, statistical and computational methods and tools necessary for engineering practice.	Alumni survey data, feedback, results are analyzed.
l) Ability to create and or use Computer Science and Engineering related software tools, to get employment and succeed in higher studies.	Results, surveys data, feedback are analyzed.

b) Frequency of the Assessment Processes:

Assessment Tool	Description	Assessment Cycle	Evaluation Cycle	Documentation and Maintenance
Mid Exams	Internal Evaluation	Twice in a semester	Twice in a semester	Marks are recorded in department and examination cell.
End Exams	External Evaluation	Once in a semester	Once in a semester	Result Recorded at examination cell and department
Assignments	Before Every Mid Exam	Twice in a semester	Twice in a semester	Course Register
Viva	End of the Semester	Once in a semester	Once in a semester	Lab Register
Seminars	General and Technical	Once in a semester	Once in a semester	Course Register
Lab Exams	Internal and External experimental evaluation	Once in a semester	Once in a semester	Lab record, Examination Cell
Projects and	Mini and Major	Once in four years	Once in four years	Examination Cell

comprehensive viva	project evaluation	Once in four years	Once in four years	Examination Cent
Surveys	All Stake Holders	Once in a year	Once in a year	Recorded in department

2.3.2 Indicate results of Evaluation of each PO (100)

Institute Marks : 100.00

- c) The expected level of attainment for each of the program outcomes;
 d) Summaries of the results of the evaluation processes and an analysis illustrating the extent to which each of the programme outcomes are attained; and
 e) How the results are documented and maintained.

File Name
Assessment of each PO

c)

Step-by-step process for assessing through attainment of each Program Outcomes

Step 1: The Program coordinator analyses each outcome into elements (different abilities specified in the outcome) and a set of attributes are defined for each element (actions that explicitly demonstrate mastery of the abilities specified). In addition, generate well designed surveys to assess the outcome.

Step 2: For each outcome define performance indicators (Assessment criteria) and their targets.

Step 3: Identify/select courses that address the outcome (each course contributes to at least one of the outcomes). Hence, each outcome is assessed in several courses to ensure that students acquire an appropriate level in terms of knowledge/skills of an outcome.

Step 4: The module coordinators collect the qualitative and quantitative data and were used for outcome assessment in a continual process.

Step 5: The Head of the department analyze the collected data. If the assessed data meets the performance targets which are specified in step 2, the outcome is attained.

Otherwise, consider step6.

Step 6: The Head of the Department recommends content delivery methods/course outcomes/ curriculum improvements as needed.

POs	Expected level of attainment
PO1	100%
PO2	100%
PO3	100%
PO4	100%
PO5	100%
PO6	100%
PO7	100%
PO8	100%
PO9	100%
PO10	100%
PO11	100%
PO12(PSO)	100%

d)

Evaluation and Analysis Process for the attainment of POs

- Evaluation of examinations is done through the Examination Branch.
- Analysis of exam results is done after the results.
- All the details of results are stored as digital soft copy and printed hard copy format at the examination branch.
- Model data is enclosed in the annexure.
- Other internal, mid exam, lab internal data, and surveys data is maintained by the department.

Program Outcomes:

a: Ability to apply knowledge of mathematics, science, and engineering.

Courses	Performance Criteria	Method of Assessment	Sources for data collection	Target for the performance	Length of Assessment Cycle/when the data is collected
GR14A1001 Linear Algebra and Single Variable Calculus		Internal/external			
GR14A1009: Computer Programming		Evaluation/ Assignments/	Course outcomes and	80%	2 years End of the semester

GR14A1002: Advanced Calculus		Group tasks(mini projects, main projects, lab activities, team activities)	Rubrics		
GR14A1003: Transform Calculus and Fourier Series					
GR14A1008: Engineering Chemistry		Courses end survey/ Graduate			2 years
GR14A1030: Engineering Chemistry Lab	Applies knowledge of mathematics/	Survey/ Alumni Survey	Survey reports	80%	End of the semester
GR14A2062: Mathematical Foundations Of Computer Science	Science principals to provide numerical solution to model the problem				End of the programme
GR14A2065: Digital Logic Design		Internal/external Evaluation/ Assignments/ Group tasks	Course outcomes	80%	2 years
GR14A2076: Computer Organization			Rubrics		End of the semester
GR14A2011: Probability and Statistics					
GR14A2071: Formal Languages and Automata Theory		Courses end survey/ Graduate			2 years
GR14A3051: Compiler Design		Survey/ Alumni Survey	Survey reports	75%	End of the semester
					End of the programme
GR14A1023: Engineering Graphics	Solve the problems by computing principals effectively				
GR14A4142: Comprehensive Viva					

- **b: Ability to design and conduct experiments, as well as to analyze and interpret data.**

Courses	Performance Criteria	Method of Assessment	Sources for data collection	Target for the performance	Length of Assessment Cycle/when the data is collected
GR14A1007: Engineering Physics					
GR14A1027: Computer Programming Lab		Internal/external Evaluation/ Assignments/ Group tasks	Lab activity data Rubrics	80%	2 years
GR14A2064: Advanced Data Structures through C++			Course outcome		End of the semester
GR14A2070: Object Oriented Programming through Java	Design and conduct experiments				
GR14A2063: Database Management Systems					2 years
GR14A2066:		Courses end survey/ Graduate	Survey data	80%	End of the semester

Advanced Data Structures Through C++ Lab GR14A2067: Databases lab GR14A2072: Object Oriented Programming through java Lab GR14A2069: Operating Systems GR14A2011: Probability and Statistics GR14A3056: Design and Analysis of Algorithms GR14A2104: Managerial Economics and Financial Analysis GR14A3059: Web Technologies GR14A3067: Data Warehousing and Data Mining GR14A3101: Industry Oriented Mini Project		Survey/ Alumni Survey			End of the programme
	Analyze and interpret data.	Internal/external Evaluation/ Assignments/ Group tasks	Lab activity data Rubrics Course outcome	80%	2 years End of the semester
		Courses end survey/ Graduate Survey/ Alumni Survey	Survey reports	75%	2 years End of the semester End of the programme

- **c:Ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.**

Courses	Performance Criteria	Method of Assessment	Sources for data collection	Target for the performance	Length of Assessment Cycle/when the data is collected
GR14A1009: Computer Programming GR14A1025: Engineering Workshop Lab GR14A2066: Advnaced Data Structures Through C++ Lab GR14A2072: Object Oriented Programming through java Lab GR14A3053: Principles of programming Languages	Design a system, component, within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.	Internal/external Evaluation/ Assignments/ Group tasks	Lab activity data Rubrics Course outcome	80%	2 years End of the semester
		Courses end survey/ Graduate Survey/ Alumni survey	Survey reports	80%	2 years End of the semester End of the programme

GR14A3051: Compiler Design					
GR14A3059: Web Technologies	Design a process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.	Internal/external	Lab activity data	80%	2 years
GR14A3058 Information Security		Evaluation/ Assignments/ Group tasks	Rubrics Course outcome		End of the semester
GR14A3063: Web Technologies Lab					
GR14A1023: Engineering Graphics					2 years
GR14A3102: Management Science		Courses end survey/ Graduate Survey/ Alumni survey		75%	End of the semester
GR14A3060: Scripting Languages					End of the programme
GR14A4144: Project Work					

- d: Ability to function on multi-disciplinary teams.

Courses	Performance Criteria	Method of Assessment	Sources for data collection	Target for the performance	Length of Assessment Cycle/when the data is collected
GR14A1024: Business Communication And Soft skills lab	Function on multi- disciplinary	Internal/external	Lab activity data	80%	2 years
GR14A2076: Computer Organization		Evaluation/ Assignments/ Group tasks	Rubrics Course outcome		End of the semester
GR14A2073: Operating Systems Lab					
GR14A3065: Object Oriented Analysis and design		Courses end survey/ Graduate Survey/ Alumni Survey	Survey reports	80%	2 years End of the semester End of the programme
GR14A3100: Advanced English Communication Skills Lab					
GR14A3063: Web Technologies Lab	Team work.	Internal/external	Lab activity data	80%	2 years
GR14A3067: Data Warehousing and Data Mining		Evaluation/ Assignments/ Group tasks	Rubrics Course outcome Project data		End of the semester
GR14A4077: Software Testing Methodologies					
GR14A3102: Management		Courses end			2 years End of the

Science		survey/ Graduate	Survey reports	75%	semester
GR14A3101: Industry Oriented Mini Project		Survey/ Alumni Survey			End of the programme
GR14A4144: Project Work					

- e: Ability to identify, formulates, and solves engineering problems.

Courses	Performance Criteria	Method of Assessment	Sources for data collection	Target for the performance	Length of Assessment Cycle/when the data is collected
GR14A1009: Computer Programming GR14A1007: Engineering Physics	Identify, formulates, and engineering problems	Internal/external Evaluation/ Assignments/ Group tasks	Lab activity data Rubrics Course outcome	80%	2 years End of the semester
GR14A1027: Computer Programming Lab					
GR14A1026: IT Workshop Lab					
GR14A2062: Mathematical Foundations Of Computer Science	Solve engineering problems	Courses end survey/ Graduate Survey/ Alumni Survey	Survey reports	80%	2 years End of the semester End of the programme
GR14A2064: Advnaced Data Structures through C++					
GR14A2066: Advanced Data Structures Through C++ Lab					
GR14A2011: Probability and Statistics	Solve engineering problems	Internal/external Evaluation/ Assignments/ Group tasks	Lab activity data Rubrics Course outcome	80%	2 years End of the semester
GR14A3056: Design and Analysis of Algorithms					
GR14A3057: Software Engineering					
GR14A3067: Data Warehousing and Data Mining	Solve engineering problems	Courses end survey/ Graduate Survey/ Alumni Survey	Survey reports	75%	2 years End of the semester End of the programme
GR14A3103: Advnaced Unix Programming					
GR14A3055: Advanced Unix Programming and Compiler Design lab					
GR14A3101: Industry Oriented Mini Project					

- f: Understanding of professional and ethical responsibility.

Courses	Performance Criteria	Method of Assessment	Sources for data collection	Target for the performance	Length of Assessment Cycle/when the data is collected
GR14A1009: Computer Programming		Internal/external Evaluation/ Assignments/	Lab activity data Rubrics	80%	2 years End of the
GR14A1007: Engineering Physics					

GR14A102:// Computer Programming Lab	Professional skills	Group tasks	Course outcome		semester
GR14A1029: Engineering Physics Lab		Courses end survey/ Graduate Survey/ Alumni survey			2 years
GR14A1025: Engineering Workshop Lab			Survey reports	80%	End of the semester
GR14A2001: Environmental Science					End of the programme
GR14A1026: IT Workshop	Ethical skills	Internal/external	Lab activity data		2 years
GR14A2069: Operating Systems		Evaluation/	Rubrics	80%	End of the semester
GR14A3058: Information Security		Assignments/	Course outcome		
GR14A3103: Advanced Unix Programming		Group tasks			
GR14A3055: Advanced Unix Programming		Courses end survey/ Graduate Survey/ Alumni survey	Survey reports	75%	2 years
And Compiler Design Lab					End of the programme

- g: Ability to communicate effectively.

Courses	Performance Criteria	Method of Assessment	Sources for data collection	Target for the performance	Length of Assessment Cycle/when the data is collected	
GR14A1005: English	Communication Skills	Internal/external Evaluation/ Assignments/ Group tasks	Lab activity data	80%	2 years	
GR14A1027: Computer Programming Lab			Rubrics		End of the semester	
GR14A1024: Business communication and soft skills			Course outcome			
GR14A3057: Software Engineering		Courses end survey/ Graduate Survey/ Alumni survey		Survey reports	80%	2 years
GR14A3052: Computer Networks						End of the semester
GR14A3059: Web Technologies						End of the programme
GR14A3058: Information Security						
GR14A3065: Object Oriented Analysis and design	Internal/external Evaluation/ Assignments/	Lab activity data Rubrics Course	80%	2 years End of the semester		

GR14A3100: Advanced English Communication Skills Lab	Interpersonal Skills	Group tasks	outcome		
GR14A3102: Management Science					2 years
GR14A3101: Industry Oriented Mini Project		Courses end survey/ Graduate Survey/ Alumni Survey		75%	End of the semester
GR14A4142: Comprehensive viva					End of the programme

- **h:Broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context**

Courses	Performance Criteria	Method of Assessment	Sources for data collection	Target for the performance	Length of Assessment Cycle/when the data is collected	
GR14A1009: Computer Programming	Broad education of engineering solutions in a global, economic context	Internal/external Evaluation/ Assignments/ Group tasks	Lab activity data Rubrics Course outcome Project data	80%	2 years End of the semester	
GR14A1018: Basic electrical and Electronics Engineering						
GR14A2062: Mathematical Foundations Of Computer Science						
GR14A2063: Database Management Systems		Engineering solutions in a environmental, and societal context	Courses end survey/ Graduate Survey/ Alumni survey	Survey reports	80%	2 years End of the semester End of the programme
GR14A2070: Object Oriented Programming through java						
GR14A2001: Environmental Science						
GR14A2065: Digital Logic Design						
GR14A2072: Object Oriented Programming thorough java Lab						
GR14A2076: Computer Organization						
GR14A2069: Operating Systems						
GR14A3053: Principles of programming Languages	Internal/external Evaluation/ Assignments/ Group tasks	Lab activity data Rubrics Course outcome	80%	2 years End of the semester		
GR14A3057: Software Engineering						
GR14A3058: Information Security						
GR14A3065: Object Oriented Analysis and design		Courses end survey/ Graduate Survey		75%	2 years End of the semester	

GR14A3059: Web Technologies		Survey/ Alumni reports			
GR14A3063: Web Technologies Lab		survey			End of the programme
GR14A3067: Data Warehousing and data Mining					

- **i: Recognition of the need for, and an ability to engage in life-long learning.**

Courses	Performance Criteria	Method of Assessment	Sources for data collection	Target for the performance	Length of Assessment Cycle/when the data is collected
GR14A301023: Engineering Graphics	Engage in life long learning	Internal/external	Lab activity data		2 years
GR14A1024: Business communication and soft skills		Evaluation/ Assignments/ Group tasks	Rubrics Course outcome	80%	End of the semester
GR14A2070: Object Oriented Programming through java					2 years
GR14A2076: Computer Organization		Courses end survey/ Graduate Survey/ Alumni survey	Survey data	80%	End of the semester
GR14A2069: Operating Systems					End of the programme
GR14A3056: Design and Analysis of Algorithms					
GR14A3057: Software Engineering	Update future developments In electrical and electronics field	Internal/external	Lab activity data		2 years
GR14A3059: Web Technologies		Evaluation/ Assignments/ Group tasks	Rubrics Course outcome	80%	End of the semester
GR14A3067: Data Warehousing and Data Mining		Courses end survey/ Graduate Survey/ Alumni survey	Survey data	75%	End of the semester
GR14A3103: Advanced Unix Programming					End of the programme
GR14A4142: Comprehensive Viva					

- **j: Knowledge of contemporary issues**

Courses	Performance Criteria	Method of Assessment	Sources for data collection	Target for the performance	Length of Assessment Cycle/when the data is collected
GR14A1007: Engineering Physics		Internal/external	Rubrics	80%	2 years
		Evaluation/ Assignments/ Group tasks	Course outcome		End of the semester
GR14A2062:		Courses end			2 years End of the

matematical Foundations Of Computer Science GR14A2104: Managerial Economics and Financial Analysis GR14A3101: Industry Oriented Mini Project	Knowledge of contemporary issues.	survey/ Graduate	Survey data	80%	semester
		Survey/ Alumni			
		Survey			End of the programme
		Internal/external	Rubrics		2 years
		Evaluation/ Assignments/ Group tasks	Course outcome	80%	End of the semester
		Courses end survey/ Graduate			2 years
		Survey/ Alumni	Survey data	75%	End of the semester
		Survey			End of the programme

- k: Ability to utilize experimental, statistical and computational methods and tools necessary for engineering practice**

Courses	Performance Criteria	Method of Assessment	Sources for data collection	Target for the performance	Length of Assessment Cycle/when the data is collected
GR14A1009: Computer Programming	Study experimental, statistical and computational methods	Internal/external	Lab activity data	80%	2 years
GR14A2063: Database Management Systems		Evaluation/ Assignments/ Group tasks	Rubrics Course outcome		End of the semester
GR14A2066 : Advanced Data Structures Through C++ Lab					
GR14A2072: Object Oriented Programming through java Lab		Courses end survey/ Graduate		2 years	
GR14A2069: Operating Systems		Survey/ Alumni	Survey data	80%	End of the semester
GR14A3056: Design and Analysis of Algorithms		survey			End of the programme
GR14A2073: Operating Systems Lab	Hands on experience in computational methods and tools necessary for engineering practice	Internal/external	Lab activity data	80%	2 years
GR14A4084: Scripting Languages Lab		Evaluation/ Assignments/ Group tasks	Rubrics Course outcome		End of the semester
GR14A3059: Web Technologies					
GR14A3058: Information Security		Courses end survey/ Graduate		2 years	
GR14A3065: Object Oriented Analysis and design		Survey/ Alumni	Survey data	75%	End of the semester
GR14A1023:Engineering Graphics		survey			End of the programme
GR14A3101: Industry Oriented Mini Project					

- l: Ability to create and or use Computer Science and Engineering related software tools, to get employment and succeed in higher studies.**

Courses	Performance Criteria	Method of Assessment	Sources for data collection	Target for the performance	Length of Assessment Cycle/when the data is collected
GR14A1001: Linear Algebra and single variable calculus					

GR14A1009: Computer Programming	Study experimental, statistical and computational methods	Internal/external	Lab activity data		2 years
GR14A1002: Advanced Calculus		Evaluation/ Assignments/ Group tasks	Rubrics Course outcome	80%	End of the semester
GR14A2070: Object Oriented Programming through java					
GR14A2066: Advanced Data Structures Through C++ Lab	Hands on experience in computational methods and tools necessary for engineering practice				2 years
GR14A2072: Object Oriented Programming through java Lab		Courses end survey/ Graduate Survey/ Alumni Survey	Survey data	80%	End of the semester
GR14A2071: Formal Languages and Automata Theory					End of the programme
GR14A3056: Design and Analysis of Algorithms					
GR14A2073: Operating Systems Lab		Internal/external	Lab activity data		2 years
GR14A2073: Operating Systems Lab		Evaluation/ Assignments/ Group tasks	Rubrics Course outcome	80%	End of the semester
GR14A3059: Web Technologies					
GR14A3100: Advanced English Communication Skills Lab					2 years
GR14A3063: Web Technologies Lab		Courses end survey/ Graduate Survey/ Alumni Survey	Survey data	75%	End of the semester
GR14A3103: Advanced Unix Programming					
GR14A4077: Software testing Methodologies					End of the programme
GR14A3101: Industry Oriented Mini Project					
GR14A4144: Project Work					

- **Maintenance of the documentation of results:** Evaluation of examinations is done through the Examination Branch. Analysis of exam results is done after the results. All the details of results stored in soft copy and hard copy format at the examination branch. Model data is enclosed in the annexure. Other internal, mid exam, lab internal data, and surveys data is maintained by the department.

For the batch passing out in 2014-15, the performance indicators are as follows:

Program Outcome	Indicator
a. Ability to apply knowledge of mathematics, science, and engineering.	70 % of students scoring $\geq 75\%$ marks in end examinations
b. Ability to design and conduct experiments, as well as to analyze and interpret data.	85% of students who have scored $\geq 80\%$ marks in end examinations are using software's
c. Ability to design a system, component, or process to meet desired needs within realistic	70% of students who scored $\geq 75\%$ marks in

constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.	end examinations gained knowledge on social and other issues.
d.Ability to function on multi-disciplinary teams.	82 % of students who scored >=70% marks in end examinations are able to function in multi/several disciplinary teams .
e.Ability to identify, formulates, and solves engineering problems.	80% of students who scored >=70% marks in end examinations are able to formulate and solving engineering issues.
f.Understanding of professional and ethical responsibility.	75% of students who scored >=70% marks in end examinations understood ethical and professional responsibility 80% of students are aware on environmental issues
g.Ability to communicate effectively.	80% of students who scored >=70% marks in end examinations are able to communicate effectively
h.Broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.	65% of students who have scored >= 80% marks in the end examinations understand the quality, environmental and social context
i.Recognition of the need for, and an ability to engage in life-long learning.	80% of students who got >= 85% marks in end examinations are engaged in life-long learning
j.Knowledge of contemporary issues.	75% of students who got >= 80% marks in end examinations have knowledge of other valuable issues
k. Ability to utilize experimental, statistical and computational methods and tools necessary forengineering practice.	80% of students who got >= 80% marks in end examinations have knowledge on experimental and statistical practices
l. An ability to create and or use Computer Science and Engineering related software tools, to get employment and succeed in higher studies.	80% of students who have >= 85% in the end examination are able to use software tools. 90% of students who have scored>=65% in the examination are either employed or engaged in their high studies at the end of their graduation.

e)

- Displayed in the website.
- Filed in the department and also available with the examination branch.
- Maintained by each Course Faculty as a course file with all the results and evaluation details. These results and evaluation are informed and discussed with students.

2.4 Use of Evaluation results towards improvement of the programme (30)

Total Marks : 30.00

2.4.1 Indicate how results of assessment used for curricular improvements (5)

Institute Marks : 5.00

(Articulate with rationale the curricular improvements brought in after the review of the attainment of the POs)

The OBE spirit at GRIET has been introduced from 2014-15

POs& PSOs Attainment Levels and Actions for improvement – CAY only			
Pos	Target Level	Attainment Level	Observations
PO1: Ability to apply knowledge of mathematics, science, and engineering.			
PO1	100%	100%	Satisfied. All the courses are comply with PO1.
Action 1: NA			
PO2: Ability to design and conduct experiments, as well as to analyze and interpret data.			
PO2	100%	100%	Satisfied. These principles are used and implemented in mini, main projects, technical seminars, workshops and laboratories.
Action 1: NA			

PO3: Ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.

PO3	100%	60%	<ul style="list-style-type: none"> Discussions with students and faculty members revealed that there should be a balanced between theory and lab. In a Lab course on Operating systems, the lab programs performed were not covered some of major concepts which is in theory.
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Action 1: Revision of the lab course syllabus was carried out.

Action 2: More theory concepts are included for implementation and simulation.

PO4: Ability to function on multi-disciplinary teams.

PO4	100%	80%	By Analysis and Evaluation of Mini projects and main projects at UG and PG level, realized that, lagging in contribution towards open source and IT tools.
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Action 1: In this academic year, some projects are identified in UG and PG to opt for opensource and modern engineering tools like android application.

PO5: Ability to identify, formulates, and solves engineering problems.

PO5	100%	100%	The awareness is created in every semester by conducting drills in fire safety, road safety, blood donation, cleaning(swaach Bharath), environment fest(roedo), culture feast(pulse).
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Action 1: NA

PO6: Understanding of professional and ethical responsibility.

PO6	100%	100%	Students are having zeal to involve in all of the activities like blood donation, Swaach Bharath , Participating in awareness camping etc.,.
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Action 1: NA

PO7: Ability to communicate effectively

PO7	100%	60%	Gender equality and professional ethics courses are recommended for UG level.
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Action 1: To meet PO7, the courses 'Value education and ethics and gender sensitization' were introduced for UG level from AY 2015-16.

PO8: Broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.

PO8	100%	80%	
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Action 1:

Action 2:

PO9: Recognition of the need for, and an ability to engage in life-long learning.

PO9	100%	85%	Students has to prepare reports on Mini project, main project and General seminar and have to give presentations for the same. This activities satisfies the PO9.
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Action 1: NA

PO10: Knowledge of contemporary issues.			
PO10	100%	75%	
Action 1:			
Action 2:			
PO11: Ability to utilize experimental, statistical and computational methods and tools necessary for engineering practice.			
PO11	100%	85%	
Action 1:			
Action 2:			
PO12: (PSO) Ability to create and or use Computer Science and Engineering related software tools , to get employment and succeed in higher studies.			
PO12	100%	80%	Identified the Recent emerging technologies by interacting with students, faculties and experts.
Action 1: Cloud computing Course is included as elective in PG and UG level.			
Action 2: Revision of the course syllabus was carried out, 'Cloud Computing and applications' is introduced for PG level in AY 2016-17.			
Action 3: To make aware of IOT to all faculty members two day workshop was conducted.			
Action 4 : Recommended Some problems in IOT and given as Mini projects for UG level.			
Action 5: A three week workshop on "workshop on insight" conducted by IBM covering emerging technologies like Hadoop, bigdata and websphere for faculties.			

2.4.2 Indicate how results of assessment used for improvement of course delivery and assessment (10)

Institute Marks : 10.00

(Articulate with rationale the curricular delivery and assessment improvements brought in after the review of the attainment of the POs)

POs	Target Level	Attainment Level	Observations	Curricular Delivery Improvements	Assessment Improvements
PO1	100%	100%	Satisfied. All the courses are comply with PO1.	NA	NA
PO2	100%	100%	Satisfied. These principles are used and implemented in mini, main projects, technical seminars, workshops and laboratories.	NA	NA
PO3	100%	60%	<ul style="list-style-type: none"> Discussions with students and faculty members revealed that there should be a balanced between theory and lab. In a Lab course on Operating systems, the lab programs performed were not covered some of major concepts which is in theory. 	<p>Extra Lab Hours were given for students to practice the concepts.</p> <p>The faculty strength was improved to reach out to each student in the laboratory.</p> <p>Faculty were asked to spend at least one hour on the prerequisite topic before starting a complex concept to be implemented. 1</p>	<p>After each cycle an internal lab exam was conducted.</p> <p>The frequency of discussion with students is improved to identify if any gaps.</p> <p>Students were made to implement a few experiments beyond syllabus</p>
				The students were asked to implement concepts based on LAMP and open	The projects were made to be sold in the market by the

PO4	100%	80%	By Analysis and Evaluation of Mini projects and main projects at UG and PG level, realized that, lagging in contribution towards open source and IT tools.	source software . The projects were made to be exhibited. Industry based extra guest lectures were conducted to inculcate more open source thoughts.	students and the revenue is a direct indication of level of project. The best identified projects were sent to industry experts for their further advices.
PO5	100%	100%	The awareness is created in every semester by conducting drills in fire safety, road safety, blood donation, cleaning(swaach Bharath), environment fest(roedo), culture feast(pulse).	NA	NA
PO6	100%	100%	Students are having zeal to involve in all of the activities like blood donation, Swaach Bharath , Participating in awareness camping etc.,.	NA	NA
PO7	100%	60%	Gender equality and professional ethics courses are recommended for UG level.	Video clips related to Gender sensitization and Female sex ratio were displayed. Students were made to form as groups and discussions on the latest issues of Professional Ethics were conducted.	Students were asked to write reviews on the video clippings they watched. The discussions were noted and points were shared with students to improve their thought process.
PO8	100%	75%	Students were observed to have less communication skills and team performing skills	Students were made to work as team for mini and major projects and individual participation is demanded. More number of Communication skills classes were conducted in CRT programs.	During the Project exhibitions individual student participation is evaluated. The performance of students in the recruiting organizations.
PO9	100%	85%	Students has to prepare reports on Mini project, main project and General seminar and have to give presentations for the same. This activities satisfies the PO9.	Student seminars were conducted on Report writing and assignments were made to be submitted for improving their report writing skills	The plagiarism software were used to discourage copy culture.
PO10	100%	75%	It was observed that students lack financial planning and estimation abilities	Case studies of small projects were given to estimate financial and managerial requirements	The number of students giving exact estimations were considered based on already completed projects.
			Less number of	Students were sensitized with importance of continous learning	The number of

PO11	100%	65%	LESS NUMBER of students were participating in professional body activities and membership process as well as registration for certification courses was not up to mark.	and sessions of extracts from professional magazines were conducted. Students were encouraged to take part in moodle courses and take membership in IEEE,CSI etc associations.	students participating in extra curricular activities. Projects being funded by external resources.
PO12	100%	80%	Identified the Recent emerging technologies by interacting with students, faculties and experts.	Video lectures on latest technologies. Online courses on recent emerging technologies. Assignments based on latest trends.	Industry experts were included in project identification related to emerging technologies. Count of students getting Internship.

2.4.3 State the process used for revising/redefining the POs (15)

Institute Marks : 15.00

(Articulate with rationale how the results of the evaluation of the POs have been used to review/redefine the POs in line with the Graduate Attributes of the NBA.)

We are following POS based on the guidelines of Washington Accord mapping to curriculum and used the feedback received from the stakeholders through surveys.

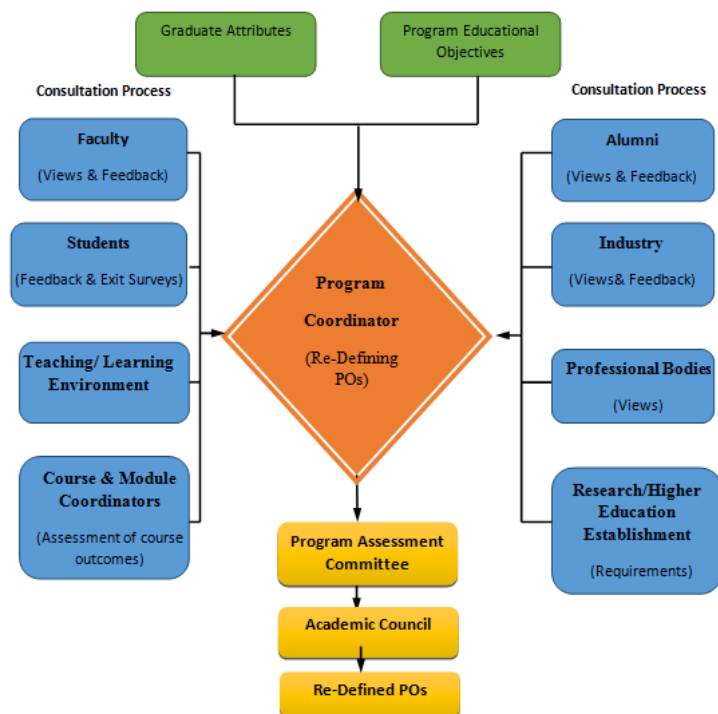


Figure 5: Process for Redefining Pos

After receiving results of each semester, faculty analyses the percentage of pass in his subjects and finds out the average of marks obtained in his course, in order to recommend necessary actions to improve the courses. This process considers exit students survey, professional society survey, alumni survey, employer survey, feedback and rubrics. DDMC consisting of the Head of the Department along with Board of Studies, Programme Coordinator prepares the action plan to improve the courses of the programme thus influencing the attainment of Programme Outcomes. The improvement of PO attainment can be expected by bringing appropriate changes in course outcomes, curriculum, delivery methods, and assessment and evaluation methods. After receiving inputs from the internal committees Board of Studies, Academic Council will give the final approval for the necessary improvements.

Once the action plan is defined, data for the performance indication is to be collected and analyzed and evaluated by the course coordinator to see the performance. This process continues till the performance improves to the target value

3 Programme Curriculum (125)**Total Marks : 125.00****3.1 Curriculum (20)****Total Marks : 20.00**

3.1.1 Describe the Structure of the Curriculum (5)

Institute Marks : 5.00

Course Code	Course Title	Total Number of contact hours				Credits
		Lecture (L)	Tutorial (T)	Practical (P)	Total Hours	
GR14A1001	Linear Algebra and Single Variable Calculus	2.00	1.00	0.00	3.00	3.00
GR14A1002	Advanced Calculus	2.00	1.00	0.00	3.00	3.00
GR14A1007	Engineering Physics	2.00	1.00	0.00	3.00	3.00
GR14A1009	Computer Programming	2.00	1.00	0.00	3.00	3.00
GR14A1005	English	2.00	1.00	0.00	3.00	2.00
GR14A1019	Fundamentals of Electronic Engineering	3.00	1.00	0.00	4.00	3.00
GR14A1025	Engineering Workshop	0.00	0.00	2.00	2.00	2.00
GR14A1027	Computer Programming Lab	0.00	0.00	2.00	2.00	2.00
GR14A1029	Engineering Physics Lab	0.00	0.00	2.00	2.00	2.00
GR14A1003	Transform Calculus and Fourier Series	2.00	1.00	0.00	3.00	2.00
GR14A1004	Numerical Methods	2.00	1.00	0.00	3.00	3.00
GR14A1008	Engineering Chemistry	2.00	1.00	0.00	3.00	3.00
GR14A1010	Data Structures	2.00	1.00	0.00	3.00	3.00
GR14A1023	Engineering Graphics	1.00	0.00	2.00	3.00	3.00
GR14A1018	Basic Electrical Engineering	3.00	1.00	0.00	4.00	3.00
GR14A1024	Engineering Workshop	0.00	0.00	2.00	2.00	2.00
GR14A1026	Computer Programming Lab	0.00	0.00	2.00	2.00	2.00
GR14A1030	Engineering Physics Lab	0.00	0.00	2.00	2.00	2.00
GR14A3103	Unix and Shell Programming	3.00	1.00	0.00	4.00	3.00
GR14A3051	Compiler Design	3.00	1.00	0.00	4.00	3.00
GR14A2055	Micro controllers	2.00	1.00	0.00	3.00	2.00
GR14A3052	Computer Networks	3.00	1.00	0.00	4.00	4.00
GR14A2011	Probability and Statistics	2.00	1.00	0.00	3.00	3.00
GR14A2062	Mathematical Foundation of Computer Science	3.00	1.00	0.00	4.00	3.00
GR14A2063	Database Management Systems	3.00	1.00	0.00	4.00	4.00
GR14A2064	Advanced Data Structures through C++	3.00	1.00	0.00	4.00	3.00
GR14A2065	Digital Logic Design	3.00	1.00	0.00	4.00	4.00
GR14A2066	Advanced Data Structures through C++ Lab	0.00	0.00	2.00	2.00	2.00
GR14A2067	Data Bases Lab	0.00	0.00	2.00	2.00	2.00
GR14A2068	Digital Logic Design Lab	0.00	0.00	2.00	2.00	2.00
GR14A2001	Environmental Science	2.00	0.00	0.00	2.00	2.00
GR14A2104	Managerial Economics and Financial Analysis	2.00	1.00	0.00	3.00	2.00
GR14A2069	Operating Systems	3.00	1.00	0.00	4.00	3.00
GR14A2070	Object Oriented Programming through Java	3.00	1.00	0.00	4.00	4.00
GR14A2071	Formal Languages and Automata Theory	3.00	1.00	0.00	4.00	3.00
GR14A2076	Computer Organization	3.00	1.00	0.00	4.00	4.00
GR14A2072	Object Oriented Programming through Java Lab	0.00	0.00	2.00	2.00	2.00
GR14A2073	Operating Systems Lab	0.00	0.00	2.00	2.00	2.00
GR14A2074	Advanced Databases Lab	0.00	0.00	2.00	2.00	2.00
GR14A2002	Value Education and Ethics	2.00	0.00	0.00	2.00	2.00
GR14A3103	Unix and Shell Programming	3.00	1.00	0.00	4.00	4.00
GR14A3051	Compiler Design	3.00	1.00	0.00	4.00	4.00
GR14A2055	Micro controllers	2.00	1.00	0.00	3.00	3.00
GR14A3052	Computer Networks	3.00	1.00	0.00	4.00	4.00
GR14A3053	Principles of Programming Languages	3.00	1.00	0.00	4.00	3.00
GR14A2059	Microcontrollers Lab	0.00	0.00	2.00	2.00	2.00
GR14A3054	Advanced Java Programming Lab	0.00	0.00	2.00	2.00	2.00
GR14A3055	Unix Programming and Compiler Design Lab	0.00	0.00	2.00	2.00	2.00

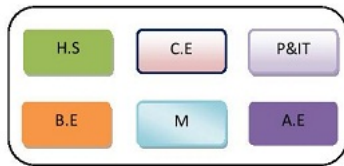
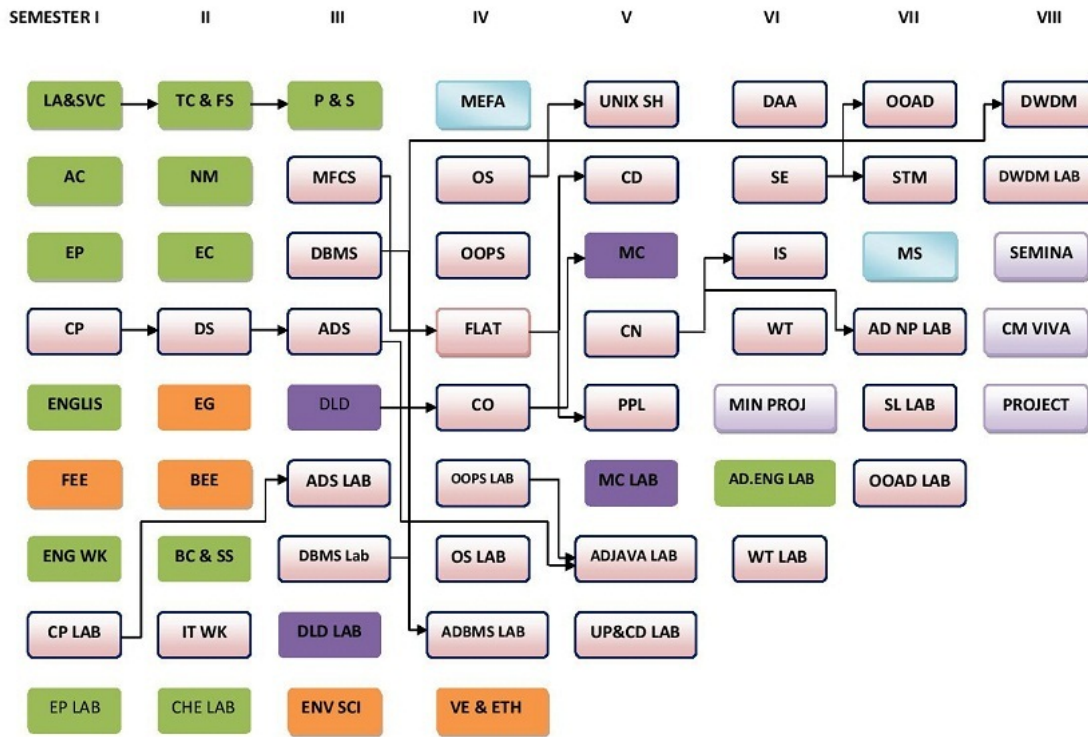
GR14A3056	Design and Analysis of Algorithms	3.00	1.00	0.00	4.00	3.00
GR14A3057	Software Engineering	3.00	1.00	0.00	4.00	4.00
GR14A3058	Information Security	2.00	1.00	0.00	3.00	3.00
GR14A3059	Web Technologies	3.00	1.00	0.00	4.00	4.00
GR14A3062	Open Elective	3.00	1.00	0.00	4.00	3.00
GR14A3101	Industry Oriented Mini Project	0.00	0.00	2.00	2.00	2.00
GR14A3100	Advanced English Communication Skills Lab	0.00	0.00	2.00	2.00	2.00
GR14A3063	Web Technologies Lab	0.00	0.00	2.00	2.00	2.00
GR14A3065	Object Oriented Analysis and Design	3.00	1.00	0.00	4.00	3.00
GR14A4077	Software Testing Methodologies	3.00	1.00	0.00	4.00	3.00
GR14A3102	Management Science	2.00	1.00	0.00	3.00	3.00
GR14A4078	Elective I	3.00	1.00	0.00	4.00	3.00
GR14A3068	Elective-II	3.00	1.00	0.00	4.00	3.00
GR14A4083	Advanced Network Programming Lab	0.00	0.00	2.00	2.00	2.00
GR14A4084	Scripting languages Lab	0.00	0.00	2.00	2.00	2.00
GR14A4085	Object Oriented Analysis and Design Lab	0.00	0.00	2.00	2.00	2.00
GR14A3067	Datawarehousing and Data Mining	2.00	1.00	0.00	3.00	3.00
GR14A4088	Elective-III	2.00	1.00	0.00	3.00	3.00
GR14A4091	Elective-IV	2.00	1.00	0.00	3.00	3.00
GR14A4092	Datawarehousing and Data Mining Lab	0.00	0.00	2.00	2.00	2.00
GR14A4143	Seminar	0.00	0.00	2.00	2.00	2.00
GR14A4142	Comprehensive Viva	0.00	0.00	2.00	2.00	2.00
GR14A4144	Major Project	0.00	0.00	10.00	10.00	10.00
Total		116.00	43.00	60.00	219.00	200.00

3.1.2 Give the Prerequisite flow chart of courses (5)

(Draw the schematic of the prerequisites of the courses in the curriculum)

Institute Marks : 5.00

Course Flow Diagram (UG Computer Science and Engineering GRIET)



H.S: Humanities & Sciences **C.E: Core Engineering**
B.E: Basic Engineering **M: Management**
A.E: Allied Engineering **P&IT: Project & Industrial Training**

3.1.3 Justify how the programme curriculum satisfies the program specific criteria (10)

Institute Marks : 10.00

(Justify how the programme curriculum satisfies the program specific criteria specified by the American professional societies relevant to the programme under accreditation)

The programme curriculum has been designed to satisfy the PSC and the same can be identified and justified as shown in the table below, We considered the aspects of PSC given by IEEE-Computer Society Chapter like Create tools, Use tools, Employability, Higher studies to justify the answer. Y indicates the curriculum component completely satisfies the PSO component.

PROGRAMME SPECIFIC CRITERIA

In addition to the General Criteria, each programme must satisfy a set of criteria specific to it, known as Programme Specific Criteria which deal with the requirements for engineering practice particular to the related sub-discipline. The stipulations in the Programme Specific Criteria chiefly concern curricular issues and qualifications & competencies of faculty. The programme curriculum is to be provided in correlation with the programme specific criteria. The NBA is intended to adopt the programme specific criteria specified by appropriate American Professional societies such as ASME, ASCE, IEEE etc. The institution shall provide evidence that the programme curriculum satisfies the programme specific criteria, and industry specific criteria and industry interactions/internship. Three examples are given for Program Specific Criteria.

PROGRAM CRITERIA FOR COMPUTER SCIENCE AND ENGINEERING PROGRAM

LEAD SOCIETY: INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)

COOPERATING SOCIETY FOR COMPUTER ENGINEERING PROGRAMS: CSAB

These program criteria apply to computing programs using computer science or similar terms in their titles. The program must enable students to attain, by the time of graduation:

1. An ability to apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer-based systems in a way that demonstrates comprehension of the tradeoffs involved in design choices.
2. An ability to apply design and development principles in the construction of software systems of varying complexity.

CURRICULUM

Students must have the following amounts of course work or equivalent

educational experience:

a. COMPUTER SCIENCE: ONE AND ONE-THIRD YEARS THAT MUST INCLUDE:

1. Coverage of the fundamentals of algorithms, data structures, software design, concepts of programming languages and computer organization and architecture.
2. An exposure to a variety of programming languages and systems]
3. Proficiency in at least one higher-level language.
4. Advanced course work that builds on the fundamental course work to provide depth.

b. ONE YEAR OF SCIENCE AND MATHEMATICS:

1. **MATHEMATICS:** At least one half year that must include discrete mathematics. The additional mathematics might consist of courses in areas such as calculus, linear algebra, numerical methods, probability, statistics, number theory, geometry, or symbolic logic.
2. **SCIENCE:** A science component that develops an understanding of the scientific method and provides students with an opportunity to experience this mode of inquiry in courses for science or engineering majors that provide some exposure to laboratory work.

FACULTY: Some full time faculty members must have a Ph.D. in computer science.

3.2 State the components of the curriculum and their relevance to the POs and the PEOs (15)

Total Marks : 15.00

Institute Marks : 15.00

Programme curriculum grouping based on different components

Course Component	Curriculum Content (% of total number of credits of the programme)	Total number of contact hours	Total Number of credits	POs	PEOs
Mathematics	11	29.00	18.00	a,b,c,e,h,k,l	1,2
Science	10	30.00	16.00	a,b,c,d,e,h,j,k	1,2
Computing	6.5	21.00	13.00	a,b,c,d,e,i,k,l	1,2
Humanities	5.5	19.00	11.00	c,d,g,h,i,j	1,3
Professional core	72.5	215.00	142.00	b,c,d,e,j,k,l	1,2&4

3.3 State core engineering subjects and their relevance to Programme Outcomes including design experience (60)

Total Marks : 60.00

Institute Marks : 60.00

Core Engineering Courses

CSE GR14A2063 Database Management Systems

This course is a hands on introduction to database systems, namely their internal architecture, data structures, mathematical concepts and use. Expose the students to the concepts of data modeling and database design principles. Students will be able to emphasize on the use of DBMS in solving information processing problems which will include database design case studies as well as SQL programming assignments. A class project may be assigned to each team. Also, students will be aware of the concepts of storage devices, as well as database analysis, design, and implementation. The projects are intended to introduce students to challenging engineering design problems, including real world difficulties of integrating with legacy code inside a production database design. Hands on and group based projects are required during the semester, there by students will communicate ideas effectively. The course provides a capstone design experience.

CSE GR11A3067 Data Warehousing and Data Mining

The course provides approximately 75% design experience. This course is a study of the techniques for design and construction of data warehouse. A specific focus will be given to various principles and techniques for Dimensional modeling, ETL, Data Quality and Cleansing, and OLAP. This course introduces students to data warehousing concepts and emphasizes hands on approach to reinforce the theory. Star schema, fact tables and dimension tables will be examined. Multi-dimensional databases are emphasized. A team project will be used to handle the process of moving data from an OLTP system to a DW with management reports through the cube and pivotal tables. Business Intelligence tools will be used to develop OLAP cubes and Microsoft Excel for OLAP reporting..This course gives a wide exposition of data mining techniques and their software tools.

CSE GR14A3057 Software Engineering

Software Engineering is a course which provides a significant hands-on design experience. The course introduces the concepts of software engineering and various process models that emphasize the students to select an appropriate process model for a given project. The course contains the software engineering practices that are to be followed at different stages during the development of product and the principles of design that can be implemented in project work. The course also focuses on testing, debugging and estimation that makes the students to formulate the test plans. The students are given the assignments such as 1) develop data flow diagrams for a given application, 2) specify the valid requirements 3) build the model that helps the student to explore the concepts during the problem design. The concepts that were introduced in this course help the students in their project work in writing code that is robust and bug free. The course is approximately 60% design and provides an excellent software design experience.

CSE GR11A3065 Object Oriented Analysis And Design

This course will cover concepts of object-oriented analysis and design techniques, Unified

Process (an iterative methodology), and Unified Modelling Language (UML). Using a case-centered, scenario-based approach, the learner will be able to apply object-oriented concepts and modelling techniques to simulate real-life situations. Students are exposed to use a UML-based software tool for modelling the software development process, and will experience the transition from UML diagrams to program code. Topics to be discussed will include CRC technique, software development methodologies, requirements gathering and analysis, system architecture and design, implementation, testing and deployment. The study of this course helps in design part for the project work

CSE GR11A4077 Software Testing Methodologies

Software testing methodologies is a course that introduces the need for testing, consequences of bugs and various testing methodologies. With the study of this course the student can understand the process of validating and verifying a computer application so that the requirements of the stakeholder are met and satisfied. The course introduces various testing methodologies that can be implemented for their projects in finding the software bugs. The student will be aware of implementing the testing method at different stages during the development process. Students will be able to specify the test cases for a given project. The students work in teams of 4 to 5 members implementing the testing methodologies for a given application. The concepts are explained through lecture hours and implementation is done through tutorial hours.

CSE GR14A2076 Computer Organization

Computer Organization is a course that provides an in-depth understanding of the inner workings of digital computer system. Students learn the working of digital logic circuits and various digital components. The course covers Register Transfer Language, Micro Programmed control, Memory and input output organization. With the study of this course, the students will understand the steps to be followed internally during the execution of an instruction. With these concepts the students gain the basic knowledge in developing the programs in Assembly language.

CSE GR14A2069 Operating Systems

This course teaches the basic concepts of the operating system. The subject covers the CPU scheduling, Memory Management, Thread management and Virtual memory. Students are exposed to resolve the Deadlock problem and synchronization problems. The concepts were explained through lecture hours and the problems were implemented through tutorial hours. The students are asked to develop the case studies that include the comparative analysis about any concept of operating system or comparison between the different versions of same operating systems.

CSE GR14A3056 Design and Analysis of Algorithms

This course introduces students about algorithm specifications and different areas of algorithms like design, analysis. Students will examine different design techniques like divide and conquer dynamic programming etc... The main intention of this course is to introduce students to challenging engineering design problems. Course uses a problem based approach to learning. A specific focus will be given to various principles and techniques for solving optimization problems. Different types of problems like NP hard NP complete were also introduced and applicable in all most all engineering disciplines.

CSE GR14A2064 Advanced Data Structures Through C++

The aim of the course is to help the students to gain a better understanding of OO design and program implementation by using OO language features. The course provides the students an insight into object oriented programming concepts and also provides practical programming experience to solve engineering problems. Students will be able to analyze simple programming problem specifications and design a high-level solution to the problem using functional abstraction and general object oriented programming language constructs. This course provides in-depth coverage of object-oriented programming principles and techniques using C++. Topics include classes and objects, data abstraction, information hiding, encapsulation, function overloading, operator overloading, inheritance, polymorphism, file processing, templates, exception handling and File I/O. Understanding of the subject is assessed through home assignments, internal exams and programming quizzes.

This course introduces the requirement of different data structures in computer science area and wide applications of them. Students are exposed to both linear and non-linear data structures and basic operations like searching insertion deletion and sorting. All the data structures along with the operations are practically implemented using C++ language. Every student is given a scenario where some basic programming has to be implemented using a specific data structure as home assignment. This enables the student to explore the concepts learnt and identify which data structure suits the objective. This course also includes all the advanced topics of data structures BTrees, Red Black Trees, Hashing techniques etc.

CSE GR14A2070 Object Oriented Programming through Java

This course provides students with insight into Java SDK environment to create, debug and run simple Java programs with differentiate procedural, object-based, object oriented and generic programming. Students are exposed to create and deploy applications as well as event driven Graphical User Interface (GUI) programming. Students will also able to organize program code into modules using methods and method access control to ensure modularity and abstraction. The topics include the concept of OOP as well as the purpose and usage principles of inheritance, polymorphism, encapsulation and method overloading, packages and listing the various packages available in Java. The students may describe the use of containers and layout managers and select an appropriate GUI component for a

given I/O task. The students will familiarize how internet clients and servers communicate using protocols like TCP and sockets and the structure of relational databases and SQL commands.

Understanding of the subject is assessed through home assignments, exams and programming contests. Also a mini project may be given at the end of course. The course will help the students in doing their major project in turn help in lifelong learning.

CSE GR11A3059 Web Technologies

This course provides the students with hands on experience with a study of the techniques for design and construction of Dynamic Websites. The course mainly focuses on various HTML elements and DHTML, Java Script, CSS, XML, JSP, Servlets. With these concepts the students are explored to Develop Online Applications dynamically and learn how to maintain databases like sql, mysql, oracle, etc.... The students are given the assignments to develop Web based applications using Servlets and JSP. Students can develop interactive applications such as Client Server Architecture. This course provides approximately 75% design experience. Theoretical concepts will be explained through contact hours and implementation can be done through tutorial and lab hours. With the study of this course the students can implement the web programming in their project works.

CSE GR14A3052 Computer Networks

This course starts with the basic information of how a network can be designed, possible choice of various models for designing a network. The students will be able to understand the protocol layer specific communication between two trusted entities. They will analyse the possible attacks on a network to interrupt the transmission and mislead the communication between different entities. Students will be able to analyse the shortest path over which data can be transmitted, able to design a routing protocol implementing security mechanisms for secure transmission of data from sender to the receiver. The understanding of the subject can be assessed based on course work, assignments and through implementation on a specific platform. The students can design a network topology with the available networking elements and can implement a routing protocol along with a secure mechanism ensuring the error free transmission of data.

Following are the core engineering courses and their relevance to Pos:

Courses	Program Outcomes											
	a	b	c	d	e	f	g	h	i	j	k	l
Computer Programming	X	X		X	X							X
Computer Programming Lab	X	X		X								X
IT Workshop Lab	X	X						X	X			X
Mathematical foundations of computer Science	X		X	X			X					X
Advanced Data Structures through C++	X	X	X	X			X	X		X	X	X
Data base management systems	X	X	X	X	X	X	X		X	X	X	X
Object oriented programming through Java	X	X	X	X	X		X	X		X	X	X
Advanced Data Structures Through C++ Lab	X	X	X	X			X			X	X	X
Object Oriented Programming through Java Lab	X	X	X	X	X		X	X		X		X
Databases lab	X	X	X	X			X	X		X	X	X
Computer organization	X	X	X	X			X	X	X	X	X	X
Operating systems	X	X		X				X	X	X	X	X
Formal languages and automata theory	X	X	X	X			X			X	X	X
Design and analysis of algorithms	X	X		X	X		X			X		X
Operating Systems Lab	X	X	X	X	X		X	X		X	X	X
Scripting Languages Lab		X	X	X	X							X
Unix Programming and Compiler Design Lab	X	X	X	X			X			X		X
Principles of programming languages	X	X	X	X	X		X	X	X	X	X	X
Software Engineering	X	X	X	X			X			X	X	X
Computer Networks	X	X	X	X	X	X	X		X	X	X	X
Object oriented analysis and design	X	X	X	X	X	X	X	X	X	X	X	X
Compiler design	X	X	X	X		X	X		X			X
Web technologies		X	X	X	X	X	X	X		X	X	X
Web Technologies Lab	X	X	X	X		X	X		X			X
Software Testing Methodologies	X	X	X	X	X	X	X	X	X	X	X	X
Data warehousing and data mining	X	X		X			X	X		X	X	X
Engineering Graphics	X						X					X
Scripting Languages	X	X	X	X	X	X	X					X
Industry Oriented Mini Project	X	X	X	X	X	X	X	X	X	X	X	X
Seminar	X	X	X	X	X	X	X	X	X	X	X	X
Project Work	X	X	X	X	X	X	X	X	X	X	X	X
Comprehensive Viva	X	X	X	X	X	X	X	X	X	X	X	X

3.4 Industry interaction/internship (10)

Total Marks : 10.00

Institute Marks : 10.00

(Give the details of industry involvement in the programme such as industry-attached laboratories and partial delivery of courses and internship opportunities for students)

Students are encouraged to take internship in the leading industries to get overall expertise on the engineering education in academically relevant work during semester break or vacation time.

Industrial visits are organized to the students along with the faculty members to bridge the gap between theoretical and practical aspects of the curriculum. Experts from industry are invited to interact with the students in every semester so that the students get the latest technical developments in the industry. Department are having collaborations with the reputed industries and professional bodies so that to bridge the gap between learning and people who are actually practicing technologies

- A expert from Industry is considered to be a member of Board of Studies who takes active role in the curriculum design
- The institution has MOU's with SQL Star, a multinational company headquartered at Hyderabad,AP to strengthen the relationships with industry
- Department is active member with campus connect program.
- Students are provided and given internship facility with research organizations such as Google,GE,TCS for completion of project work.
- UG program has an industry need based elective. These courses are delivered by industry experts through webinars apart from regular faculty Experts from Infosys delivers lectures via video conference.
- Faculty participates in faculty development programs conducted by industries such as Wipro , TCS and Accenture etc...
- Department organizes several workshops with industry experts for the benefit of the students.
- Industry relevant and sponsored student projects are encouraged
- Department organizes industry related certification courses with industry associates

3.5 Curriculum Development (15)

Total Marks : 15.00

3.5.1 State the process for designing the programme curriculum (5)

Institute Marks : 5.00

(Describe the process that periodically documents and demonstrates how the programme curriculum is evolved considering the PEOs and the POs)

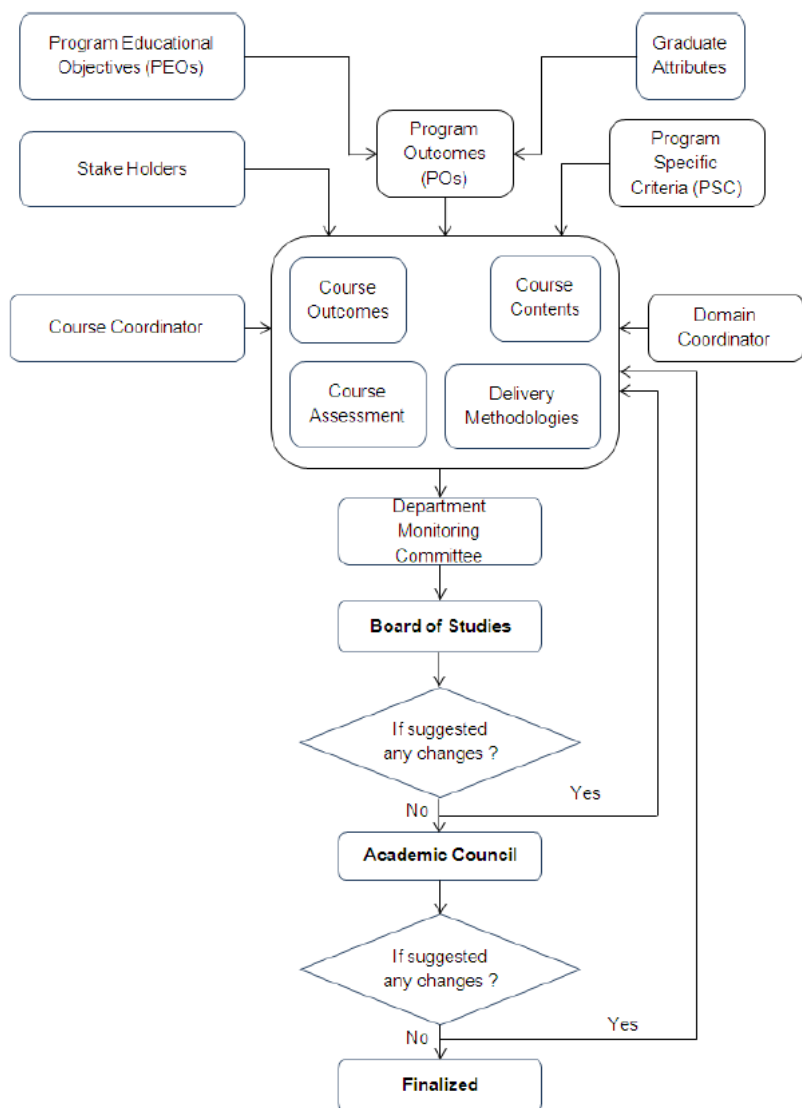
Our's being a UGC Autonomous institution, have the advantage of enhancing/improvising the university prescribed syllabus.

The curriculum requirement is identified based on the stakeholders' like industry and professional societies inputs and once subject is identified , the syllabus structure is formed by the subject experts either with in the college or external resource.

The framed syllabus of particular curriculum component is put forth for discussion in the BoS meetings that are held regularly in the college. The BoS meeting will be duly attended by one Professor from JNTUH and also senior academicians of relevant fields from other organizations. The BoS approves the component, if it finds suitable, after detailed discussion of curriculum component's relevancy with PEOs and POs.

Once BoS approves the identified curriculum component it is included for the students of next regulations or following batches.

Schematic representation of the Curriculum Development:



3.5.2 Illustrate the measures and processes used to improve courses and curriculum (10)

Institute Marks : 10.00

(Articulate the process involved in identifying the requirements for improvements in courses and curriculum and provide the evidence of continuous improvement of courses and curriculum)

Same procedure as mentioned in 3.5.1 is followed for improvement of curriculum and courses. The basis for the improvement comes mainly from the research organization scenario in various disciplines of Computer Science and Engineering. The input is given by the faculty members who are involved in quality research work. In addition the needs of the industry obtained through the feedback from industry experts.

3.6 Course Syllabi (5)

Total Marks : 5.00

Institute Marks : 5.00

(Include, in appendix, a syllabus for each course used. Syllabi format should be consistent and shouldn't exceed two pages.)
The syllabi format may include:

- Department, course number, and title of course
- Designation as a required or elective course
- Pre-requisites
- Contact hours and type of course (lecture, tutorial, seminar, project etc.,)
- Course Assessment methods(both continuous and semester-end assessment)
- Course outcomes
- Topics covered
- Text books, and/or reference material

File Name
CSE_Syllabus_2014_GRIET

The Course Syllabi of Computer Science and Engineering programmes consists of general guidelines, academic requirements, attendance requirements, credit requirements and details about curriculum. Each semester modules are given in which courses and laboratory required content is provided. Details about elective subjects and requirement about seminar, comprehensive viva, mini and major project is provided. Finally a requirement for the award of the degree is given.

The syllabi format includes:

- Department, course number, and title of course
- Designation as a required or elective course
- Contact hours and type of course (lecture, tutorial, seminar, project etc.)
- Course Assessment methods (both continuous and semester-end assessment)
- Course Outcomes
- Topics covered
- Text books, and/or reference material

Copy of the Syllabus is enclosed as Annexure.

4 Students' Performance (75)

Total Marks : 62.47

Admission intake in the programme

Item	2015-2016	2014-2015	2013-2014	2012-2013	2011-2012	2010-2011	2009-2010
Sanctioned intake strength in the programme	360	240	180	180	120	120	120
Total number of admitted students in first year minus number of students migrated to other programmes at the end of 1st year (N1)	359	237	180	179	120	120	120
Number of admitted students in 2nd year in the same batch via lateral entry (N2)	0	33	29	28	24	24	12
Total number of admitted students in the programme N = (N1 + N2)	359	270	209	207	144	144	132

4.1 Success Rate (20)

Total Marks : 14.60

Institute Marks : 14.60

Provide data for the past seven batches of students

Year of entry (in reverse chronological order)	Number of Students admitted in 1st year + admitted via lateral entry in 2nd year (N1 + N2)	Number of students who have successfully completed			
		1st year	2nd year	3rd year	4th year
2015-2016	359	0	0	0	0
2014-2015	270	157	0	0	0
2013-2014	209	134	121	0	0
2012-2013	207	82	71	85	0
2011-2012 (LYG)	144	72	77	81	97
2010-2011 (LYGm1)	144	64	75	82	78
2009-2010 (LYGm2)	132	115	128	126	128

Success rate = $20 \times$ mean of success index (SI) for past three batches

SI = (Number of students who graduated from the programme in the stipulated period of

course duration)/(Number of students admitted in the first year of that batch

and admitted in 2nd year via lateral entry)

Item	LYG (2011-2012)	LYGm1 (2010-2011)	LYGm2 (2009-2010)
Number of students admitted in the corresponding First Year + admitted via lateral entry in 2nd year	144.00	144.00	132.00
Number of students who have graduated in the stipulated period	97.00	78.00	128.00
Success index (SI)	0.67	0.54	0.97

Average SI 0.73

Success rate 14.60

4.2 Academic Performance (20)

Total Marks : 16.19

Institute Marks : 16.19

Academic Performance = $2 * API$

Where API = Academic Performance Index

= Mean of Cumulative Grade Point Average of all successful

Students on a 10 point CGPA System

OR

= Mean of the percentage of marks of all successful students / 10

Item	2011-2012	2010-2011	2009-2010
Approximating the API by the following mid-point analysis			
9 < Number of students with CGPA < 10	27.00	10.00	10.00
8 < Number of students with CGPA < 9	51.00	42.00	39.00

/ <= 8	51.00	43.00	47.00
6 <= 7	19.00	3.00	6.00
5 <= 6	0.00	0.00	0.00
Total	128.00	98.00	102.00
Approximating API By Mid-CGPA	0.00	0.00	0.00
Mean of CGPA/Percentage of all the students API	8.17	8.10	8.02
Assessment	16.34	16.20	16.04

Average assessment points 16.19

4.3 Placement and Higher Studies (20)**Total Marks : 16.68**

Institute Marks : 16.68

Item	LYG 2011-2012	LYGm1 2010-2011	LYGm2 2009-2010
Number of admitted students corresponding to LYG including lateral entry (N)	144.00	144.00	132.00
Number of students who obtained jobs as per the record of placement office (x1)	61.00	79.00	69.00
Number of students who found employment otherwise at the end of the final year (x2)	20.00	21.00	10.00
Number of students who opted for higher studies with valid qualifying scores/ranks (y)	19.00	14.00	38.00
x=x1+x2	81.00	100.00	79.00
Assessment points	14.55	16.32	19.17

Average assessment points 16.68

4.4 Professional Activities (15)**Total Marks : 15.00**

4.4.1 Professional societies / chapters and organising engineering events (3)

Institute Marks : 3.00

(Instruction: The institution may provide data for past three years).

Events	2015-16	2014-15	2013-14
Workshops	3	8	4
Seminars	2	4	6
Competitions	1	1	1
Conferences	0	0	1
Exhibitions	2	2	2
Project Competitions	1	1	1
Certificate Courses	3	3	3

4.4.2 Organisation of paper contests, design contests, etc. and achievements (3)

Institute Marks : 3.00

(Instruction: The institution may provide data for past three years).

The Institute organizes contests in paper presentations, design contests in each department under an event title, and the details are as follows:

PRAGNYA is a national level annual technical symposium held at GRIET, and is one among the most popular and eagerly awaited events in Hyderabad. It is organized by the institute and conducted by the IEEE Student Branch of GRIET. The event offers a platform for students to enhance their class room knowledge in various domains and find connection with the real time world while collaterally having fun. Academically it challenges the students potential to exhibit their ideas, technical skills and prowess in their domain. The events like Paper Contest, Poster Presentation, Design Contest, Electronic Quiz, Code-O-Mania, Web Design, Show Your Potential, Robotics, CAD Mania, and Master-Caster are conducted under the PRAGNYA Symposium.

X-Kernel is an annual event conducted to provide a platform for young Engineers to test their skills. This Event is organized by CSE Department. X-Kernel is not the usual programming contest; the core concept of the competition is the actual code consisting of logic and minimum time of computation. It deals with out of the box thinking where participants ransack their brains to find an accurate solution.

Scientific Fore Step is a technical competition wherein the students from various departments of the institution participate and show case in project design and development contest.

Name of the Event Organized	Date	No. benefited	Activities	Achievements
UN World water day 2015	22-03-2015	217 Nos	PPT Presentations, Essay writing, Group Discussion, Elocution, Poster presentation, Situational Skit, Listening Comprehension	Development of skills for leadership and communication
UN World water day 2014	22-03-2014	110 Nos	PPT Presentations, Essay writing, Group Discussion, Elocution, Poster presentation, Situational Skit, Listening Comprehension	Development of skills for leadership and communication
Pragnya 2014	17-10-2014 & 18-10-2014	52 Nos	Collusus Brick Bond Mock Up	Development of technical knowledge

Paper Presentation				
UN Peace day-2014	21-09-2014	154 Nos	PPT Presentations, Essay writing, Group Discussion, Elocution, Poster presentation, Situational Skit, Listening Comprehension	Development of skills for leadership and communication
Engineer's Day 2014	15-09-2014	154 Nos	PPT Presentations, Essay writing, Group Discussion, Elocution, Poster presentation, Situational Skit, Listening Comprehension	Development of skills for leadership and communication
UN Peace day-2013	21-09-2013	227 Nos	PPT Presentations, Essay writing, Group Discussion, Elocution, Poster presentation, Situational Skit, Listening Comprehension	Development of skills for leadership and communication
Engineer's Day 2013	15-09-2013	227 Nos	PPT Presentations, Essay writing, Group Discussion, Elocution, Poster presentation, Situational Skit, Listening Comprehension	Development of skills for leadership and communication
Pragnya-12 (Paper Contest)	8/11/2012	200	PPT Presentations, Essay writing, Group Discussion, Elocution, Poster presentation, Situational Skit, Listening Comprehension	This event covers latest trends in Computer Science and Engineering field like Cloud computing, Data mining, Cryptography and networking, Image processing, Neural Networks.
Pragnya-12 (Web Design)	09/10/2012	200	PPT Presentations, Essay writing, Group Discussion, Elocution, Poster presentation, Situational Skit, Listening Comprehension	This event covers latest web designing techniques using various web designing tools.
Pragnya-12 (Code – Mania)	08/10/2012	200	PPT Presentations, Essay writing, Group Discussion, Elocution, Poster presentation, Situational Skit, Listening Comprehension	This event enhances the coding skills.
x-Kernal	24/Jan/2012	250	PPT Presentations, Essay writing, Group Discussion, Elocution, Poster presentation, Situational Skit, Listening Comprehension	This event covers latest trend in computer science field.

4.4.3 Publication of technical magazines, newsletters, etc (3)

Institute Marks : 3.00

(Instruction: The institution may list the publications mentioned earlier along with the names of the editors, publishers, etc.).

GRIET is actively engaged in R & D, in encouraging research, promoting and contributing information in this sphere as is evident from the publications originating from its campus.

e-GEM: GRIET e-Magazine (GeM) is an e-initiative taken by Gokaraju Rangaraju Institute of Engineering and Technology (GRIET) to encourage e-culture among its students. This will also serve as a wall for students to paint their thoughts and be as creative as their minds can be. Using GeM we plan to raise the awareness of how this multifaceted internet can also serve as a medium for colleges to encourage creativity among its students. Gem will be portal for students to showcase their oft hidden talents, be it in their literary skills or their knowledge of latest happenings in their respective field of interest.

REFLECTIONS: The College Magazine- “Reflections” truly reflects the mood and mind of GRIETians. College Editorial team brings out the reflections annually with college events, achievements, life elements in and around GRIET covering circular aspects and beyond GRIET.

International Journal of Advanced Computing (IJAC) is Quarterly Research Journal by GRIET and published from Hyderabad, Andhra Pradesh, India. It provides a world wide forum with innovative, practical development exposure as well as original research results on Computing Technologies. The Journal bring out the researchers and application developers from a wide range of Computing Techniques such as Statistics, Data Mining, VLSI, Nano Computing, Parallel Computing, Mobile Computing etc and is promoting high quality and novel research findings and innovative solutions to challenging Advanced Computing Problems, the Journal seeks to continuously advance the state of the art in Computing Techniques.

International Journal of Data Engineering and Computer Science (JDEC): As part of academic development and R&D, we have initiated this Journal with every effort to foster the values of inquisitiveness, exploration, invention. The Research community is invited to share their ideas through this Journal and publish their research work related to areas of Data Engineering and Computer Science.

International journal of Advanced Materials Manufacturing & Characterization (IJAMMC): The aim of IJAMMC is to promote a greater knowledge and understanding of the attributes and capabilities of all types of modern engineering materials in the context of engineering processing and characterization. The objective of this journal is to bring together experts' research ideas, advanced industry practices through various research organizations and professional engineers for sharing of knowledge, expertise and experience in the emerging trends related to advanced materials processing, manufacturing and characterization. And also make these ideas available to various academia and others to promote research in the country.

Management Today: An International Journal, published by Department of Management Studies, GRIET. The journal publishes the latest developments in Management Education, Practice and Profession. The principal objective is to provide a forum for academicians, researchers, and professionals in Management all over the world to promote their research, share their ideas, discuss and/or communicate their views on various issues and developments in different areas of Management. The areas of focus could include: General Management, Financial Management, Human Resource Management, Marketing Management, Production Management, Strategic Management, Management of Change, Organizational Behavior, Organizational Development, Management Information Systems, International Management, Management Accounting, Managerial Economics, etc.

Civil Techno Project Mission: A half yearly newsletter published by department of Civil Engineering. This covers the events conducted, achievements of students and staff in the previous six months. News letter highlights the recent developments in Civil engineering field. Editorial team headed by head of the department consists of few students and staff. Circulated among all students, faculty, industries etc.

Publications	Name of Magazine / Newsletter	Issue	Started Year	Editor	Publisher(s)
Newsletter	Civil Techno Project Mission	Half yearly	2012	Dr. Mohd Hussain	Dept of Civil Engg, GRIET
e-Magazine	GEM	Monthly	2008	Ramya V	Gokaraju Rangaraju Institute of Engineering and Technology
News Letter	Reflections	Yearly	2001	Lakshmi Prasanna	Gokaraju Rangaraju Institute of Engineering and Technology
Journal	International Journal of advanced	Quarterly ISSN: 0975-	2009	Prof. P.S.Raju	Gokaraju Rangaraju Institute of

	computing (IAC)	/080			Engineering and Technology
Journal	International Journal of Data Engineering and Computer Science (JDEC)	Yearly ISSN: 0975-8372	2009	Dr. Jandhyala N Murthy	Gokaraju Rangaraju Institute of Engineering and Technology
Journal	International Journal of Advanced Materials Manufacturing and Characterization (IJAMMC)	Yearly ISSN: 2277-3886	2012	Dr. Swadesh Kumar Singh	Gokaraju Rangaraju Institute of Engineering and Technology
Journal	Management Today, International Journal of Management Studies	Half Yearly ISSN: 2230-9764	2012	Dr. P.B. Appa Rao	Gokaraju Rangaraju Institute of Engineering and Technology

4.4.4 Entrepreneurship initiatives, product designs, and innovations (3)

Institute Marks : 3.00

(Instruction: The institution may specify the efforts and achievements.)

Event	Event Name / Effort	Achievements
CAY (2015-16)		
Entrepreneurship Initiatives	(i) Android Application Development workshop (ISTE-GRIET) (ii) Workshop on IT education, Research and Industry (BM Birla Center) (iii) Workshop on Solar Mobile Chargers (iv) Robotics Hackathon Competition (v) Advanced HTML Coding course	All students projects are brought to the level of manufacturing. Developed a project for BUS-I Solutions.
Product Designs	GCAP, GPOP, Web Designing Cluster	Developed the design for the college and maintained by us only
Product Exhibition	(i) Hackers Summit 2015 (by IIIT, Hyderabad) - competition (ii) JNTUH-EXCITE Summer Product Engineering Workshop (by JNTUH)	Students exhibited their product and won the first prize in both the competitions
CAYm1(2014-15)		
Entrepreneurship Initiatives	(i) Workshop on Android code labs (ii) Training Programme on Web Development (IIT Bombay)	All students projects are brought to the level of manufacturing
Product Designs	GCAP, GPOP, Websites	Developed the design for the college and maintained by us only
CAYm2 (2013-14)		
Entrepreneurship Initiatives	(i) Workshop on Android Application Development (IEEE-GRIET) (ii) Workshop on Game Development (iii) Workshop on Robotics	All students projects are brought to the level of manufacturing
Product Designs	GCAP, GPOP, Websites	Developed the design for the college and maintained by us only

4.4.5 Publications and awards in inter-institute events by students of the programme of study (3)

Institute Marks : 3.00

(Instruction: The institution may provide a table indicating those publications, which fetched awards to students in the events/conferences organised by other institutes. A tabulated list of all other student publications may be included in the appendix.)

All Technological Universities and institutions hold technical festivals annually and paper and model presentations are awarded prizes. The students of GRIET have also won many laurels over the years and this is a regular annual achievement the institute is proud of.

INTER-INSTITUTE EVENTS BY STUDENTS:

Name of the Programme	Year	Place	Name of the students/ Branch	Achievement
ACUMEN CS 2k16	2016	VASAVI College of Engineering	Vamshi, Hussain	I Prize
Android Application Development Workshop	2015	NIT Warangal	P.Lakshmi Prasanna	III Position
AMALGAM 2015- 16	2015	GRIET	Aashrit Mathur	III Position
PRAGNYA 2015	2015	GRIET	Kuvalaya Dutta	Event Organiser
Engineers Day	2015	GRIET	P.Lakshmi Prasanna	II Prize in Technical Quiz
PROMETHEAN 2k15	2015	BVRIT	Chandana N Sai Teja	I Prize in Technical Cross Word
CONVERGENCE 2k15	2015	VNR Vignana Jyothi College	Chandana	II Position in ElectroBlitz
X-KERNEL'15	2015	GRIET	Aashrit Mathur	I position in Hunt the Code
X-KERNEL'15	2015	GRIET	Aashrit Mathur	I position in PRO'GRAMMAR'
TECHNACY 15	2015	GRIET	K.Shruthi	Paper Presentation 1 st Prize
Connaissance	2012	J.N.T.U. Hyderabad	M Vishal Reddy Chandra Shekar V Sai Jagadish/ME	Second prize
YATRA 2012	2012	BVRIT	M.S.Phani Rajiv Kiran/ME	Paper Presentation 1 st Prize
AAGAMA	2012	ANURAG	M.S.Phani Rajiv Kiran/ME	Paper Presentation

Student Publications:

- Swadesh Kumar Singh, **PV Sasidhar, P Prudvi Reddy, Vinay Kumar, MS Hallika** and AK Gupta, " Study of Formability and Friction in Warm Forming of Aluminum IS 737 Alloy" International Journal of Advanced Materials Manufacturing and Characterization for Vol 1, Issue 2, 2012, pp209-216.
- K. Rakesh Varma**, PAPN Varma, KGK Murti, AVS Raju and Swadesh Kumar Singh, "Mathematical modelling and experimental validation of excessive ironing of EDD steel in deep drawing setup in Warm conditions" International Journal of Advanced Material Manufacturing and Characterization, Vol. 1, No 1, 2012, pp 165-172.
- Amit Kumar Gupta, Swadesh Kumar Singh, **M. Swathi** and H. Gokul, "Prediction of Flow Stress in Dynamic Strain Ageing Regime of Austenitic Stainless Steel 316 using Artificial Neural Network" Materials and Design 35 (2012) 589–595.
- Swadesh Kumar Singh, **M L Kranthi Raj, B Bandhavi** and AK Gupta, "Characterization and formability of commercially pure titanium at elevated temperature using finite element method" 4th International and 25th AIMTDR, Jadavpur Univesity, Kolkata India, 2012, pp 168-173.
- Swadesh Kumar Singh, **Venkata Sasidhar, Vinay Kumar, Prudvi Reddy,** and Amit Kumar Gupta, " Comparison of warm and hydromechanical deep drawing when low Carbon steel is subjected to ironing" 15th International Conference on Advances in Materials & Processing Technologies, 23-26 Sept, 2012, Wollongong, NSW Australia.
- Venkata Sasidhar, K Limbadri, P Prudvi Reddy, Vinay Kumar** and Swadesh Kumar Singh, " Study of friction in warm forming of aluminum is 737 alloy using LS-DYNA" International Conference on Materials Processing and Characterization, March 8-10, 2012, Hyderabad, India pp31-36.
- L. Swetha, D. Keerthi, K., Sai Rajeshwari** and Swadesh Kumar Singh, " Thickness Distribution in Austenitic Stainless Steel 316 & 304 Drawn Cups" International Conference on Materials Processing and Characterization, March 8-10, 2012, Hyderabad, India pp 43-47.
- A.V. Siddhartha Gautham, A.Srikanth, Md.Aqheel,** J.N.Murthy and Swadesh Kumar Singh, " Load displacement studies of stainless steel 316 cups drawn at various temperatures" International Conference on Materials Processing and Characterization, March 8-10, 2012, Hyderabad, India pp 106-112.
- P.M.S.Hallika, Kameshwari N, M.Pavani** and Swadesh Kumar Singh, " Study of thickness and stress distribution in warm forming of aluminum IS 737 alloy using LS-DYNA" International Conference on Materials Processing and Characterization, March 8-10, 2012, Hyderabad, India pp118-123.
- D. Sailaja, P. Srilaxmi, **M. Bhanuteja, D. Rohit Kumar, and M Madhuri** "Quantitative estimation of carbohydrates in insect induced and fungal infected leaf galls of Pongamia pinnata" Int. J. Plant, Animal and Environmental Sciences, ISSN 2231 – 4490, 2(2), 203-205, 2012
- D. Sailaja, P. Srilaxmi, **M. Bhanuteja, and D. Rohit Kumar** "Physiochemical studies in Pongamia Pinnata galls infected with fungus" Int. J. Appl Biol. Phar. Tech. ISSN 0976 – 4650, 3(2), 205 – 207, 2012
- D. Sailaja, V.Lakshmi, **M. Venkata Praveen, D. Raghava Rao, S. Jagadeesh, T. Ravi Kumar, M. Aditya Yadav, T. Purushottama Chary** "Estimation of levels of carbohydrates in Mealy bug (Maconellicoccus hirsutus), infected stem of Hibiscus rosasinensis" Int. J. Appl. Biol. Phar. Tech. ISSN 0976-4550, 3(3), 410-413, 2012.
- D. Sailaja, V. Lakshmi, P. Srilakshmi, A.C.P. Chowdhary, C. Srikanth, B.B. Sangameshwaran and **M. Venkata Praveen** "Impact of Mealey Bug(Maconellicoccus hissutus) Infection on Biochemical components of Hibiscus rosa sininses" Int. J. Appl. Biol. Phar. Tech. ISSN 0976-4550, 3(4), p 233-236, 2012.

5 Faculty Contributions (175)

Total Marks : 112.14

List of Faculty Members:

Exclusively for the Programme / Shared with other Programmes (20)

(Instruction: The institution may complete this table for the calculation of the student-teacher ratio (STR). Teaching loads of the faculty member contributing to only undergraduate programme (2nd, 3rd, and 4th year) are considered to calculate the STR.)

Name of the faculty member	Highest Qualification	University	Year of graduation	Designation	date of joining the institution	Distribution of teaching load (%)			Number of research publications in journals and conferences	IPRs	R&D and consultancy work with amount		Holding an incubation unit	Interactio with outside world
						1st Year	UG	PG			Funding Agency	Amount		
Dr.K.Anuradha	PhD	JNTUA	1987	Professor	01/11/2007	0.00	100.00	0.00	4	None	None	0.00	NO	None
Dr.A.Sai Hanuman	PhD	ANU	1992	Professor	20/04/2001	0.00	100.00	0.00	6	None	None	0.00	NO	None
Dr.N.Sandhya	PhD	ANU	1989	Professor	17/04/2001	0.00	100.00	0.00	10	None	None	0.00	NO	None
G.Mallikarjuna Rao	ME/ M Tech	JNTUH	1988	Professor	09/01/2008	0.00	80.00	20.00	6	None	None	0.00	NO	None
Ch.Mallikarjuna Rao	PhD	JNTUA	1998	Professor	14/02/2001	0.00	100.00	0.00	8	None	None	0.00	NO	None
B.Sankara Babu	ME/ M Tech	JNTUH	2004	Associate Professor	03/07/2006	0.00	80.00	20.00	6	None	None	0.00	NO	None
V.Sowmya	ME/ M Tech	JNTU	2004	Associate Professor	26/09/2007	0.00	100.00	0.00	6	None	None	0.00	NO	None
S.Govinda Rao	ME/ M Tech	AU	2003	Associate Professor	13/11/2006	0.00	80.00	20.00	8	None	None	0.00	NO	None
P.Vara Prasada Rao	ME/ M Tech	AU	2002	Associate Professor	13/11/2006	0.00	50.00	50.00	8	None	None	0.00	NO	None
P.L.Srinivasa Murthy	ME/ M Tech	JNTUA	1994	Associate Professor	02/05/2012	0.00	100.00	0.00	3	None	None	0.00	NO	None
R. Aruna Florence	ME/ M Tech	ANU	2003	Associate Professor	02/07/2007	0.00	100.00	0.00	0	None	None	0.00	NO	None
M.Bhargavi	ME/ M Tech	JNTUH	2005	Assistant Professor	11/03/2010	0.00	50.00	50.00	0	None	None	0.00	NO	None
Lakshmi Shailaja.P	ME/ M Tech	JNTUK	2007	Assistant Professor	06/07/2010	0.00	100.00	0.00	0	None	None	0.00	NO	None
K.Anusha	ME/ M Tech	JNTUH	2006	Assistant Professor	06/11/2009	0.00	100.00	0.00	1	None	None	0.00	NO	None
K.Adilakshmi	ME/ M Tech	JNTUK	2005	Assistant Professor	02/08/2010	0.00	100.00	0.00	0	None	None	0.00	NO	None
S.Bhargavilatha	ME/ M Tech	JNTUH	2002	Assistant Professor	27/06/2011	0.00	100.00	0.00	6	None	None	0.00	NO	None
Ashlin Deepa R.N.	ME/ M Tech	AU	2005	Assistant Professor	11/07/2011	0.00	100.00	0.00	5	None	None	0.00	NO	None
A.S.Sujatha	B.E/B.Tech	JNTUH	2003	Assistant Professor	24/11/2011	0.00	100.00	0.00	0	None	None	0.00	NO	None
Krishna Bhargavi Y	ME/ M Tech	JNTUK	2009	Assistant Professor	30/01/2012	0.00	100.00	0.00	0	None	None	0.00	NO	None
G.Karuna	ME/ M Tech	JNTUH	2004	Assistant Professor	02/05/2012	0.00	100.00	0.00	6	None	None	0.00	NO	None
V.Srilakshmi	ME/ M Tech	JNTUH	2002	Assistant Professor	02/05/2012	0.00	100.00	0.00	1	None	None	0.00	NO	None
Ch.Vidyadhari	ME/ M Tech	JNTUH	2006	Assistant Professor	14/05/2012	0.00	100.00	0.00	0	None	None	0.00	NO	None
B.Lalitha	ME/ M Tech	JNTUH	2009	Assistant Professor	25/06/2012	0.00	100.00	0.00	0	None	None	0.00	NO	None
B.Rupa	ME/ M Tech	JNTUA	2005	Assistant Professor	28/05/2012	0.00	100.00	0.00	1	None	None	0.00	NO	None
Syed Firdose	ME/ M Tech	ANU	2005	Assistant Professor	01/06/2012	0.00	100.00	0.00	1	None	None	0.00	NO	None
Thrilochana Devi.K	ME/ M Tech	JNTUK	2006	Assistant Professor	04/06/2012	0.00	100.00	0.00	0	None	None	0.00	NO	None
A.Manasa Sudha	ME/ M Tech	AU	2010	Assistant Professor	25/06/2012	0.00	100.00	0.00	0	None	None	0.00	NO	None
B.Bhargavi	ME/ M Tech	JNTUH	2010	Assistant Professor	29/11/2012	0.00	100.00	0.00	0	None	None	0.00	NO	None
K.Rama Gayathri	ME/ M Tech	JNTUH	2008	Assistant Professor	10/01/2013	0.00	100.00	0.00	0	None	None	0.00	NO	None
R.Soujanya	ME/ M Tech	JNTUH	2008	Assistant Professor	03/07/2013	0.00	100.00	0.00	0	None	None	0.00	NO	None
K.Swapnika	ME/ M Tech	JNTUH	2010	Assistant Professor	18/07/2013	0.00	100.00	0.00	2	None	None	0.00	NO	None
K.Swanthana	ME/ M Tech	JNTUH	2010	Assistant Professor	18/07/2013	0.00	100.00	0.00	2	None	None	0.00	NO	None
Sandhya S T G Y	ME/ M Tech	JNTUH	2009	Assistant Professor	10/06/2013	0.00	100.00	0.00	0	None	None	0.00	NO	None
Sunitha k Ch	ME/ M Tech	JNTUH	2006	Assistant Professor	10/06/2013	0.00	100.00	0.00	0	None	None	0.00	NO	None

For CAYm1 2014-2015

Name of the faculty	Highest Qualification	University	Year of graduation	Designation	date of joining the	Distribution of teaching load (%)			Number of research publications in	IPRs	R&D and consultancy work with amount		Holding an incubation	Interactio with outside
						1st								

member					institution	Year			journals and conferences		Funding Agency		Amount	unit	work
Dr.K.Anuradha	PhD	JNTUA	1987	Professor	01/11/2007	0.00	100.00	0.00	4	None	None	0.00	NO	None	
Dr. A. Sai Hanuman	PhD	ANU	1992	Professor	20/04/2001	0.00	100.00	0.00	6	None	None	0.00	NO	None	
Dr. P. Vijayapal Reddy	PhD	JNTUH	1998	Professor	05/12/2013	0.00	70.00	30.00	11	None	None	0.00	NO	None	
Dr. P.V.S. Srinivas	PhD	JNTUH	1990	Professor	26/12/2014	0.00	70.00	30.00	7	None	None	0.00	NO	None	
G.Mallikarjun RaoH	ME/ M Tech	JNTU	1988	Professor	16/01/2008	0.00	80.00	20.00	6	None	None	0.00	NO	None	
Ch. Mallikarjuna Rao	PhD	JNTUA	1998	Professor	14/02/2001	0.00	100.00	0.00	8	None	None	0.00	NO	None	
B.Sankara Babu	ME/ M Tech	JNTUH	2004	Associate Professor	03/07/2006	0.00	80.00	20.00	6	None	None	0.00	NO	None	
V.Sowmya	ME/ M Tech	JNTU	2004	Associate Professor	26/09/2007	0.00	100.00	0.00	6	None	None	0.00	NO	None	
G.N.Beena Bethel	ME/ M Tech	AU	2003	Associate Professor	08/07/2010	0.00	50.00	50.00	4	None	None	0.00	NO	None	
S.Govinda Rao	ME/ M Tech	AU	2003	Associate Professor	13/11/2006	0.00	80.00	20.00	8	None	None	0.00	NO	None	
P.Vara Prasada Rao	ME/ M Tech	AU	2002	Associate Professor	13/11/2006	0.00	50.00	50.00	8	None	None	0.00	NO	None	
P.L.Srinivasa Murthy	ME/ M Tech	JNTUA	1994	Associate Professor	02/05/2012	0.00	100.00	0.00	3	None	None	0.00	NO	None	
R.Aruna Flarence	ME/ M Tech	ANU	2003	Associate Professor	02/07/2007	0.00	100.00	0.00	0	None	None	0.00	NO	None	
K.Butchi Raju	ME/ M Tech	AU	2004	Associate Professor	17/09/2008	0.00	0.00	100.00	5	None	None	0.00	NO	None	
Dr.G.R.Shakthi Daran	PhD	ANNA Univ	2004	Professor	29/12/2014	0.00	100.00	0.00	6	None	None	0.00	NO	None	
K.Anusha	ME/ M Tech	JNTUH	2006	Assistant Professor	06/11/2009	0.00	100.00	0.00	1	None	None	0.00	NO	None	
M.Bhargavi	ME/ M Tech	JNTUH	2005	Assistant Professor	11/03/2010	0.00	50.00	50.00	0	None	None	0.00	NO	None	
Lakshmi shailaja P	ME/ M Tech	JNTUK	2007	Assistant Professor	06/07/2010	0.00	100.00	0.00	0	None	None	0.00	NO	None	
K.Adilakshmi	ME/ M Tech	JNTUK	2005	Assistant Professor	02/08/2010	0.00	100.00	0.00	0	None	None	0.00	NO	None	
S.Bhargavi Latha	ME/ M Tech	JNTUH	2002	Assistant Professor	27/06/2011	0.00	100.00	0.00	6	None	None	0.00	NO	None	
Ashlin Deepa R N	ME/ M Tech	AU	2005	Assistant Professor	11/07/2011	0.00	100.00	0.00	5	None	None	0.00	NO	None	
Krishna Bhargavi Y	ME/ M Tech	JNTUK	2009	Assistant Professor	30/01/2012	0.00	100.00	0.00	0	None	None	0.00	NO	None	
V.Sri lakshmi	ME/ M Tech	JNTUH	2002	Assistant Professor	02/05/2012	0.00	100.00	0.00	1	None	None	0.00	NO	None	
Ch.Vidyadhari	ME/ M Tech	JNTUH	2006	Assistant Professor	14/05/2006	0.00	100.00	0.00	0	None	None	0.00	NO	None	
B.Lalitha	ME/ M Tech	JNTUH	2009	Assistant Professor	25/06/2012	0.00	100.00	0.00	0	None	None	0.00	NO	None	
B.Rupa	ME/ M Tech	JNTUA	2005	Assistant Professor	28/05/2012	0.00	100.00	0.00	1	None	None	0.00	NO	None	
Thrilochana Devi K	ME/ M Tech	JNTUK	2006	Assistant Professor	04/06/2012	0.00	100.00	0.00	0	None	None	0.00	NO	None	
G.Anil Kumar	ME/ M Tech	JNTUH	2008	Assistant Professor	30/11/2012	0.00	0.00	100.00	0	None	None	0.00	NO	None	
K. Rama Gayathri	ME/ M Tech	JNTUH	2008	Assistant Professor	10/01/2013	0.00	100.00	0.00	0	None	None	0.00	NO	None	
Sandhya S T G Y	ME/ M Tech	JNTUH	2009	Assistant Professor	10/06/2013	0.00	100.00	0.00	0	None	None	0.00	NO	None	
Sunitha K Ch	ME/ M Tech	JNTUH	2006	Assistant Professor	10/06/2013	0.00	100.00	0.00	0	None	None	0.00	NO	None	
R Soujanya	ME/ M Tech	JNTUH	2008	Assistant Professor	03/07/2013	0.00	100.00	0.00	0	None	None	0.00	NO	None	
K Swanthana	ME/ M Tech	JNTUH	2010	Assistant Professor	18/07/2013	0.00	100.00	0.00	2	None	None	0.00	NO	None	
K Swapnika	ME/ M Tech	JNTUH	2010	Assistant Professor	18/07/2013	0.00	100.00	0.00	2	None	None	0.00	NO	None	
G.Karuna	ME/ M Tech	JNTUH	2004	Assistant Professor	02/05/2012	0.00	100.00	0.00	6	None	None	0.00	NO	None	
P Keerthana	ME/ M Tech	JNTUH	2011	Assistant Professor	04/12/2013	0.00	100.00	0.00	0	None	None	0.00	NO	None	
R.Anuradha	ME/ M Tech	JNTUH	2011	Assistant Professor	04/12/2013	0.00	100.00	0.00	0	None	None	0.00	NO	None	
E.Lakshmi Prasanna	ME/ M Tech	JNTUH	2011	Assistant Professor	04/12/2013	0.00	100.00	0.00	0	None	None	0.00	NO	None	

D.Pratima Vijetha devi	ME/ M Tech	ANU	2006	Assistant Professor	02/06/2014	0.00	100.00	0.00	1		None	None	0.00	NO	None
G.Lavanya	ME/ M Tech	JNTUH	2010	Assistant Professor	07/07/2014	0.00	100.00	0.00	0		None	None	0.00	NO	None
B.Revathi	ME/ M Tech	JNTUA	2011	Assistant Professor	07/07/2014	0.00	100.00	0.00	0		None	None	0.00	NO	None
P.Lakshmi	ME/ M Tech	JNTU	2007	Assistant Professor	09/03/2010	0.00	100.00	0.00	0		None	None	0.00	NO	None
K. Guru Babu	ME/ M Tech	JNTUH	2008	Assistant Professor	10/07/2014	0.00	100.00	0.00	0		None	None	0.00	NO	None
Ch.Prasad	ME/ M Tech	IIT	2002	Assistant Professor	28/08/2014	0.00	100.00	0.00	0		None	None	0.00	NO	None
A.Sravanthi	ME/ M Tech	JNTUH	2006	Assistant Professor	04/09/2014	0.00	100.00	0.00	1		None	None	0.00	NO	None
D.Suguna Kumari	ME/ M Tech	JNTUK	2005	Assistant Professor	04/09/2014	0.00	100.00	0.00	0		None	None	0.00	NO	None
H.Suresh	ME/ M Tech	JNTUK	2005	Assistant Professor	05/09/2014	0.00	100.00	0.00	0		None	None	0.00	NO	None
P. Vijaya Lakshmi	ME/ M Tech	JNTUH	2005	Assistant Professor	06/09/2014	0.00	100.00	0.00	0		None	None	0.00	NO	None
P.Rajesh	ME/ M Tech	JNTUK	2002	Assistant Professor	09/09/2014	0.00	100.00	0.00	0		None	None	0.00	NO	None
Bala veerarathan	ME/ M Tech	JNTUH	2010	Assistant Professor	11/08/2014	0.00	100.00	0.00	0		None	None	0.00	NO	None
G.Santhosh Kumar	ME/ M Tech	JNTUH	2010	Assistant Professor	26/03/2015	0.00	80.00	20.00	0		None	None	0.00	NO	None

For CAY 2015-2016

Name of the faculty member	Highest Qualification	University	Year of graduation	Designation	date of joining the institution	Distribution of teaching load (%)			Number of research publications in journals and conferences	IPRs	R&D and consultancy work with amount		Holding an incubation unit	Interactio with outside world
						1st Year	UG	PG			Funding Agency	Amount		
Dr.K.Anuradha	PhD	JNTUA	1987	Professor	01/11/2007	0.00	100.00	0.00	4	None	None	0.00	NO	None
Dr.A.Sai hanuman	PhD	ANU	1992	Professor	20/04/2001	0.00	100.00	0.00	6	None	None	0.00	NO	None
Dr.P.Vijayapal Reddy	PhD	JNTUH	1998	Professor	05/12/2013	0.00	70.00	30.00	11	None	None	0.00	NO	None
Dr.P V S Srinivas	PhD	JNTUH	1990	Professor	26/12/2014	0.00	70.00	30.00	7	None	None	0.00	NO	None
Dr.P.Chandrshekar Reddy	PhD	JNTUA	1999	Professor	26/06/2015	0.00	80.00	20.00	3	None	None	0.00	NO	None
G.Mallikarjuna rao	ME/ M Tech	JNTUH	1988	Professor	09/01/2008	0.00	80.00	20.00	6	None	None	0.00	NO	None
Dr.K.Madhavi	PhD	JNTUA	1997	Professor	14/12/2015	0.00	100.00	0.00	1	None	None	0.00	NO	None
Dr.G R Shakthidaran	PhD	Anna Univ	2004	Associate Professor	29/12/2014	0.00	70.00	30.00	14	None	None	0.00	NO	None
Ch.Mallikarjuna Rao	PhD	JNTUA	1998	Professor	14/02/2001	0.00	100.00	0.00	8	None	None	0.00	NO	None
B.Sankara Babu	ME/ M Tech	JNTUH	2004	Associate Professor	03/07/2006	0.00	80.00	20.00	6	None	None	0.00	NO	None
V.Sowmya	ME/ M Tech	JNTU	2009	Associate Professor	26/09/2007	0.00	100.00	0.00	6	None	None	0.00	NO	None
G N Beena Bethel	ME/ M Tech	JNTUH	2003	Associate Professor	08/07/2010	0.00	50.00	50.00	4	None	None	0.00	NO	None
S.Govinda Rao	ME/ M Tech	AU	2003	Associate Professor	13/11/2006	0.00	80.00	20.00	8	None	None	0.00	NO	None
P Vara prasada Rao	ME/ M Tech	AU	2001	Associate Professor	13/11/2006	0.00	50.00	50.00	8	None	None	0.00	NO	None
P. L. Srinivasa Murthy	ME/ M Tech	JNTUA	1994	Associate Professor	02/05/2012	0.00	100.00	0.00	3	None	None	0.00	NO	None
R.Aruna Flarence	ME/ M Tech	ANU	2003	Associate Professor	02/07/2007	0.00	100.00	0.00	0	None	None	0.00	NO	None
K.Butchi Raju	ME/ M Tech	AU	2004	Associate Professor	17/09/2008	0.00	0.00	100.00	5	None	None	0.00	NO	None
K Anusha	ME/ M Tech	JNTUH	2006	Assistant Professor	06/11/2009	0.00	100.00	0.00	1	None	None	0.00	NO	None
M.Bhargavi	ME/ M Tech	JNTUH	2006	Assistant Professor	11/03/2010	0.00	50.00	50.00	0	None	None	0.00	NO	None
Lakshmi Shailaja P	ME/ M Tech	JNTUH	2007	Assistant Professor	06/07/2010	0.00	100.00	0.00	0	None	None	0.00	NO	None
K.Adi lakshmi	ME/ M Tech	JNTUK	2005	Assistant Professor	02/08/2010	0.00	100.00	0.00	0	None	None	0.00	NO	None
S.Bhargavilatha	ME/ M Tech	JNTUH	2002	Assistant Professor	27/06/2011	0.00	100.00	0.00	6	None	None	0.00	NO	None
Ashlin Depa R N	ME/ M Tech	AU	2005	Assistant Professor	11/07/2011	0.00	100.00	0.00	5	None	None	0.00	NO	None
Krishna Bhargavi y	ME/ M Tech	JNTUK	2009	Assistant Professor	30/01/2012	0.00	100.00	0.00	0	None	None	0.00	NO	None
				Assistant										

V	SILABSHIRI	ME/ M Tech	JNTUH	2002	PROFESSOR	02/05/2012	0.00	100.00	0.00	0	None	None	0.00	NO	None
B.Lalitha	ME/ M Tech	JNTUH	2009	Assistant Professor	25/06/2012	0.00	100.00	0.00	0	None	None	0.00	NO	None	
B.Rupa	ME/ M Tech	JNTUA	2005	Assistant Professor	28/05/2012	0.00	100.00	0.00	1	None	None	0.00	NO	None	
Thrilochana Devi K	ME/ M Tech	JNTUK	2006	Assistant Professor	04/06/2012	0.00	100.00	0.00	0	None	None	0.00	NO	None	
G.Anil Kumar	ME/ M Tech	JNTUH	2008	Assistant Professor	30/11/2012	0.00	0.00	100.00	0	None	None	0.00	NO	None	
Sandhya S T G Y	ME/ M Tech	JNTUH	2009	Assistant Professor	10/06/2013	0.00	100.00	0.00	0	None	None	0.00	NO	None	
Sunitha k Ch	ME/ M Tech	JNTUH	2006	Assistant Professor	10/06/2013	0.00	100.00	0.00	0	None	None	0.00	NO	None	
R Soujanya	ME/ M Tech	JNTUH	2008	Assistant Professor	03/07/2013	0.00	100.00	0.00	0	None	None	0.00	NO	None	
K.Swanthana	ME/ M Tech	JNTUH	2010	Assistant Professor	18/07/2013	0.00	100.00	0.00	2	None	None	0.00	NO	None	
K.Swapnika	ME/ M Tech	JNTUH	2010	Assistant Professor	18/07/2013	0.00	100.00	0.00	2	None	None	0.00	NO	None	
G.Karuna	ME/ M Tech	JNTUH	2004	Assistant Professor	02/05/2012	0.00	100.00	0.00	6	None	None	0.00	NO	None	
P.Keerthana	ME/ M Tech	JNTUH	2011	Assistant Professor	04/12/2013	0.00	100.00	0.00	0	None	None	0.00	NO	None	
B. Padma Vijetha Devi	ME/ M Tech	ANU	2006	Assistant Professor	02/06/2014	0.00	100.00	0.00	1	None	None	0.00	NO	None	
G.Lavanya	ME/ M Tech	JNTUH	2010	Assistant Professor	07/07/2014	0.00	100.00	0.00	0	None	None	0.00	NO	None	
B.Revathi	ME/ M Tech	JNTUA	2011	Assistant Professor	07/07/2014	0.00	100.00	0.00	0	None	None	0.00	NO	None	
Ch.Prasad	ME/ M Tech	IIT	2002	Assistant Professor	28/08/2014	0.00	100.00	0.00	0	None	None	0.00	NO	None	
A Sravanthi	ME/ M Tech	JNTUH	2006	Assistant Professor	04/09/2014	0.00	100.00	0.00	1	None	None	0.00	NO	None	
D.Suguna Kumari	ME/ M Tech	ANU	2006	Assistant Professor	04/09/2014	0.00	100.00	0.00	0	None	None	0.00	NO	None	
H.Suresh	ME/ M Tech	JNTUK	2004	Assistant Professor	05/09/2014	0.00	100.00	0.00	0	None	None	0.00	NO	None	
P.Vijaya Lakshmi	ME/ M Tech	JNTUH	2005	Assistant Professor	06/09/2014	0.00	100.00	0.00	2	None	None	0.00	NO	None	
P.Rajesh	ME/ M Tech	JNTUK	2002	Assistant Professor	09/09/2014	0.00	100.00	0.00	0	None	None	0.00	NO	None	
G.Santhosh Kumar	ME/ M Tech	JNTUK	2009	Assistant Professor	26/03/2015	0.00	80.00	20.00	0	None	None	0.00	NO	None	
P.Jyothi	ME/ M Tech	JNTUH	2010	Assistant Professor	26/03/2015	0.00	100.00	0.00	0	None	None	0.00	NO	None	
P.Vinod Kumar	ME/ M Tech	JNTUH	2011	Assistant Professor	27/03/2015	0.00	100.00	0.00	0	None	None	0.00	NO	None	
A V PhaniKumar Reddy	ME/ M Tech	JNTUH	2011	Assistant Professor	27/03/2015	0.00	100.00	0.00	0	None	None	0.00	NO	None	
Y Manoj Kumar	ME/ M Tech	GITAM UNIV	2011	Assistant Professor	30/04/2015	0.00	100.00	0.00	0	None	None	0.00	NO	None	
N VijayaKumar	ME/ M Tech	JNTUH	2011	Assistant Professor	30/04/2015	0.00	100.00	0.00	0	None	None	0.00	NO	None	
Ch Shruthi	ME/ M Tech	JNTUH	2012	Assistant Professor	27/03/2015	0.00	100.00	0.00	0	None	None	0.00	NO	None	
K Sowmya Priya	ME/ M Tech	GITAM	2011	Assistant Professor	02/04/2015	0.00	100.00	0.00	0	None	None	0.00	NO	None	
A Sowmya	ME/ M Tech	JNTUH	2012	Associate Professor	26/03/2015	0.00	100.00	0.00	3	None	None	0.00	NO	None	
G Sowmya	ME/ M Tech	JNTUH	2012	Assistant Professor	27/03/2015	0.00	100.00	0.00	0	None	None	0.00	NO	None	
K Shirisha	ME/ M Tech	JNTUH	2012	Assistant Professor	23/04/2015	0.00	100.00	0.00	0	None	None	0.00	NO	None	
P Srujana	ME/ M Tech	JNTUK	2010	Assistant Professor	24/04/2014	0.00	100.00	0.00	0	None	None	0.00	NO	None	
G.Lalitha	ME/ M Tech	JNTUA	2010	Assistant Professor	24/04/2015	0.00	100.00	0.00	0	None	None	0.00	NO	None	
M.Sridhar	ME/ M Tech	OU	2004	Assistant Professor	01/07/2015	0.00	100.00	0.00	2	None	None	0.00	NO	None	
C.BharathiPriya	ME/ M Tech	Univ.Mysore	2003	Assistant Professor	10/07/2015	0.00	100.00	0.00	0	None	None	0.00	NO	None	
Krishna Chythanya N	ME/ M Tech	JNTUH	2003	Assistant Professor	28/12/2015	0.00	100.00	0.00	4	None	None	0.00	NO	None	
G.Padmaja	ME/ M Tech	JNTUK	2009	Assistant Professor	20/02/2016	0.00	100.00	0.00	0	None	None	0.00	NO	None	
D Krishna Madhuri	ME/ M Tech	JNTUH	2012	Assistant Professor	26/02/2016	0.00	100.00	0.00	0	None	None	0.00	NO	None	
B Sindhuja	ME/ M Tech	JNTUH	2012	Assistant Professor	25/02/2016	0.00	100.00	0.00	0	None	None	0.00	NO	None	
				Assistant											

Dr. Shivanya	ME/ M Tech	JNTUK	2007	Professor	26/02/2016	0.00	100.00	0.00	0	None	None	0.00	NO	None
G Sowjanya	ME/ M Tech	JNTUK	2013	Assistant Professor	26/02/2016	0.00	100.00	0.00	0	None	None	0.00	NO	None
B H Prashanthi	ME/ M Tech	JNTUH	2009	Assistant Professor	27/02/2016	0.00	100.00	0.00	0	None	None	0.00	NO	None
S S Lakshmi	ME/ M Tech	JNTUH	2005	Assistant Professor	27/02/2016	0.00	100.00	0.00	0	None	None	0.00	NO	None
B S Anil Kumar	ME/ M Tech	SU	2008	Assistant Professor	26/02/2016	0.00	100.00	0.00	0	None	None	0.00	NO	None
Srikanth	ME/ M Tech	OU	2008	Assistant Professor	26/02/2016	0.00	100.00	0.00	0	None	None	0.00	NO	None

5.1 Student-Teacher Ratio (STR) (20)**Total Marks : 19.68**

Institute Marks : 19.68

Assessment = $20 \times 15/STR$; subject to maximum assessment of 20STR = $(x + y + z)/N1$

where, x = Number of students in 2nd year of the programme

y = Number of students in 3rd year of the programme

z = Number of students in 4th year of the programme

N1 = Total number of faculty members in the programme (by considering fractional load)

Year	X	Y	Z	N1	X+Y+Z	STR	Assessment
2013-2014	216	144	144	32	504	15.75	19.05
2014-2015	268	216	144	46	628	13.65	20.00
2015-2016	274	265	209	65	748	11.51	20.00

Average assessment 19.68

N = Maximum {N1, N2}

N1 = Total number of faculty members in the programme (considering the fractional load)

N2 = Number of faculty positions needed for student-teacher ratio of 15

Year	Sanctioned Intake	Actual Admitted	N1	N2	N=Max.(N1,N2)
2013-2014	420	504	32	34	34
2014-2015	480	628	46	42	46
2015-2016	600	748	65	50	65

5.2 Faculty Cadre Ratio (20)**Total Marks : 19.33**

Institute Marks : 19.33

Assessment = $20 \times CRI$

where, CRI = Cadre ratio index

= $2.25 \times (2A + B)/N$; subject to max. CRI = 1.0

where, A = Number of professors in the programme

B = Number of associate professors in the programme programme

Year	A	B	N	CRI	Assessment
2013-2014	5	6	34.00	1.00	20.00
2014-2015	7	8	46.00	1.00	20.00
2015-2016	8	10	65.00	0.90	18.00

Average assessment 19.33

5.3 Faculty Qualifications (30)**Total Marks : 19.47**

Institute Marks : 19.47

Assessment = $3 \times FQI$

where, FQI = Faculty qualification index

= $(10x + 6y + 2z)/N2$

where, x = Number of faculty members with PhD

y = Number of faculty members with ME/ M Tech

Z = Number of faculty members with B.E/B.Tech

Year	X	Y	Z	N	FQI	Assessment
2013-2014	4	29	1	34.00	6.35	19.06
2014-2015	6	45	0	46.00	6.78	20.35
2015-2016	8	62	0	65.00	6.34	19.02

Average assessment 19.47

5.4 Faculty Competencies correlation to Programme Specific Criteria (15)**Total Marks : 15.00**

Institute Marks : 15.00

(Provide evidence that program curriculum satisfies the applicable programme criteria specified by the appropriate American professional associations such as ASME, IEEE and ACM. You may list the programme specific criteria and the competencies (specialisation, research publication, course developments etc.,) of faculty to correlate the programme specific criteria and competencies)

SNO	Name of Faculty	Qualification	Specialization	Designation	Publications	Ph.d Students Guiding	Couse modules & Books Published
1	Dr.K.Anuradha	Ph.D	Data Mining	Professor	10	8	1
2	Dr.A.Sai Hanuman	Ph.D	Data Mining	Professor	1	1	2
3	Dr.P.Vijayapal Reddy	Ph.D	Data Mining	Professor	10		3
4	Dr.P.V.S.Srinivas	Ph.D	Computer Networks	Professor	10	5	
5	Dr.P.ChandraSekhar Reddy	Ph.D	Image Processing	Professor	2		
6	Dr.K.Madhavi	Ph.D	Software Engineering	Professor	1		
7	Dr.Ch.Mallikarjuna Rao	Ph.D	Data Mining	Professor	7		
8	Dr.G.R.SakthiDharan	Ph.D	Wireless sensor Networkand Mobile Computing	Associate Professor	3	1	1

POs competencies	a	b	c	d	e	f	g	h	i	j	k	l
PhD	X	X		X	X		X		X		X	X
ME/MTech	X	X		X	X		X		X		X	X
Paper Publications	X		X	X	X	X		X		X	X	X
Conferences/Seminars	X		X	X	X	X		X		X	X	X
Books Publishing	X		X	X	X	X		X		X	X	X
IEEE	X		X	X	X	X		X		X	X	X
CSI	X			X	X	X		X		X	X	X

5.5 Faculty as participants/resource persons in faculty development/training activities (15)

Total Marks : 13.92

Institute Marks : 13.92

(Instruction: A faculty member scores maximum five points for a participation/resource person.)

File Name
Faculty Participation in FDPs and Workshops

Name of the faculty	max. 5 per faculty		
	2013-2014	2014-2015	2015-2016
A Sowmya	5.00	5.00	5.00
A Sravanthi	5.00	5.00	5.00
A V PhaniKumar Reddy	5.00	5.00	5.00
A.Manasa Sudha	5.00	5.00	5.00
A.S.Sujatha	5.00	5.00	5.00
Ashlin Deepa R.N.	5.00	5.00	5.00
B H Prashanthi	5.00	5.00	5.00
B S Anil Kumar	0.00	0.00	0.00
B Sindhuja	0.00	0.00	0.00
B. Padma Vijetha Devi	5.00	5.00	5.00
B.Bhargavi	5.00	5.00	0.00
B.Lalitha	5.00	5.00	5.00
B.Revathi	5.00	5.00	0.00
B.Rupa	5.00	5.00	5.00
B.Sankara Babu	5.00	5.00	5.00
B.Srilakshmi	5.00	5.00	5.00
Bala veerarathan	5.00	5.00	0.00
C.BharathiPriya	0.00	0.00	5.00
Ch Shruthi	5.00	5.00	5.00
Ch. Mallikarjuna Rao	5.00	5.00	5.00

Ch.Prasad	0.00	0.00	5.00
Ch.Vidyadhari	5.00	5.00	0.00
D Krishna Madhuri	0.00	0.00	0.00
D Srividhya	5.00	5.00	0.00
D.Suguna Kumari	5.00	5.00	0.00
Dr. A. Sai Hanuman	5.00	5.00	5.00
Dr. P. Vijayapal Reddy	5.00	5.00	5.00
Dr. P.V.S. Srinivas	0.00	5.00	5.00
Dr.G.R.Shakthi Daran	0.00	0.00	5.00
Dr.K.Anuradha	5.00	5.00	5.00
Dr.K.Madhavi	0.00	0.00	5.00
Dr.N.Sandhya	5.00	5.00	0.00
Dr.P.Chandrshekar Reddy	0.00	0.00	5.00
E.Lakshmi Prasanna	5.00	5.00	0.00
G Sowjanya	5.00	5.00	5.00
G Sowmya	5.00	5.00	5.00
G.Anil Kumar	0.00	0.00	0.00
G.Karuna	5.00	5.00	5.00
G.Lalitha	5.00	5.00	5.00
G.Lavanya	0.00	5.00	5.00
G.Mallikarjuna Rao	5.00	5.00	5.00
G.N.Beena Bethel	5.00	5.00	5.00
G.Padmaja	5.00	5.00	5.00
G.Santhosh Kumar	0.00	5.00	5.00
H.Suresh	5.00	5.00	0.00
K Shirisha	5.00	5.00	0.00
K Sowmya Priya	0.00	5.00	5.00
K. Guru Babu	5.00	5.00	0.00
K. Rama Gayathri	5.00	0.00	0.00
K.Adi lakshmi	5.00	5.00	5.00
K.Anusha	0.00	0.00	0.00
K.Butchi Raju	5.00	5.00	5.00
K.Swanthana	0.00	5.00	5.00
K.Swapnika	0.00	5.00	5.00
Krishna Bhargavi Y	5.00	5.00	5.00
Krishna Chythanya N	0.00	0.00	5.00
Lakshmi Shailaja.P	0.00	0.00	0.00
M.Bhargavi	5.00	5.00	5.00
M.Sridhar	0.00	0.00	5.00
N VijayaKumar	0.00	0.00	0.00
P Keerthana	0.00	0.00	0.00
P Srujana	0.00	5.00	0.00
P. L. Srinivasa Murthy	5.00	5.00	5.00
P. Vijaya Lakshmi	5.00	5.00	0.00
P.Jyothi	0.00	0.00	5.00
P.Keerthana	5.00	0.00	0.00
P.Lakshmi	5.00	5.00	0.00
P.Rajesh	0.00	0.00	0.00
P.Vara Prasada Rao	5.00	5.00	5.00
P.Vinod Kumar	0.00	0.00	0.00
R. Aruna Florence	5.00	5.00	5.00
R.Anuradha	0.00	0.00	0.00
R.Soujanya	5.00	5.00	5.00
S S Lakshmi	0.00	0.00	0.00
S.Bhargavi Latha	5.00	5.00	5.00
S.Govinda Rao	5.00	5.00	5.00
Sandhya S T G Y	5.00	5.00	0.00
Srikanth	0.00	0.00	0.00

Sunitha k Ch	5.00	5.00	0.00
Syed Firdose	5.00	0.00	0.00
Thrilochana Devi.K	5.00	5.00	0.00
V.Sowmya	5.00	5.00	5.00
V.Sri lakshmi	5.00	5.00	5.00
Y Manoj Kumar	0.00	0.00	5.00
Sum	275.00	295.00	255.00
N	34.00	46.00	65.00
Assessment = $3 \times \text{Sum}/N$	15.00	15.00	11.77

Average assessment 13.92

5.6 Faculty Retention (15)**Total Marks : 15.00**

Institute Marks : 15.00

Assessment = $3 \times \text{RPI}/N$

where RPI = Retention point index

= Points assigned to all faculty members

where points assigned to a faculty member = 1 point for each year of experience at the institute but not exceeding 5.

Item	2013-2014	2014-2015	2015-2016
Number of faculty members with experience of less than 1 year (x0)	0.00	0.00	14.00
Number of faculty members with 1 to 2 years experience (x1)	0.00	13.00	22.00
Number of faculty members with 2 to 3 years experience (x2)	5.00	10.00	9.00
Number of faculty members with 3 to 4 years experience (x3)	4.00	3.00	2.00
Number of faculty members with 4 to 5 years experience (x4)	11.00	8.00	8.00
Number of faculty members with more than 5 years experience (x5)	14.00	17.00	15.00
N	0.00	0.00	0.00
RPI = $x1 + 2x2 + 3x3 + 4x4 + 5x5$	136.00	159.00	153.00
Assessment	15.00	15.00	15.00

Average assessment 15.00

5.7 Faculty Research Publications (FRP) (20)**Total Marks : 4.97**

Institute Marks : 4.97

(Instruction: A faculty member scores maximum five research publication points depending upon the quality of the research papers and books published in the past three years.)

Assessment of FRP = $4 \times (\text{Sum of the research publication points scored by each faculty member})/N$

File Name			
FRP			
Name of the Faculty (contributing to FRP)	FRP points (max. 5 per faculty)		
	2013-2014	2014-2015	2015-2016
A Sowmya	0.00	0.00	0.00
A Sravanthi	0.00	0.00	0.00
A V PhaniKumar Reddy	0.00	0.00	0.00
A.Manasa Sudha	0.00	0.00	0.00
A.S.Sujatha	0.00	0.00	0.00
A.Sravanthi	0.00	0.00	0.00
Ashlin Deepa R N	5.00	0.00	5.00
B H Prashanthi	0.00	0.00	0.00
B S Anil Kumar	0.00	0.00	0.00
B Sindhuja	0.00	0.00	0.00
B.Bhargavi	0.00	0.00	0.00
B.Lalitha	1.00	0.00	0.00
B.Padma Vijetha devi	0.00	0.00	3.00
B.Revathi	0.00	0.00	0.00
B.Rupa	0.00	3.00	0.00
B.Sankara Babu	5.00	5.00	0.00
B.Srilakshmi	2.00	2.00	0.00
Bala veerarathan	0.00	0.00	0.00
C.BharathiPriya	0.00	2.00	3.00

Ch. Prasad	5.00	2.00	5.00
Ch.Mallikarjuna Rao	5.00	5.00	5.00
Ch.Prasad	0.00	2.00	0.00
Ch.Vidyadhari	0.00	0.00	0.00
D Krishna Madhuri	0.00	0.00	0.00
D Srividhya	0.00	0.00	0.00
D.Suguna Kumari	0.00	1.00	4.00
Dr. P. Vijayapal Reddy	5.00	5.00	5.00
Dr.A.Sai Hanuman	5.00	0.00	5.00
Dr.G.R.Shakthi Daran	0.00	1.00	0.00
Dr.K.Anuradha	0.00	5.00	0.00
Dr.K.Madhavi	0.00	0.00	5.00
Dr.N.Sandhya	5.00	0.00	0.00
Dr.P V S Srinivas	0.00	5.00	5.00
Dr.P.Chandrshekar Reddy	0.00	0.00	3.00
E.Lakshmi Prasanna	0.00	0.00	0.00
G N Beena Bethel	0.00	3.00	0.00
G Sowjanya	0.00	0.00	0.00
G Sowmya	0.00	0.00	0.00
G.Anil Kumar	0.00	0.00	0.00
G.Karuna	0.00	3.00	0.00
G.Lalitha	0.00	2.00	0.00
G.Lavanya	0.00	3.00	0.00
G.Mallikarjuna Rao	0.00	3.00	0.00
G.Padmaja	0.00	0.00	0.00
G.Santhosh Kumar	0.00	2.00	0.00
H.Suresh	0.00	0.00	0.00
K Shirisha	0.00	1.00	0.00
K Sowmya Priya	0.00	1.00	0.00
K Swanthana	0.00	2.00	0.00
K Swapnika	0.00	2.00	0.00
K. Guru Babu	0.00	0.00	0.00
K.Adi lakshmi	0.00	1.00	0.00
K.Adilakshmi	0.00	0.00	0.00
K.Anusha	0.00	0.00	0.00
K.Butchi Raju	0.00	0.00	0.00
K.Rama Gayathri	0.00	0.00	0.00
K.Swanthana	0.00	0.00	0.00
K.Swapnika	0.00	0.00	0.00
Krishna Bhargavi Y	0.00	2.00	0.00
Krishna Chythanya N	0.00	1.00	0.00
Lakshmi Shailaja P	0.00	0.00	0.00
Lakshmi Shailaja.P	0.00	1.00	0.00
M.Bhargavi	0.00	1.00	0.00
M.Sridhar	0.00	1.00	0.00
N VijayaKumar	0.00	1.00	0.00
P Keerthana	1.00	0.00	0.00
P Srujana	0.00	0.00	0.00
P Vara prasada Rao	0.00	1.00	0.00
P. L. Srinivasa Murthy	0.00	3.00	0.00
P. Vijaya Lakshmi	0.00	0.00	0.00
P.Jyothi	0.00	1.00	0.00
P.Keerthana	0.00	0.00	0.00
P.L.Srinivasa Murthy	0.00	0.00	0.00
P.Lakshmi	0.00	0.00	0.00
P.Rajesh	0.00	0.00	0.00
P.Vara Prasada Rao	0.00	0.00	0.00
P.Vijaya Lakshmi	0.00	0.00	0.00

F. Y Name	0.00	0.00	0.00
R Soujanya	0.00	2.00	0.00
R. Aruna Florence	0.00	4.00	0.00
R.Anuradha	0.00	5.00	0.00
R.Aruna Florence	0.00	0.00	0.00
R.Soujanya	0.00	0.00	0.00
S S Lakshmi	0.00	0.00	0.00
S.Bhargavi Latha	0.00	2.00	0.00
S.Bhargavilatha	0.00	0.00	0.00
S.Govinda Rao	0.00	4.00	0.00
Sandhya S T G Y	0.00	0.00	0.00
Srikanth	0.00	0.00	0.00
Sunitha k Ch	0.00	0.00	0.00
Syed Firdose	0.00	0.00	0.00
Thrilochana Devi.K	0.00	0.00	0.00
V SrILakshmi	0.00	0.00	0.00
V.Sowmya	0.00	5.00	0.00
V.Sri lakshmi	0.00	0.00	0.00
Y Manoj Kumar	0.00	1.00	0.00
Sum	34.00	95.00	43.00
N	34.00	46.00	65.00
Assessment of FRP = 4 × Sum/N	4.00	8.26	2.65

Average assessment

4.97

5.8 Faculty Intellectual Property Rights (FIPR) (10)**Total Marks : 2.77**

Institute Marks : 2.77

Assessment of FIPR = $2 \times (\text{Sum of the FIPR points scored by each faculty member})/N$
 (Instruction: A faculty member scores maximum five FIPR points each year?? FIPR includes awarded national/international patents, design, and copyrights.)

Name of faculty member (contributing to FIPR)	FIPR points (max. 5 per faculty member)		
	2013-2014	2014-2015	2015-2016
A Sowmya	0.00	1.00	0.00
A Sravanthi	0.00	1.00	0.00
A V PhaniKumar Reddy	1.00	0.00	0.00
A.Manasa Sudha	0.00	1.00	0.00
A.S.Sujatha	1.00	0.00	0.00
A.Sravanthi	0.00	1.00	0.00
Ashlin Deepa R N	0.00	2.00	0.00
B H Prashanthi	0.00	0.00	0.00
B S Anil Kumar	0.00	0.00	0.00
B Sindhuja	0.00	0.00	0.00
B. Padma Vijetha Devi	1.00	1.00	0.00
B.Bhargavi	0.00	0.00	0.00
B.Lalitha	0.00	2.00	0.00
B.Revathi	0.00	1.00	0.00
B.Rupa	1.00	1.00	0.00
B.Sankara Babu	2.00	1.00	0.00
B.Srilakshmi	0.00	0.00	0.00
Bala veerarathan	1.00	0.00	0.00
C.BharathiPriya	1.00	1.00	0.00
Ch Shruthi	0.00	0.00	0.00
Ch. Mallikarjuna Rao	3.00	2.00	0.00
Ch.Prasad	1.00	1.00	0.00
Ch.Vidyadhari	1.00	0.00	0.00
D Krishna Madhuri	0.00	0.00	0.00
D Srividhya	0.00	0.00	0.00
D.Suguna Kumari	1.00	1.00	0.00

Dr. A. Sai Hanuman	3.00	2.00	0.00
Dr. P. Vijayapal Reddy	3.00	2.00	0.00
Dr. P.V.S. Srinivas	3.00	2.00	0.00
Dr.G.R.Shakthi Daran	2.00	1.00	0.00
Dr.K.Anuradha	2.00	3.00	0.00
Dr.K.Madhavi	2.00	3.00	0.00
Dr.N.Sandhya	5.00	0.00	0.00
Dr.P.Chandshekar Reddy	3.00	2.00	0.00
E.Lakshmi Prasanna	1.00	0.00	0.00
G N Beena Bethel	2.00	1.00	0.00
G Sowjanya	0.00	1.00	0.00
G Sowmya	0.00	0.00	0.00
G.Anil Kumar	0.00	0.00	0.00
G.Karuna	1.00	1.00	0.00
G.Lalitha	0.00	0.00	0.00
G.Lavanya	0.00	1.00	0.00
G.Mallikarjuna Rao	3.00	2.00	0.00
G.Padmaja	0.00	1.00	0.00
G.Santhosh Kumar	0.00	1.00	0.00
H.Suresh	1.00	0.00	0.00
K Shirisha	0.00	1.00	0.00
K Sowmya Priya	0.00	1.00	0.00
K. Guru Babu	2.00	0.00	0.00
K.Adilakshmi	2.00	0.00	0.00
K.Anusha	2.00	0.00	0.00
K.Butchi Raju	2.00	1.00	0.00
K.Rama Gayathri	2.00	1.00	0.00
K.Swanthana	0.00	2.00	0.00
K.Swapnika	0.00	2.00	0.00
Krishna Bhargavi Y	0.00	2.00	0.00
Krishna Chythanya N	2.00	0.00	0.00
Lakshmi Shailaja P	2.00	0.00	0.00
M.Bhargavi	2.00	0.00	0.00
M.Sridhar	2.00	0.00	0.00
N VijayaKumar	0.00	1.00	0.00
P Srujana	0.00	1.00	0.00
P Vara prasada Rao	2.00	1.00	0.00
P. L. Srinivasa Murthy	2.00	1.00	0.00
P. Vijaya Lakshmi	0.00	1.00	0.00
P.Jyothi	0.00	1.00	0.00
P.Keerthana	0.00	1.00	0.00
P.L.Srinivasa Murthy	3.00	0.00	0.00
P.Lakshmi	2.00	0.00	0.00
P.Rajesh	0.00	0.00	0.00
P.Vara Prasada Rao	3.00	0.00	0.00
P.Vijaya Lakshmi	0.00	0.00	0.00
P.Vinod Kumar	0.00	0.00	0.00
R.Anuradha	0.00	0.00	0.00
R.Aruna Flarence	2.00	1.00	0.00
R.Soujanya	2.00	0.00	0.00
S S Lakshmi	0.00	0.00	0.00
S.Bhargavi Latha	2.00	0.00	0.00
S.Govinda Rao	2.00	1.00	0.00
Sandhya S T G Y	1.00	1.00	0.00
Srikanth	2.00	0.00	0.00
Sunitha k Ch	2.00	0.00	0.00
Syed Firdose	2.00	0.00	0.00
Thrilochana Devi.K	2.00	0.00	0.00

V. Sowmya	3.00	0.00	0.00
V.Sri lakshmi	2.00	0.00	0.00
Y Manoj Kumar	0.00	0.00	0.00
Sum	97.00	60.00	0.00
N	34.00	46.00	65.00
Assessment of FIPR = 2 × Sum/N	5.71	2.61	0.00

Average assessment

2.77

5.9 Funded R&D Projects and Consultancy (FRDC) Work (20)**Total Marks : 1.13**

Institute Marks : 1.13

(Instruction: A faculty member scores maximum 5 points, depending upon the amount.) A suggested scheme is given below for a minimum amount of Rs. 1 lakh.)

Assessment of R&D and consultancy projects = $4 \times (\text{Sum of FRDC by each faculty member})/N$

Five points for funding by national agency,

Four points for funding by state agency,

Four points for funding by private sector, and

Two points for funding by the sponsoring trust/society.

Name of faculty member (contributing to FRDC)	FRDC points (max. 5 per faculty member)		
	2013-2014	2014-2015	2015-2016
A Sravanthi	0.00	0.00	0.00
A V PhaniKumar Reddy	0.00	0.00	0.00
A.Manasa Sudha	0.00	0.00	0.00
A.S.Sujatha	0.00	0.00	0.00
A.Sravanthi	0.00	0.00	0.00
Ashlin Deepa R N	0.00	0.00	0.00
Ashlin Deepa R.N.	0.00	0.00	0.00
Ashlin Depa R N	0.00	0.00	0.00
B H Prashanthi	0.00	0.00	0.00
B S Anil Kumar	0.00	0.00	0.00
B Sindhuja	0.00	0.00	0.00
B. Padma Vijetha Devi	0.00	0.00	0.00
B.Bhargavi	0.00	0.00	0.00
B.Lalitha	0.00	0.00	0.00
B.Padma Vijetha devi	0.00	0.00	0.00
B.Revathi	0.00	0.00	0.00
B.Rupa	0.00	0.00	0.00
B.Sankara Babu	0.00	0.00	0.00
B.Srilakshmi	0.00	0.00	0.00
Bala veerarathan	0.00	0.00	0.00
C.BharathiPriya	0.00	0.00	0.00
Ch Shruthi	0.00	0.00	0.00
Ch. Mallikarjuna Rao	0.00	0.00	0.00
Ch.Mallikarjuna Rao	0.00	0.00	0.00
Ch.Prasad	0.00	0.00	0.00
Ch.Vidyadhari	0.00	0.00	0.00
D Krishna Madhuri	0.00	0.00	0.00
D Srividhya	0.00	0.00	0.00
D.Suguna Kumari	0.00	0.00	0.00
Dr. A. Sai Hanuman	0.00	0.00	0.00
Dr. P. Vijayapal Reddy	0.00	0.00	0.00
Dr. P.V.S. Srinivas	0.00	0.00	0.00
Dr.A.Sai Hanuman	0.00	0.00	0.00
Dr.G R Shakhthidaran	0.00	0.00	0.00
Dr.G.R.Shakthi Daran	0.00	0.00	0.00
Dr.K.Anuradha	0.00	5.00	5.00
Dr.K.Madhavi	0.00	0.00	0.00
Dr.N.Sandhya	5.00	0.00	0.00
Dr.P V S Srinivas	0.00	0.00	0.00

Dr.P.Chandrabhenu Reddy	0.00	0.00	0.00
Dr.P.Vijayapal Reddy	0.00	0.00	0.00
E.Lakshmi Prasanna	0.00	0.00	0.00
G N Beena Bethel	0.00	0.00	0.00
G Sowjanya	0.00	0.00	0.00
G Sowmya	0.00	0.00	0.00
G.Anil Kumar	0.00	0.00	0.00
G.Karuna	0.00	0.00	0.00
G.Lalitha	0.00	0.00	0.00
G.Lavanya	0.00	0.00	0.00
G.Mallikarjun RaoH	0.00	0.00	0.00
G.Mallikarjuna Rao	5.00	5.00	0.00
G.N.Beena Bethel	0.00	0.00	0.00
G.Padmaja	0.00	0.00	0.00
G.Santhosh Kumar	0.00	0.00	0.00
H.Suresh	0.00	0.00	0.00
K Anusha	0.00	0.00	0.00
K Shirisha	0.00	0.00	0.00
K Sowmya Priya	0.00	0.00	0.00
K Swanthana	0.00	0.00	0.00
K Swapnika	0.00	0.00	0.00
K. Guru Babu	0.00	0.00	0.00
K. Rama Gayathri	0.00	0.00	0.00
K.Adi lakshmi	0.00	0.00	0.00
K.Adilakshmi	0.00	0.00	0.00
K.Anusha	0.00	0.00	0.00
K.Butchi Raju	5.00	5.00	0.00
K.Rama Gayathri	0.00	0.00	0.00
K.Swanthana	0.00	0.00	0.00
K.Swapnika	0.00	0.00	0.00
Krishna Bhargavi Y	0.00	0.00	0.00
Krishna Chythanya N	0.00	0.00	0.00
Lakshmi Shailaja P	0.00	0.00	0.00
Lakshmi Shailaja.P	0.00	0.00	0.00
M.Bhargavi	0.00	0.00	0.00
M.Sridhar	0.00	0.00	0.00
N VijayaKumar	0.00	0.00	0.00
P Keerthana	0.00	0.00	0.00
P Srujana	0.00	0.00	0.00
P Vara prasada Rao	0.00	0.00	0.00
P. L. Srinivasa Murthy	0.00	0.00	0.00
P. Vijaya Lakshmi	0.00	0.00	0.00
P.Jyothi	0.00	0.00	0.00
P.Keerthana	0.00	0.00	0.00
P.L.Srinivasa Murthy	0.00	0.00	0.00
P.Lakshmi	0.00	0.00	0.00
P.Rajesh	0.00	0.00	0.00
P.Vara Prasada Rao	0.00	0.00	0.00
P.Vijaya Lakshmi	0.00	0.00	0.00
P.Vinod Kumar	0.00	0.00	0.00
R Soujanya	0.00	0.00	0.00
R. Aruna Flarence	0.00	0.00	0.00
R.Anuradha	0.00	0.00	0.00
R.Aruna Flarence	0.00	0.00	0.00
R.Soujanya	0.00	0.00	0.00
S S Lakshmi	0.00	0.00	0.00
S.Bhargavi Latha	0.00	0.00	0.00
S.Bhargavilatha	0.00	0.00	0.00

ச.சுவினா ராஜ்	0.00	0.00	0.00
Sandhya S T G Y	0.00	0.00	0.00
Srikanth	0.00	0.00	0.00
Sunitha k Ch	0.00	0.00	0.00
Syed Firdose	0.00	0.00	0.00
Thrilochana Devi K	0.00	0.00	0.00
Thrilochana Devi.K	0.00	0.00	0.00
V SrILakshmi	0.00	0.00	0.00
V.Sowmya	0.00	0.00	0.00
V.Sri lakshmi	0.00	0.00	0.00
Y Manoj Kumar	0.00	0.00	0.00
Sum	15.00	15.00	5.00
N	34.00	46.00	65.00
Assessment of FRDC = $4 \times \text{Sum}/N$	1.76	1.30	0.31

Average assessment

1.13

5.10 Faculty Interaction with Outside World (10)**Total Marks : 0.87**

Institute Marks : 0.87

(Instruction: A faculty member gets maximum five interaction points, depending upon the type of institution or R&D laboratory or industry, as follows)

FIP = Faculty interaction points

Assessment = $2 \times (\text{Sum of FIP by each faculty member})/N$

Five points for interaction with a reputed institution abroad, institution of eminence in India, or national research laboratories,

Three points for interaction with institution/industry (not covered earlier).

Name of faculty member (contributing to FIP)	FIP		
	2013-2014	2014-2015	2015-2016
A Sowmya	0.00	0.00	0.00
A Sravanthi	0.00	0.00	0.00
A V PhaniKumar Reddy	0.00	0.00	0.00
A.Manasa Sudha	0.00	0.00	0.00
A.S.Sujatha	0.00	0.00	0.00
A.Sravanthi	0.00	0.00	0.00
Ashlin Deepa R N	0.00	0.00	0.00
Ashlin Deepa R.N.	0.00	0.00	0.00
Ashlin Depa R N	0.00	0.00	0.00
B H Prashanthi	0.00	0.00	0.00
B S Anil Kumar	0.00	0.00	0.00
B Sindhuja	0.00	0.00	0.00
B. Padma Vijetha Devi	0.00	0.00	0.00
B.Bhargavi	0.00	0.00	0.00
B.Lalitha	0.00	0.00	0.00
B.Padma Vijetha devi	0.00	0.00	0.00
B.Revathi	0.00	0.00	0.00
B.Rupa	0.00	0.00	0.00
B.Sankara Babu	0.00	0.00	0.00
B.Srilakshmi	0.00	0.00	0.00
Bala veerarathan	0.00	0.00	0.00
C.BharathiPriya	0.00	0.00	0.00
Ch Shruthi	0.00	0.00	0.00
Ch. Mallikarjuna Rao	0.00	0.00	0.00
Ch.Mallikarjuna Rao	0.00	0.00	0.00
Ch.Prasad	0.00	0.00	0.00
Ch.Vidyadhari	0.00	0.00	0.00
D Krishna Madhuri	0.00	0.00	0.00
D Srividhya	0.00	0.00	0.00
D.Suguna Kumari	0.00	0.00	0.00
Dr. A. Sai Hanuman	0.00	0.00	0.00
Dr. P. Vijayapal Reddy	0.00	0.00	0.00

Dr. P. V. S. Srinivas	0.00	0.00	0.00
Dr.A.Sai Hanuman	5.00	5.00	5.00
Dr.G R Shakthidaran	0.00	0.00	5.00
Dr.G.R.Shakthi Daran	0.00	0.00	0.00
Dr.K.Anuradha	5.00	5.00	5.00
Dr.K.Madhavi	0.00	0.00	5.00
Dr.N.Sandhya	5.00	0.00	0.00
Dr.P V S Srinivas	0.00	0.00	5.00
Dr.P.Chandrshekar Reddy	0.00	0.00	5.00
Dr.P.Vijayapal Reddy	0.00	5.00	5.00
E.Lakshmi Prasanna	0.00	0.00	0.00
G N Beena Bethel	0.00	0.00	0.00
G Sowjanya	0.00	0.00	0.00
G Sowmya	0.00	0.00	0.00
G.Anil Kumar	0.00	0.00	0.00
G.Karuna	0.00	0.00	0.00
G.Lalitha	0.00	0.00	0.00
G.Lavanya	0.00	0.00	0.00
G.Mallikarjun RaoH	0.00	0.00	0.00
G.Mallikarjuna Rao	0.00	0.00	0.00
G.N.Beena Bethel	0.00	0.00	0.00
G.Padmaja	0.00	0.00	0.00
G.Santhosh Kumar	0.00	0.00	0.00
H.Suresh	0.00	0.00	0.00
K Anusha	0.00	0.00	0.00
K Shirisha	0.00	0.00	0.00
K Sowmya Priya	0.00	0.00	0.00
K Swanthana	0.00	0.00	0.00
K Swapnika	0.00	0.00	0.00
K. Guru Babu	0.00	0.00	0.00
K. Rama Gayathri	0.00	0.00	0.00
K.Adi lakshmi	0.00	0.00	0.00
K.Adilakshmi	0.00	0.00	0.00
K.Anusha	0.00	0.00	0.00
K.Butchi Raju	0.00	0.00	0.00
K.Rama Gayathri	0.00	0.00	0.00
K.Swanthana	0.00	0.00	0.00
K.Swapnika	0.00	0.00	0.00
Krishna Bhargavi Y	0.00	0.00	0.00
Krishna Chythanya N	0.00	0.00	0.00
Lakshmi Shailaja P	0.00	0.00	0.00
Lakshmi Shailaja.P	0.00	0.00	0.00
M.Bhargavi	0.00	0.00	0.00
M.Sridhar	0.00	0.00	0.00
N VijayaKumar	0.00	0.00	0.00
P Keerthana	0.00	0.00	0.00
P Srujana	0.00	0.00	0.00
P Vara prasada Rao	0.00	0.00	0.00
P. L. Srinivasa Murthy	0.00	0.00	0.00
P. Vijaya Lakshmi	0.00	0.00	0.00
P.Jyothi	0.00	0.00	0.00
P.Keerthana	0.00	0.00	0.00
P.L.Srinivasa Murthy	0.00	0.00	0.00
P.Lakshmi	0.00	0.00	0.00
P.Rajesh	0.00	0.00	0.00
P.Vara Prasada Rao	0.00	0.00	0.00
P.Vijaya Lakshmi	0.00	0.00	0.00
P.Vinod Kumar	0.00	0.00	0.00

R. Soujanya	0.00	0.00	0.00
R. Aruna Flarence	0.00	0.00	0.00
R. Anuradha	0.00	0.00	0.00
R. Aruna Flarence	0.00	0.00	0.00
R. Soujanya	0.00	0.00	0.00
S S Lakshmi	0.00	0.00	0.00
S. Bhargavi Latha	0.00	0.00	0.00
S. Bhargavilatha	0.00	0.00	0.00
S. Govinda Rao	0.00	0.00	0.00
Sandhya S T G Y	0.00	0.00	0.00
Srikanth	0.00	0.00	0.00
Sunitha k Ch	0.00	0.00	0.00
Syed Firdose	0.00	0.00	0.00
Thrilochana Devi K	0.00	0.00	0.00
Thrilochana Devi.K	0.00	0.00	0.00
V SrILakshmi	0.00	0.00	0.00
V. Sowmya	0.00	0.00	0.00
V. Sri lakshmi	0.00	0.00	0.00
Y Manoj Kumar	0.00	0.00	0.00
Sum	15.00	15.00	35.00
N	34.00	46.00	65.00
Assessment of FIP = $2 \times \text{Sum}/N$	0.88	0.65	1.08

Average assessment 0.87

6 Facilities and Technical Support (75)**Total Marks : 75.00****Description of classrooms, faculty rooms, seminar, and conference halls:**

Description of classrooms, faculty rooms, seminar, and conference halls:

Room description	No. of Rooms	Usage	Shared/ Exclusive	Capacity	Rooms Equipped with PC, Internet, etc.
Class Rooms	10	For conducting Classwork	Exclusive	72 each	Class rooms are equipped with State - of-art infrastructure and are well designed to give ideal teaching and learning environment
HOD Room	01	For Head of the Department	Exclusive	5	Equipped with Desktop Computer, Laptop, Scanner, Printer with Wifi Facility
Faculty Rooms	02	For Department faculty	Exclusive	28 Each	Equipped with necessary infrastructure , Wifi facility
Seminar Halls	01	For conducting Workshops, Guest lectures and Department Meetings	Exclusive	40	Fully Air Conditioned Hall equipped with modern Teaching Aids and Public addressing System
Conference Hall	01	For conducting Workshops, Guest lectures and Department Meetings	Exclusive	250	Fully Air Conditioned Hall equipped with modern Teaching Aids and Public addressing System
Tutorial Rooms	04	For conducting Tutorial and remedial classes	Exclusive	36	Equipped with State - of-art infrastructure and are well designed to give ideal teaching and learning environment
Laboratories	15	For conducting Practical sessions	Exclusive	36 Each	Equipped with necessary Hardware, Software, LAN and Wifi facility

6.1 Classrooms in the Department (20)**Total Marks : 20.00**

6.1.1 Adequate number of rooms for lectures (core/electives), seminars, tutorials, etc., for the program (10)

Institute Marks : 10.00

(Instruction: Assessment based on the information provided in the preceding table.)

Detailed information about the rooms in the department is given below.

Room Number	Usage	Exclusive/ Shared	Room Equipped With
1301	Class Rooms	Exclusive	All the Class rooms are equipped with good infrastructure and are well designed to give ideal teaching and learning environment.
1302			
1303			
1308			
1401			
1402			

1403			
1408			
1409			
1410			
1410			
1501	Tutorial Rooms	Exclusive	Tutorial rooms with a seating capacity of 36 students are available for special and remedial classes
1502			
1108			
1410	Seminar Hall	Exclusive	Air conditioned hall equipped with modern teaching aids and PA system.
1404	Conference Hall	Exclusive	Air conditioned hall equipped with modern teaching aids and PA system.
1405			
Ground Floor	Girls Waiting Hall	Exclusive	Equipped with Bed, Chairs & Almarahs

6.1.2 Teaching aids---multimedia projectors, etc (5)
(Instruction: List the various teaching aids available)

Institute Marks : 5.00

Teaching Aids:

From the inception, the teaching staff at GRIET uses the modern Teaching aids for effective way of teaching. The process of teaching-learning depends on different types of teaching aids and tools available in the classroom. Teaching aids used at GRIET facilitate the student learning without having to rely only on textbooks and form an integral component of a classroom and are very important in the TLP (Teaching Learning Process). These teaching aids play an important role in assisting students to improve reading comprehension skills, illustrating or reinforcing a skill or concept, differentiating instruction and relieving anxiety or boredom by presenting information in a new and interesting way.

The teaching – learning resources address multiple learning styles, themes, grades and academic skill levels. Teachers at GRIET find these aids, as supplements to curriculum materials. Such resources can make teaching and learning, a rewarding experience. We use the latest teaching aids available in the form of audio, video and audio-visual aids. They are very important in implementation of learning objectives which affects the outcomes.

We at GRIET enjoy the following advantages by implementing Teaching Aids:

1. Students tend to forget if they only listen in their classroom. Appropriate teaching aid if properly used helps them to retain the concepts better and for a longer period.
2. Providing conceptual thinking and imagining capabilities.
3. Helping the student to get clarity on the subject more clearly.
4. Enhancing the learning experience for the students by motivating those using different teaching aids.
5. Making the classrooms more interesting, live and interactive.
6. Helping the students to increase and improve their vocabulary and communication skills.
7. Creating a proper image of the subject when the students hear, visualize and imagine.
8. Creating an interesting environment for the students.
9. Provide hands-on experience to the students with the help of teaching aids such as models.

Different Teaching aids used in GRIET:

1. Visual Aids:

i. White board.

- The written matter on the board is meant to attract the attention and it stays visually for a long time to the student
- It acts as a prompt and a reminder of the on-going lecture. Thus acts as a reinforcing tool in TLC.
- It is used simultaneously along with other aids which may last a short period visually.
- It helps in step-wise/sequentially depict a process or derive formulae.
- It makes the student put his or her understanding on the board, upon an invitation of the teacher in front of the audience.
- The summary of the lecture is captured on the board, reinforcing the teaching objective.

ii. The Bulletin-Board.

- It has a wider reach, serving as a mass communication tool.
- The display summarizes the class room activity.
- The activity of a group or the present status is made available.

- It acts as a display for result of an individual or group activity.
- It acts as a motivator when displaying awards and prizes or appreciations.
- Visual information other than written/ typed matter, photos and posters are also displayed.

iii. **Overhead Projector/ LCD Projector.**

- They evoke more involvement by the audience as the visuals are strong in composition and content.
- The teacher has the flexibility of using still photos, typed matter and video.
- Numerical data is projected as tables, graphs, charts, flow-charts, info graphics, which provoke self analysis of the projection as against the information being talked.
- Projected data or figures are put for discussion and for analysis by the group.
- Still projections are used for quiz, tests and guide students effectively.

iv. **Representations -charts, sketches, flash cards, posters, pictures, pamphlets, hand-outs etc.**

- A good way to present and practice and also recycle vocabulary for all the activities in a class room.
- We use bright and colorful Flash cards to make visual impact on the viewer that leaves a longer imprint of the content on the minds.
- Increases the creative time of students and also adds context to subject learning.
- They are visually stimulating and very versatile in fitting most of the activities at all levels.

2. **Audio-Visual aids:**

i. **Motion pictures / Video Lectures**

- Video lectures are virtual classes by subject experts which not only provide content; they also stimulate the interest that makes the curriculum relevant, meeting the course objectives.
- Students can watch these video lectures or they can revisit the stream at any point replaying the part that they did not understand.
- Students can view and study these instructors's lecture as often as they wish until they understand the material.
- These video lectures helps in improving student's grades and increases their overall level of satisfaction and confidence.
- Even the most complex and challenging subjects can be delivered to the students in a more interesting way.

3. **Activity aids:**

i. **Industrial Tours, Excursion, field trips.**

- Industrial visits are considered as one of the most strategic methods of teaching and learning process.
- These tours provide students with an opportunity to learn in real time, practically through interaction, working methods and employment practices.
- They represent an important activity that contributes to the achievement of various essential learning outcomes and program objectives for the pre-final year and final year students.

ii. **Preparation of models, charts, Role play, Demonstration, Interactive games, Quizzical, Questionnaires**

- This is an instant way of assessment of the students and reflects the teaching and learning process.
- The teacher prepares the questionnaire based on the subject, divides the class into groups and conducts the questionnaire or interactive games.
- They evoke memory recall of the subject or the topic(s) that are covered in the classroom by the students very effectively.
- It is used as a tool to elicit competitive spirit to gain good grades and winning attitude.
- Overall, this helps the students to prepare for online tests and quizzes which are assessments.

4. **Internet:**

- Internet provides access to an amazing number of constantly updated and expanding resources and an incredible wealth of information.
- The Teaching-Learning Process at the institute includes self-research by students on topics given as assignments and seminars. Students use it as discussion boards, to discuss what they find with classmates or, if they're using e-mail, with students in another class or an expert in the field they are studying, and finally they can publish their work on the Web.
- Students are empowered as learners, they are motivated to use e-tools to enhance and develop team building skills, and learning through sharing.
- The framework for learning is more adaptable to a fast-changing world, resources for learning are replaced by online link to the real world, resources can be adapted to immediate learning needs and skills are developed for the information age.
- The institute records all activity under Mini- and Major Projects as video presentations for motivating and educating the fresh batch students providing a platform for novelty, innovative thinking and interaction with alumni.
- Internet skills are important for employment, improve quality of life, etc.; our students need to master them no matter whatever their field or profession.

6.1.3 Acoustics, classroom size, conditions of chairs/benches, air circulation, lighting, exits, ambience, and such other amenities/facilities (5)

Institute Marks : 5.00

(Instruction: Assessment based on the information provided in the preceding table and the inspection thereof.)

- All the classrooms are well furnished, ventilated, and spacious and equipped with modern teaching aids.
- Separate rooms are available for tutorial classes with necessary infrastructure.
- Large size classrooms, seminar halls and laboratories have two exits for emergencies.
- All classrooms are acoustically designed to minimize echo and sound distortion.
- On the whole at GRIET, the class / tutorial rooms, seminar halls are designed in a way that they provide a conducive environment which is needed for

Room Number	Class Room Size in Sq. M	Conditions of Chairs/Benches	Air Circulation/ Lighting
1301	88	Excellent	Excellent
1302	88	Excellent	Excellent
1303	95	Excellent	Excellent
1308	95	Excellent	Excellent
1401	88	Excellent	Excellent
1402	88	Excellent	Excellent
1403	95	Excellent	Excellent
1408	95	Excellent	Excellent
1409	88	Excellent	Excellent
1410	88	Excellent	Excellent

6.2 Faculty Rooms in the Department (15)

Total Marks : 15.00

6.2.1 Availability of individual faculty rooms (5)

Institute Marks : 5.00

(Instruction: Assessment based on the information provided in the preceding table.)

- Two halls of size 88 Sq.Mt each are utilized to have room for the teaching faculty.
- Each hall is portioned into 8 cubicles for accommodating 1 – 3 faculty members comfortably.
- Each cubicle is well equipped with necessary infrastructure, good ventilation and wi-fi facility round the clock.
- The cabins are spacious enough to have interactions with students personally.

Room Number	Room Size (in Sq.M)	Rooms Alloted to
1309	88	Professors & Associate Professors
1310	88	Assistant Professors

6.2.2 Room equipped with white/black board, computer, Internet, and such other amenities/facilities (5)

Institute Marks : 5.00

(Instruction: Assessment based on the information provided in the preceding table)

- Some of the faculty rooms have a white board aiding for discussions.
- Faculty rooms have desktop computer, scanner and printer, apart from the use of portable laptop computers available with the programme. They can use their personal gadgets for which power sockets are provided in the faculty rooms.
- The cubicles also have lockable storage racks for keeping the academic material apart from the individual desk storage space with lockable drawers.
- The faculty is connected both by LAN and Wi-Fi communication network for Internet access.
- They also have constant supply of RO water through dispensers, and a kitchenette for the refreshment of the faculty.

Room No	Computer /Internet facilities	Cupboards	Amenities / Facilities
1309	Wi-Fi connectivity and Laptops	Adequate in number	Common desktop computer, scanner, printer, Water purifier, Microwave Oven, Induction Stove etc...
1310			

6.2.3 Usage of room for counselling/discussion with students (5)

Institute Marks : 5.00

(Instruction: Assessment based on the information provided in the preceding table and the inspection thereof.)

- Adequate space is available in the faculty rooms for discussions / clarifications / counseling with the students.
- Each faculty can have discussion with his / her project team or research group in their respective cabins.
- Faculty mentors are assigned to students in the program. Mentors meet one – on – one with students in their respective cubicles to counsel on course planning, inspire students to gain confidence and self- motivation.

Room No	Space For Discussions with Students	Department library facility for faculty
1309B	Yes	Yes
1310B		

The following table is required for the subsequent criteria.

Laboratory description in the curriculum	Exclusive use / shared	Space, number of students	Number of experiments	Quality of instruments	Laboratory manuals
Advanced Data Structures through CPP Lab	Exclusive	95,36	15	Very good	Available
Data Bases Lab	Exclusive	88,36	15	Very good	Available
Digital Logic Design Lab	Exclusive	88,36	15	Very good	Available
Object Oriented Programming through JAVA Lab	Exclusive	88,36	15	Very good	Available
Operating Systems Lab	Exclusive	88,36	15	Very good	Available
Advanced Databases Lab	Exclusive	95,36	15	Very good	Available
Micro controllers Lab	Exclusive	95,36	15	Very good	Available
Advanced JAVA Programming Lab	Exclusive	88,36	15	Very good	Available
UNIX Programming and Compiler Design Lab	Exclusive	88,36	15	Very good	Available
Advanced English Communication Skills Lab	Exclusive	88,36	15	Very good	Available
Web Technologies Lab	Exclusive	95,36	15	Very good	Available
Advanced Network Programming Lab	Exclusive	88, 36	15	Very good	Available
Scripting Languages Lab	Exclusive	88, 36	15	Very good	Available
Data Warehousing and Data Mining Lab	Exclusive	88, 36	15	Very good	Available
Projects Lab	Exclusive	95, 36	---	Very good	---

6.3 Laboratories in the Department to meet the Curriculum Requirements and the POs (25)

Total Marks : 25.00

6.3.1 Adequate, well-equipped laboratories to meet the curriculum requirements and the POs (10)

Institute Marks : 10.00

(Instruction: Assessment based on the information provided in the preceding table.)

- The department has excellent laboratory infrastructural facilities and all the year students are trained in their respective laboratories to enhance their practical skills and also to meet their curriculum requirements.
- Laboratories are equipped with sufficient hardware & licensed software to run program specific curriculum and off program curriculum.
- These laboratories are under the guidance of well experienced faculty, lab assistants and lab technicians.
- Lab manuals are available for all the lab courses which consist of solutions for curriculum experiments and additional experiments.
- Product laboratory is available for faculty and students to carry their innovative products and projects.
- Exclusively a project lab has been provided for the students to carry out their mini and major project work.

Name of the Laboratory	Exclusive / Shared	Space (Sq.mts), Number of Students	Number of Experiments	Quality of instruments	Lab manuals
Advanced Data Structures through C++	Exclusive	95 ,36	15	Excellent	Available
Databases		88, 36	15		
Digital Logic Design		88, 36	15		
Object Oriented Programming through Java		88,36	15		
Operating Systems		88,36	15		
Advanced Databases		95,36	15		
Microcontrollers		95 ,36	15		
Advanced java programming		88,36	15		
Unix Programming and Compiler Design		88 ,36	15		
Advanced English Communication Skills		88,36	15		
Web technologies		95,36	15		
Advanced Network Programming		88,36	15		
Scripting languages		88,36	15		
Data Warehousing and Data Mining		88,36	15		
Projects		95,36	-		

Mapping of Laboratories with Program Outcomes

Lab Description in the Curriculum	Program-Outcomes											
	a	b	c	d	e	f	g	h	i	j	k	l
Advanced Data Structures through C++	X	X	X		X	X			X	X	X	
Databases	X	X	X		X	X	X			X	X	X
Digital Logic Design		X	X	X	X	X				X	X	X
Object Oriented Programming through Java	X	X	X	X	X	X		X		X	X	X
Operating Systems	X	X	X		X	X		X		X	X	X
Advanced Databases	X	X	X	X	X	X				X	X	X
Microcontrollers	X	X	X	X		X			X	X	X	X
Advanced java programming		X	X		X	X				X	X	X
Unix Programming and Compiler Design	X	X	X		X	X		X		X	X	X

Advanced English Communication Skills	^	^	^	^	^	^	^	^	^	^	^	^
Web technologies	X		X	X		X	X		X	X	X	
Advanced Network Programming	X	X				X		X	X	X	X	
Scripting languages	X		X	X	X	X	X	X		X		X
Data Warehousing and Data Mining	X	X		X	X	X				X	X	X
Projects	X	X	X	X		X		X		X	X	X

6.3.2 Availability of computing facilities in the department (5)

Institute Marks : 5.00

(Instruction: Assessment based on the information provided in the preceding table.)

- For UG programme sufficient Laptops are available in the labs with fully loaded licensed software to facilitate students to carry their course work.
- All labs are provided with Un-interruptible power supply
- All PCs and Laptops are in excellent working condition.

Laboratory	No of Computers/ Laptops	Condition of Equipment	Hardware / Software
Advanced Data Structures through C++	72	Excellent	Ubuntu, Linux, Turbo C++, GNU Compilers
Databases	60	Excellent	Ubuntu, Linux, Oracle 10g
Digital Logic Design	60	Excellent	Ubuntu, Linux, PSpice, Breadboard, Electronic Components
Object Oriented Programming through Java	72	Excellent	Ubuntu, Linux, Java SDK 1.6, C Compiler
Operating Systems	72	Excellent	Ubuntu, Linux, gcc, gcc+
Advanced Databases	60	Excellent	Ubuntu, Linux, Oracle 10g
Microcontrollers	60	Excellent	Ubuntu, Linux, Arduino, Bread boards
Advanced Java Programming	60	Excellent	Ubuntu, Linux, Java SDK 1.6
Unix Programming and Compiler Design	60	Excellent	Ubuntu, Linux, Telnet, LEX tool
Advanced English Communication Skills	60	Excellent	Ubuntu, Linux, Headphones, Globalina, Clarity Snet version 8.1 Software
Web Technologies	72	Excellent	Ubuntu, Linux, Apache Tomcat Servers, JDK, Eclipse, NetBeans
Advanced Network Programming	72	Excellent	Ubuntu, Linux, Turbo C, Telnet, GNU Compilers
Scripting Languages	60	Excellent	Ubuntu, Linux, Xampp Server, Python
Data Warehousing and Data Mining	60	Excellent	Ubuntu, Linux, Weka 3.6

Projects	-	-	Ubuntu, Linux, Weka, MS Office, Windows Server, JDK 1.7, Oracle 10g, GNU Compiler, Xampp Server
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6.3.3 Availability of laboratories with technical support within and beyond working hours (5)

Institute Marks : 5.00

(Instruction: Assessment based on the information provided in the preceding table.)

- The college timings are staggered for all the four year students in order to avoid any discrepancy in the laboratory schedules.
- All the laboratories are open from 8:00AM in the morning till 6:00PM in the evening and the technical staff is made available for the time the laboratory is open to assist the students in their respective sessions irrespective of their lab schedules.
- All the laboratories have sufficient equipment in running condition for the students to perform their experiments.
- The ratio of student to equipment available is maintained to be 2:1 to have a clear understanding of all the experiments performed in the lab sessions.
- Technical staff is trained to handle all the laboratory activities and every laboratory has an in-charge who takes care of all the laboratory equipment.
- To ensure the smooth functioning of the laboratory a couple of staff members accompany the technical staff along with lab assistants and lab technicians.

Year	College Timings	Laboratories & Student projects Lab timings		Availability of tech support in lab timings
II	8.00 A.M to 2.00 P.M		8.00 A.M to 6.00 P.M	YES
III	9.00 A.M to 3.00 P.M		8.00 A.M to 6.00 P.M	YES
IV	11.00 A.M to 5.00 P.M		8.00 A.M to 6.00 P.M	YES

Name of the Laboratory	Working Hours	Work carried out in beyond working hours	Lab In-charge	Lab Faculty
Advanced Data Structures through c++	8:00 AM To 6:00 PM	Pattern recognition, Splay trees and applications	G. Santhosh Kumar	B. Lalitha
Databases Lab	8:00 AM To 6:00 PM	Report generation, Connecting to front end	R. Soujanya, V Srilakshmi	V Srilakshmi, R. Soujanya, Y. Krishna Bhargavi
Digital Logic Design	8:00 AM To 6:00 PM	Using of Bread board and Electronic Components	Ch.Prasad	Ch.Prasad C.Bharathi Priya
Object oriented programming through Java Lab	8:00 AM To 6:00 PM	Design of user interfaces, Connecting to databases, mini projects	G. Santhosh Kumar	K. Swapnika
Operating Systems	8:00 AM To 6:00 PM	Knowing the Real time Systems	G. Lavanya	G.Lavanya M.Sridhar N.Krishna Chythanya
Advanced Databases	8:00 AM To 6:00 PM	PL/SQL Programs	R.Soujanya	R.Soujanya V.Srilakshmi
Compiler Design Lab	8:00 AM To 6:00 PM	Development of protocols and Case Studies	R N Ashlin Deepa	R N Ashlin Deepa B.Rupa
Advanced Unix Programming Lab	8:00 AM To 6:00 PM	Mini-projects on micro-processors	G Santhosh Kumar	Dr. K. Anuradha G Lavanya G Karuna B Padma Vijetha Dev
	8:00 AM	By Using programming		P Jyothi

Microcontrollers Lab	To 6:00 PM	languages developing data mining techniques	G. manikarjuna Rao	K. Anand Kumar K Adilakshmi
Object Oriented Analysis and Design Lab	8:00 AM To 6:00 PM	Manual testing and analyzing different software testing tools.	G Santhosh Kumar	K Sirisha G Lalitha
Web Technologies Lab	8:00 AM To 6:00 PM	Configuring and Installing	S.Govinda Rao G Santhosh Kumar	G. Santhosh Kumar

6.3.4 Equipment to run experiments and their maintenance, number of students per experimental setup, size of the laboratories, overall ambience, etc (5)

Institute Marks : 5.00

(Instruction: Assessment based on the information provided in the preceding table.)

- The laboratories are equipped with high-end configuration systems needed for execution of experiments.
- Laboratories are well maintained by the technical and non-technical staff.
- Sufficient number of systems are available for the students to carry out the experiments.

Laboratory	Equipment	Maintenance	No of Students per each Task/Program	Size of the Laboratory	Overall ambience
Advanced Data Structures through C++	Hardware: Laptops Ram:4 GB Hard Disk:180 GB Softwares: Ubuntu, Windows, Gcc compiler, TurboC3	Maintained by Skilled lab technician	1	95 sq.mt	Qualified faculty, and staff .Lab equipment in good condition has created an ambience for learning
Data Bases	Hardware: Laptops Ram:4GB Hard Disk:180 GB Softwares: Ubuntu, Windows, Oracle10 g	Maintained by Skilled lab technician	1	88 sq.mt	Qualified faculty and staff. Lab equipment in good condition has created an ambience for learning
Digital Logic Design	Hardware: Breadboards,Electronic Components Software:XiLinx	Maintained by Skilled lab technician	1	88 sq.mt	Qualified faculty, and staff .Lab equipment in good condition has created an ambience for learning
Object oriented programming through Java	Hardware: Desktops Ram:1 GB Hard Disk:80 GB Softwares: Ubuntu, Windows, JDK	Maintained by Skilled lab technician	1	88 sq.mt	Qualified faculty, and staff .Lab equipment in good condition has created an ambience for learning
Operating Systems	Hardware: Desktops Ram:1 GB Hard Disk:80 GB Softwares: Ubuntu, Windows, JDK	Maintained by Skilled lab technician	1	88 sq.mt	Qualified faculty, and staff .Lab equipment in good condition has created an ambience for learning
Advanced Databases	Hardware: Laptops Ram:4GB Hard Disk:180 GB Softwares: Ubuntu, Windows, Oracle10 g	Maintained by Skilled lab technician	1	95 sq.mt	Qualified faculty and staff. Lab equipment in good condition has created an ambience for learning
Microcontrollers	Hardware: Laptops Ram:4GB Hard Disk:180 GB Softwares: Ubuntu, Arduino	Maintained by Skilled lab technician	1	95 sq.mt	Qualified faculty, and staff .Lab equipment in good condition has created an ambience for learning
					Qualified

Advanced Java Programming	Hardware: Laptops Ram:4GB Hard Disk:180 GB Softwares: Ubuntu, Java SDK 1.6	Maintained by Skilled lab technician	1	88 sq.mt	Qualified faculty, and staff .Lab equipment in good condition has created an ambience for learning
Unix Programming and Compiler Design	Hardware: Desktops Ram:1 GB Hard Disk:80 GB Softwares: Ubuntu, Windows, Gcc compiler, Turboc2, Weka Tool	Maintained by Skilled lab technician	1	88 sq.mt	Qualified faculty, and staff .Lab equipment in good condition has created an ambience for learning
Advanced English Communication Skills	Hardware: PCs Ram:1GB Hard Disk:350 GB Softwares: Ubuntu, Globalina, Clarity Snet version 8.1	Maintained by Skilled lab technician	1	88 sq.mt	Qualified faculty, and staff .Lab equipment in good condition has created an ambience for learning
Web technologies	Hardware: Desktops Ram:1 GB Hard Disk:80 GB Softwares: Ubuntu, Windows, Gcc compiler, Turboc2, Tomcat Web Server	Maintained by Skilled lab technician	1	95 sq.mt	Qualified faculty, and staff .Lab equipment in good condition has created an ambience for learning
Advanced Network Programming	Hardware: Laptops Ram:4GB Hard Disk:180 GB Softwares:Ubuntu, Turbo C, Telnet, GNU Compilers	Maintained by Skilled lab technician	1	88 sq.mt	Qualified faculty, and staff .Lab equipment in good condition has created an ambience for learning
Scripting Languages	Hardware: Laptops Ram:4 GB Hard Disk:180 GB Softwares: Ubuntu, Windows, Wamp server	Maintained by Skilled lab technician	1	88 sq.mt	Qualified faculty, and staff .Lab equipment in good condition has created an ambience for learning
Data Warehousing and Data Mining	Hardware: Laptops Ram:4GB Hard Disk:180 GB Softwares: Ubuntu, Windows, Oracle10 g	Maintained by Skilled lab technician	1	88 sq.mt	Qualified faculty, and staff .Lab equipment in good condition has created an ambience for learning
Projects	-	Maintained by Skilled lab technician	-	95 sq.mt	Qualified faculty, and staff .Lab equipment in good condition has created an ambience for learning

6.4 Technical Manpower Support in the Department (15)

Total Marks : 15.00

Name of the technical staff	Designation	pay-scale	Exclusive / shared work	Date of joining	Qualification At Joining Now	Other technical skills gained	Responsibility
A.Rakesh Varma	System Administrator	6700-55600	Exclusive	10/08/2010	Diploma --	Networking, Hands on Experience on operating Systems	Maintaining of labs
P.M.Krishnam Raju	Lab Assistant	6700-55600	Exclusive	19/03/2008	ITI --	Java programming, C-Programming, Networking	Maintaining of lab programs and helping students in lab
	Computer	6700-					

S. No	Name	Operator	Salary	Exclusive	Joining Date	Qualification	Specialization	Departmental Work
1	M.Krishnam Raju	Lab Assistant	6700-55600	Exclusive	01/09/2015	B.Tech	Networking	Maintaining of labs and laptops
2	P.Shivarama Raju	System Administrator	6700-55600	Exclusive	03/11/2011	DECE	Hardware(A+),CCNA,MCSC,PIX Firewall	Maintenance of servers and labs, networking and trouble shooting of systems
3	S.Venu	Lab Assistant	6700-55600	Exclusive	24/08/2015	B.Tech	Java,Networking	Maintenance of lab equipments and laptops
4	T.Thirumala Rao	C.C Camera Operator	6700-55600	Exclusive	22/01/2015	B.A	MS Office,Tally 7.2	Maintenance of C.C Cameras
5	G.Karuna	Lab Assistant	6700-55600	Exclusive	23/09/2014	B.Tech	C Language, MS Office	Maintenance of labs and laptops
6	B.Venkata Ramana	System Administrator	6700-55600	Exclusive	23/03/2015	B.A	Hardware,Networking	Maintenance of Servers and Labs, Networking and Trouble shooting of Systems

6.4.1 Availability of adequate and qualified technical supporting staff for programme-specific laboratories (10)

Institute Marks : 10.00

(Instruction: Assessment based on the information provided in the preceding table.)

- The technical proficiency of the technical staff is such that they are highly versatile in adapting as per programme needs and running the experiment and cater to requirements of all the three year-wise batches and their experiments.
- Each laboratory is maintained by one Technical Staff and they are available exclusively for that laboratory based on the semester requirements.
- Their duties are:
 - Issuing the components and equipment, Monitoring and take the responsibilities along with concerned lab in charge faculty.
 - Maintenance of the equipment, collecting the complaints from students / staff on equipment and resolve their complaints.
 - Maintain the stock register as per the guidelines from the higher authorities.
 - Taking safety precautionary measures while handling the equipment.
- The technical staff regularly enhances their skills through participating in workshops.

About Technical Staff

	<p>P.Shivarama Raju has done Diploma in ECE presently working in CSE department as system administrator. He attended various workshops to improve his technical skills.</p>
	<p>P.M.Krishnam Raju has done ITI presently working in CSE department as lab assistant. He attended various workshops to improve his skills in trouble shooting and networking.</p>
	<p>S. Venu has done B.Tech presently working in CSE department as lab assistant. He attended various workshops to improve his skills in networking.</p>
	<p>M. Krishnam Raju has done B.Tech presently working in CSE department as lab assistant. He attended various workshops to gain knowledge in programming languages.</p>
	<p>P.Tirumala Rao has done B.A presently working in CSE department as C.C Camera operator. He attended various workshops to improve his technical skills.</p>

		G.Karuna has done B.Tech presently working in CSE department as lab assistant. She attended various workshops to improve her technical skills.
		B.Venkataramana has done B.A presently working in CSE department as system administrator. He attended various workshops to improve his technical skills.

6.4.2 Incentives, skill-upgrade, and professional advancement (5)

Institute Marks : 5.00

(Instruction: Assessment based on the information provided in the preceding table.)

INCENTIVES:-

- College provides incentives to non teaching and technical staff members
- The staff on official work are compensated for the conveyance expenses
- Staff deputed for any outstation programs is reimbursed the amount by the administration.
- Group Insurance Schemes are implemented.
- Interest free loans are disbursed for emergency needs on a case-to-case basis.
- Subsidized lunch & snacks facility are provided.
- Free lunch coupons are provided under a general scheme to help staff in times of need.
- Transportation is free
- Free medical facility is provided in the campus, apart from medical leaves and medical allowances.
- Educational loan for higher studies is available in eligible cases.
- Employee State Insurance (ESI), Employee Provident Fund (EPF) subscription available as per norms.
- College arranges get-together every year for non teaching and technical staff along with their family members.

SKILL UPGRADE

- Staff training programmes are organized and conducted regularly to upgrade the technical skills of both technical and non teaching staff members
- Staff is trained on new equipments or tool by the Vendor during induction and installation in the department.
- Training is provided on operation of PCs, Printer, and Scanner, Internet modems, configuring IP address, power connection, software installations, PC format activity and antivirus installation.
- Training is provided on MS Office, Excel to non teaching and technical staff members as part of computer literacy programme
- Regular Training is provided to improve soft skills and communication skills.
- Training is provided on the aspects of safety, security and best laboratory practices.
- Training is provided on energy conservation for optimum use of all other resources.
- Induction and orientation programmes are conducted for all new recruits
- Intensive training provided on all laboratory experiments to meet changing syllabus requirements.

PROFESSIONAL DEVELOPMENT:

- Eligible non teaching and technical staff members are given chance to study B.Tech and M.Tech course with subsidized tuition fee

- Engg. staff is promoted to the next cadre upon accumulation of seniority and experience in service e.g., Engg. Lab assistant are promoted as Lab supervisors.
- Administrative staff is promoted as senior assistants; senior assistants are promoted to the next level in administration.
- Lab staff upon successful completion of B.Tech and M.Tech programmes is considered for promotion as teaching faculty after suitable orientation training like FDP.
- Technical staff are given free time to upgrade their knowledge and technical skill.

7 Academic Support Units and Teaching-Learning Process (75)

Total Marks : 69.20

Students' Admission

Admission intake (for information only)

(Instruction: The intake of the students during the last three years against the sanctioned capacity may be reported here.)

Item	2015-2016	2014-2015	2013-2014	2012-2013
Sanctioned intake strength in the institute (N)	1080	1110	1110	930
Number of students admitted on merit basis (N1)	756	699	745	610
Number of students admitted on management quota/otherwise (N2)	324	306	308	259
Total number of admitted students in the institute (N1 + N2)	1080	1005	1053	869

Admission quality (for information only)

(Instruction: The admission quality of the students in terms of their ranks in the entrance examination may be presented here.)

Tabular data for estimating student-teacher ratio and faculty qualification for first year common courses)

Rank Range	2015-2016	2014-2015	2013-2014	2012-2013
1-10000	70	50	114	145
10000-50000	460	449	452	347
50000-100000	143	148	131	77
100000-150000	36	28	31	28
150000-200000	40	12	9	12
200000 and above	11	0	4	1
Admitted with State Government Norms based on Percentage in Intermediate Course	320	318	312	259

List of faculty members teaching first year courses:

(Instruction: The institution may list here the faculty members engaged in first year teaching along with other relevant data.)

Name of faculty member	Qualification	Designation	Date of joining the institution	Department with which associated	Distribution of teaching load(%)		
					1st year	UG	PG
Sandhya. STGY	M.Tech	Assistant Professor	06/10/2013	CSE	100	0	0
Sunitha.K.Ch	M.Tech	Assistant Professor	06/10/2013	CSE	100	0	0
A.Sravanthi	M.Tech	Assistant Professor	09/04/2014	CSE	100	0	0
D.Suguna Kumari	M.Tech	Assistant Professor	09/04/2014	CSE	100	0	0
H.Suresh	M.Tech	Assistant Professor	09/05/2014	CSE	100	0	0
P.Vijaya Lakshmi	M.Tech	Assistant Professor	09/06/2014	CSE	100	0	0
P.Rajesh	M.Tech	Assistant Professor	09/09/2014	CSE	100	0	0
Bala Veeravathnam	M.Tech	Assistant Professor	04/09/2014	CSE	100	0	0
A Soumya	M.Tech	Assistant Professor	26/03/2015	CSE	100	0	0
P Sujana	M.Tech	Assistant Professor	24/04/2015	CSE	100	0	0

7.1 Academic Support Units (35)

Total Marks : 29.20

7.1.1 Assessment of First Year Student Teacher Ratio (FYSTR) (10)

Institute Marks : 10.00

Year	No. of students(approved intake strength)	No. of faculty members(considering fractional load)	FYSTR	Assessment=(10 x 15)/FYSTR(Max. is 10)
2013-2014	240	35	6.86	10

2015	240	39	6.15	10
2015-2016	360	57	6.32	10

Average assessment

10

7.1.2 Assessment of Faculty Qualification Teaching First Year Common Courses (15)

Institute Marks : 9.20

Assessment of qualification = $3 \times (5x + 3y + 2z) / N$, where $x + y + z \leq N$ and $z \leq Z$

x = Number of faculty members with PhD

y = Number of faculty members with ME/MTech/NET-Qualified/MPhil

z = Number of faculty members with BE/BTech/MSc/MCA/MA

N = Number of faculty members needed for FYSTR of 25

Year	X	Y	Z	N	Assessment of faculty qualification
2013-2014	0	10	0	10	9
2014-2015	0	16	0	10	10.8
2015-2016	0	13	0	15	7.8

Average assessment

9.2

7.1.3 Basic science/engineering laboratories (adequacy of space, number of students per batch, quality and availability of measuring instruments, laboratory manuals, list of experiments) (8)

Institute Marks : 8.00

(Instruction: The institution needs to mention the details for the basic science/engineering laboratories for the first year courses. The descriptors as listed here are suggestive in nature.)

Laboratory description	Space, number of students	Software Used	Type of experiments	Quality of instruments	Laboratory manuals
Engineering Physics Lab - 1	90 sqm / 30	NIL	12 experiments in Optical electrical	Excellent	Available
Engineering Physics Lab - 2	98 sqm / 30	NIL	12 experiments in Optical electrical	Excellent	Available
Engineering Chemistry Lab - 1	85 sqm / 30	NIL	10 experiments in Volumetric and analytical	Excellent	Available
Engineering Chemistry Lab - 2	80 sqm / 30	NIL	10 experiments in Volumetric and analytical	Excellent	Available
Engineering Chemistry Lab - 3	80 sqm / 30	NIL	10 experiments in Volumetric and analytical	Excellent	Available
Computer programming and Data Structures Lab - 1	85 sqm / 30	DevC, Turbo C, Linux with Ubuntu	30 experiments in C language	Excellent	Available
Computer programming and Data Structures Lab - 2	80 sqm / 30	DevC, Turbo C, Linux with Ubuntu,	30 experiments in C language	Excellent	Available
Computer programming and Data Structures Lab - 3	85 sqm / 30	DevC, Turbo C, Linux with Ubuntu,	30 experiments in C language	Excellent	Available
Computer programming and Data Structures Lab - 4	85 sqm / 30	DevC, Turbo C, Linux with Ubuntu,	30 experiments in C language	Excellent	Available
Computer programming and Data Structures Lab - 5	85 sqm / 30	DevC, Turbo C, Linux with Ubuntu,	30 experiments in C language	Excellent	Available
Engineering Workshop - 1	133 sqm / 30	NIL	9 experiments in Letterings, Projections, views	Excellent	Available
Engineering Workshop - 2	133 sqm / 30	NIL	9 experiments in Letterings, Projections, views	Excellent	Available
Engineering Workshop - 3	133 sqm / 30	NIL	9 experiments in Letterings, Projections, views	Excellent	Available
IT Workshop Lab-1	120 sqm / 60	Microsoft office, CISCO	16 experiments in Assembling disassembling of components, worksheets involving Microsoft office, installations of OS	Excellent	Available
IT Workshop Lab-2	120 sqm / 60	Microsoft office, CISCO	16 experiments in Assembling disassembling of components, worksheets involving Microsoft office, installations of OS	Excellent	Available

7.1.4 Language laboratory (2)

Institute Marks : 2.00

(Instruction: The institution may provide the details of the language laboratory. The descriptors as listed here are not exhaustive).

Language Laboratory	Space, number of students	Software Used	Type of experiments	Quality of instruments	Guidance
English Language and Communication Skills Lab -1	85 sqm/60	Study skills, Clarity, Sky pronunciation suite, Teacher	Grammatical Exercises, Phonetics, pronunciation, Resume writing	Excellent	Students are guided & monitored by the instructor
English Language and Communication Skills Lab -2	85 sqm/60	KAPLAN, Clarity, Sky Pronunciation suite	Oral & Technical Presentations, Vocabulary building, Writing skills, Interview skills	Excellent	Students are guided & monitored by the instructor

7.2 Teaching – Learning Process (40)

Total Marks : 40.00

7.2.1 Tutorial classes to address student questions: size of tutorial classes, hours per subject given in the timetable (5)

Institute Marks : 5.00

(Instruction: Here the institution may report the details of the tutorial classes that are being conducted on various subjects and also state the impact of such tutorial classes).

- Provision of tutorial classes in timetable(Yes/No) Yes
 - Tutorial sheets provided(Yes/No) Yes
 - Tutorial classes taken by: Faculty
 - Number of tutorial classes per subject per week: 1
 - Number of students per tutorial class: 60
 - Number of subjects with tutorials: 1st year..... 2nd year..... 3rd year..... 4th year.....
- 1st Year : 66 2nd Year: 80 3rd Year : 77 4th Year : 55

Tutorial Classes for the Year 2015-16:

Branch	I Year	II Year	III Year	IV Year	Total
Electrical and Electronics Engineering	11	10	10	07	38
Mechanical Engineering	11	10	10	07	38
Electronics and Communication Engineering	11	10	09	06	36
Computer Science and Engineering	11	10	10	07	38
Information Technology	11	10	10	07	38
Civil Engineering	11	10	09	07	37
Biomedical Engineering	-	10	09	07	26
Biotechnology	-	10	10	07	27
Total	66	80	77	55	278

Tutorial classes are conducted for majority of the subjects for all the years. Additional exercises are designed for critical theory or practical subjects so as to enhance subject knowledge. Tutorials help the students to understand the subject through analysis, problem solving and in a discussion mode with the tutor. Tutorial impact is apparent through the higher performance level of the students and subsequent evaluation stages and their higher confidence levels when the subject is discussed in subsequent lecture classes.

7.2.2 Mentoring system to help at individual levels (5)

Institute Marks : 5.00

(Instruction: Here the institution may report the details of the mentoring system that has been developed for the students for various purposes and also state the efficacy of such system).

- Mentoring System Yes
- Type of Mentoring Total Development
- Number of faculty mentors All
- Number of students per mentor 20
- Frequency of meeting Fortnightly or on need basis

Mentoring program is adopted in GRIET in order to improve the performance of the graduate students. Each mentor is assigned with a group of students (mentees) to closely monitor their academic performance and give timely guidance. Good mentoring is crucial to graduate student success both during and after graduation. Mentoring moves beyond advising because it becomes a more personal relationship that involves socialization into the norms of the profession, role modeling, career guidance, and friendship along with support during research and thesis preparation.

Duties and Responsibilities of Mentor:

A **Mentor** is a teacher donning the role of friend, philosopher and guide to strengthen the weak student's academic performance. A Mentor is responsible for his/her mentees assigned, for the entire academic year and is answerable to the programme coordinator and has the following responsibilities:

- Maintaining the mentoring record of the students containing the information such as contact details, admission details, academic record, co / extra-curricular activities, achievements and disciplinary actions if any.
- Conducting counseling sessions at least once a fort night and keeping a record of it. The frequency of meeting may be increased based on need.
- Noting the physical, mental, and emotional status of the assigned mentees and to provide assistance.
- Keeping a tab on absenteeism in classes or exams, poor academic performance, unacceptable behavior and bringing to the notice of the college authorities and their parents.
- All the counseling sessions lay emphasis on attitudes, value systems, hard work, and career planning.

7.2.3 Feedback analysis and reward / corrective measures taken, if any (5)

Institute Marks : 5.00

(Instruction: The institution needs to design an effective feedback questionnaire. It needs to justify that the feedback mechanism it has developed really helps in

evaluating teaching and finally contributing to the quality of teaching).

- Feedback collected for all courses(Yes/No) Yes
- Specify the feedback collection process
 1. Feedback is collected through structured forms from students, parents, employees and alumina. 2. Student's feedback on faculty is collected twice in semester once at the beginning of the course and one at the end. 3. Same feedback can also be taken through online 4. Parents, Employers, Alumina as and when they visit the institute, every effort is made to collect feedback. (a) Organisation is responsive to the needs of the stakeholders by continuously monitoring the pulse of the Institution. This will ensure proper implementation of programmes, help to take mid course corrections, provide a mechanism to monitor and reward the good performers at the same time make the lagging behind to improve. Also to ensure an effective feedback and corrective mechanisms (b) Feedback forms are carefully designed for the following stake holders with responsibility indicated in brackets. i. Students (Head of Individual Dept) ii. Faculty (Dean of Faculty Development) iii. Parents (HOD of Individual Dept) iv. Employers (Dean of Training & Placements) v. Alumni (GRIET Alumni Association)
- Percentage of students participating 60%
- Specify the feedback analysis process
 1. Feedback form consists of 10 questionnaires 2. Each questionnaire consists of the grading 4-1 3. Cumulative analysis is done taking help of the feedback form for every faculty 4. Based on the analysis the teaching /learning process in improved Periodicity The Periodicity is chosen to form a valuable and appropriate input (a) Student: Twice in a academic session once after a month of subject coverage and second after the subject completion. (b) Faculty: Twice a year in the month of May and November. (c) Parent: Once on Institute Parent Interaction Day and as and when a parent visits the institution. (d) Employer: Once a year at least. (e) Alumni: Once on Alumni Day i.e. on 15th August of each year.
- Basis of reward / corrective measures, if any

Rewards: Letters of appreciation • Monetary benefits • Encouragement in terms of privileges • Appreciations through mention in public functions Corrective Mechanism (a) The feedbacks are analyzed by respective departmental Heads and provide the summary for discussion for Departmental and Institutional Developmental Monitoring meetings. (b) The student feedback is confidential. Therefore each HOD should exercise while preparing the summary sheet strictly for the benefit of the individual concerned, take his/her signature on the summary sheet and the same needs to be transferred to the appraisal system. (c) Alumni feedback is perused by GRIET alumni association secretary. (d) Employer's feedback need to be reviewed by Dean Training and Placements.
- Number of corrective actions taken in the last three years 37

Faculty with top feedback grade are appreciated by the department, incentives of the current year are based on the past feedback reports. Faculties with bad feedback are sent to the Faculty Development Programs.

7.2.4 Scope for self-learning (5)

Institute Marks : 5.00

(Instruction: The institution needs to specify the scope for self-learning / learning beyond syllabus and creation of facilities for self-learning / learning beyond syllabus.)

Scope:

- The Co-curricular calendar is published at the beginning of each year which helps students to time their activity and involvement in self-learning.
- College timings are much wider than student working hours, giving students the time to refer and research, consult and learn.
- Time table is framed and provides for adequate leisure time to focus on self learning.
- Two electives in fourth year I Semester and three electives in fourth year II Semester gives ample flexibility to probe into advanced topics in the discipline concerned.
- Each Laboratory curriculum is augmented by one to three experiments beyond curriculum supplementing the syllabus and giving additional skills.
- Students are encouraged to utilize facilities to promote synthesis of knowledge by research while choosing topics for seminars, industry-oriented mini projects or Main project/Dissertation.
- The Programme centers introduce from time to time, innovative ways of combining Certification courses with the curriculums to give a professional touch to the learning process.
- College is created a digital class room as a remote center of IIT Bombay with facilities such as specialized internet 2mbps bandwidth to watch programmes through Aview software. Computers, LCD projector and sound system is provided in the digital to see special video classes from the web.
- Digital library access is given to all the students through wifi internet where they can read latest research papers from the IEEE, Elsevier, Science Direct, McGraw Hill and ACM in the college campus.
- Professional Society Events are conducted in the college through IEEE, ISTE, IETE, IEI and CSI to create a platform for students to discuss various technical topics and demonstrate, exhibit their projects.
- Hardware and software project exhibition is conducted yearly once in the college to encourage students to demonstrate their work to all the college students, faculty, invitees, press and media
- Group discussions and technical quiz actives are conducted regularly to make students curious about innovating things.
- New additional facilities are provided to the students to explore innovative things in the laboratories.

7.2.5 Generation of self-learning facilities, and availability of materials for learning beyond syllabus (5)

Institute Marks : 5.00

(Instruction: The institution needs to specify the facilities for self-learning / learning beyond syllabus.)

The institute patronizes self-learning environment and has invested in facility building to support and enhance teaching-learning process.

Self learning facilities available for both the staff and students alike are:

- The Institute Library, a vast repository of volumes and titles
- Department Library, a specialized repository of volumes and titles and projects.
- e-learning Tools
 - Digital Libraries (IEEE, ACM, NPTEL)
 - e-lessons by faculty on college portal
 - CDs, Video bank in the library
- Links to other institutions locally and across the country:
 - Organizing seminars / Technical and Hands-on workshops; taking part in them by students
 - Membership in students-chapter of professional bodies like IEEE, ISTE, IETE, CSI, SAE.
 - Availability of course material from IUCEE
 - Interaction with eminent academic personalities through Guest lectures.

- Interaction with industry experts through academic alliance events.
- o Organizing and take part in displays and road shows of industry oriented mini projects at the institute.
- o Taking part in Co-curricular activities, contests like X-kernal, Scientific Fore Step and activities of Entrepreneurship Development Cell.
- o Access to streaming videos from 'You Tube' and uploading the projects on to 'You Tube' for receiving open critique.
- o Accessibility to popular Free access journals and resources on line such as:

www.howstuffworks.com

www.eng-tips.com

www.sakshat.ac.in

www.ocw.mit.edu

The above facilities go on, not only to strengthen the teaching-learning process for the students but also generates- academic discipline, scientific attitude, innovativeness and inculcates the self-learning process, and availability of materials support learning beyond syllabus whose beneficiary are both the faculty and the students.

7.2.6 Career Guidance, Training, Placement, and Entrepreneurship Cell (5)

Institute Marks : 5.00

(Instruction: The institution may specify the facility and management to facilitate career guidance including counselling for higher studies, industry interaction for training/internship/placement, Entrepreneurship cell and incubation facility and impact of such systems)

GRIET has set up separate cells as per guidelines prescribed, to facilitate and manage career guidance, counseling, industry interaction, entrepreneurship development, incubation facility.

Career and Counseling, Training and Placement and the Entrepreneurship Development cell are under the charge of a senior faculty with industrial experience.

Career Guidance and Counseling Cell (CG &C):

The Dean of Career Guidance and Counseling monitors the cell. The cell provides, Career Guidance and Counseling to students as per requirement.

- The Dean CG &C is assisted by 32 Counselors (8 Branches x 4 Batches each) who are faculty from respective Programme/Branch/Discipline.
- The cell reaches out to the students both professionally and personally.
- All eligible and employable graduates are transformed into competent employees for prospective industrial houses both in India and overseas with the help of CG&C
- In its service CG&C apart from career guidance, it also organizes seminars on career planning, soft skills development and campus recruitments and also interacts proactively with Industry HRD cells to facilitate campus placements.
- The Dean CG&C and his counselors are accessible to the students and it makes adequate arrangements for the guidance of students during admissions. They are counseled on choice of careers, and show empathy to their state of confusion and anxiety. They are also given psychological and social counseling apart from academic and career counseling.
- CG&C share a common facility created with the training and placement cell. Facilities available includes: One air conditioned Seminar hall with seating capacity for 250 persons with Wi-Fi and LCD projectors and screens, stage lighting and audio equipment. This is used for seminars on soft skills and technical subjects and for free placement seminars by companies.
- Air conditioned cabins are available for conducting interviews and one to one discussions.
- There are 19 discussion rooms provide the necessary accommodation for any information exchange.
- Dean Career Guidance and Counseling also assists the Training and Placement cell on the vital aspect of higher education.
- Books and software are available in Library for GATE/GRE / TOEFL / IELTS / GMAT/CAT preparation.
- GATE preparation books written by GRIET staff are also made available.
- Awareness lectures are given by Dean and other senior faculty from time to time.
- Alumni studying at IIMs, IITs whenever they visit GRIET are made to interact with students.
- Consultants of Higher Education and Universities of repute are invited to interact with students for clarification on higher studies, admission procedures, requirements and immigration rules.

Impact:

Higher studies information (MBA, M. Tech and MS)

For higher studies both in India and abroad for last three years record is as follows:

Batch	Higher Studies Students in Abroad	Higher Studies Students In India	Total
2015	81	78	159
2014	73	61	134
2013	90	104	194

Training & Placements Cell:

Training and placements is one of the vital departments at GRIET. The cell is handled by a senior faculty with rich experience who is also Dean Training and Placement. He is also associated with Dean CG & C. The broad areas handled by the cell are:

1. Training on Soft Skills and personality development right from first year so as to prepare students for careers in industry.
2. It coordinates with industry for campus training, internship and for suitable placements.

- Arranging personality development sessions both by experts from college, and from industry consultants like Time, Globe Arena, Career Path etc, appropriate to the year of study.
 - In the first year B.Tech. the focus is on goal setting and value systems
 - In the second year B.Tech. Time Management, Communication and Analytical Skills.
 - In the pre final and final years B.Tech. Group discussions, Interview skills, mock Interviews, H.R. & Technical Aptitude tests are conducted.
- College organize a unique Programme called 'Parampara', which is an interactive session between students in final year who are placed with pre-final students and also with the alumni who are about to face placement interviews.
- Periodic motivational lectures from industry experts.
- Periodic psychometric tests to assess the students.
- Arrange internships with industry and R&D.
- Arrange noted Consultants of Higher Education and Universities of repute- interaction sessions to clarify on higher studies, admission procedures, requirements and immigration rules.

Facilities

GRIET Training and Placement section is staffed well with qualified personal as below.

- GRIET Training and Placement section is staffed well with qualified personal as below.

• Dean Training and Placements	:1
• Dean Career Guidance and Counseling	:1
• Training and Placement Officer	:1
• Placement Coordinators	:2
• Placement Assistant	:1

- One Air conditioned Conference Hall is available with capacity of 250 students at a time. This is being used for giving training to the students of all academic years for soft skills development and technical subjects. This is also being used for the Pre-placement Talk by companies during Campus Placements.
- Air-conditioned rooms are available to simultaneously conduct a number of panels of Group Discussions (GDs), with each panel accommodating up to about 12 students.
- Air-conditioned cabins are available to simultaneously conduct interviews for a large number of students.
- Rooms are available to simultaneously conduct written test for a large number of students during Campus Placements.
- Online test can be conducted for about 200 students at a time.
- E-mail groups are formed every year for each batch of final year students for effective communication with the final year and passed out students.

Impact:

Batch	Placements
2011-15	61
2010-14	79
2009-13	69

Entrepreneurship Development Cell and Incubation Facility:

Entrepreneurship Development Cell (EDC) is inaugurated on 5th October 2005 at Gokaraju Rangaraju Institute of Engineering and Technology with the aim of

- Developing entrepreneurial awareness and ability in students
- Creating a forum for potential entrepreneurs
- Developing an interface between academy and industry

The following programs are organized to develop entrepreneurship skills in students and also to familiarize them with various procedures required in converting an idea into a successful business.

It is handled by EC &IF coordinator who is senior faculty with experience.

Entrepreneurship Activities:

2015-16	1."Outstanding Engineering colleges of Excellence" by CSR, July 2015 2. AAA+ by CAREERS 360, April 2015 3. GRIET in collaboration with IBM included Business Analytics& Big Data in Under Graduate (B. Tech) curriculum	1.For the Improvement of student project and its quality 2.For the Improvement of the faculty reasearch work 3.For the Improvement of students for placement
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	<p>5. Recipient of TEQIP PHASE-II under WBA</p> <p>6. Received Best Principal, Teacher, Student awards in 2014 by ISTE</p> <p>7. Research funding from Govt. agencies like DST, DRDO, AICTE, UGC</p>	<p>5. Provides the industry relevant skills on the emerging technology for better understanding of the capability areas and employability</p>
2014-15	<p>1. Organized a seminar on importance of entrepreneurship on 27-8-2014 and Assistant Director MSME was chief guest</p> <p>2. Conducted "idea tree" on 19-2-2015</p> <p>3. Conducted an FDP for GRIET Staff from 26-3-2015 to 8-4-2015 in collaboration with Centre for Entrepreneurship Development GRIET initiated the culture of incubation centres in association with Govt. of India and private industries.</p> <p>4. GRIET established incubation centre with Micro Small Medium Enterprise (MSME)</p> <p>5. GRIET received grant worth Rs. 52 lakhs funding for 8 projects from MSME (Micro Small Medium Enterprise) a central government organization for encouraging students to become entrepreneurs</p>	<p>1. motivated the students</p> <p>2. selected 2 ideas to be presented for Financial assistance to MSME</p> <p>3. thirty faculty participated in this program</p> <p>4. encouraging students to become entrepreneurs</p>
2013-14	<p>1. Organized a guest lecture by eminent and entrepreneur Mr. Srikanth of sunfield energy pvt.Ltd on 23.10.2013</p> <p>2. An interactive session with CEO of Fortune Automobiles Mr. Nirav Modi on 22.11.2013</p> <p>3. Conducted competition on exhibiting innovative products on 22.01.2014</p>	<p>1. Explained entrepreneur opportunities to students</p> <p>2. Motivation to students</p> <p>3. Students participated with their ideas received the prizes and appreciation certificates</p>

7.2.7 Co-curricular and Extra-curricular Activities (5)

Institute Marks : 5.00

(Instruction: The institution may specify the Co-curricular and extra-curricular activities, e.g., NCC/NSS, cultural activities, etc)

GRIET lays stress on beyond academic activities through structured Co- and Extra-curricular activities integrated and spread over the entire academic year, as they have profound impact in shaping up the overall personality of a student.

- All activities are preplanned and included in the college diary.
- All activities are planned and executed by the student bodies with assistance from faculty when needed.
- Pragnya** (the Tech festival) and **Pulse** (the Cultural festival) are the major annual attractions.

Co-curricular activities:

a) Associations:

- Computer Society of India
- IEEE, IETE
- Society for Automobile Engineers
- Indian Society for Technical Education (ISTE)
- Free Software Foundation
- Indian Concrete Institute
- Robotics Club
- Gaming Club
- Faculty Club
- GRIET is a life member of Institution of Engineers

GRIET – IEEE student branch is declared as III best exemplary branch in 2012-13 in R10 (Asia Pacific Region 10)

b) Annual Events:

- **Optimism:** This event focuses on literary activities such as debates, essay writing, elocution, crosswords, treasure hunts etc. such that skills required for sharpening one's intellect and personality are sharpened and honed.
- **Quizzicals:** This event aims to provide a platform to concentrate on facts and figures with spontaneity in this competitive world through quiz programmes.
- **x-Kernel:** This event conducts periodic contests mainly in the software area.
- **Scientific Forestep:** Skills in hardware are put to constant test through this event.
- **i-TRIX and e-TRIX:** These are popular annual events on Robotics including both hardware and software components and students from across the country competes.
- **Pragnya:** An annual technical fest is organized during September-October.

Extra-Curricular Activities:

a) Games:

The Institute has a college team in all major games and sports. The teams participate in inter-university and state level tournaments and have won the prizes. GRIET has been regularly winning the local tournaments.

b) Cultural Activities:

The College has been conducting annual cultural competitions every year through the following bodies.

- **Rhythms:** Rhythms is an annual event wherein the students showcase their talents in music and dance. Competitive spirit is infused by way of awards and prizes for best performance. The event has created a Rock Band which has set a trend.
- **Spices:** This is an annual event where the culinary skills of students are tested annually – it is unique and the most popular contest in GRIET
- **Pulse:** A cultural festival held during the months of Jan-Mar every year to showcase the talents in dance, music and to witness the performances of famous Indian artists.

c) NSS Activities:

The National Service Scheme Unit of GRIET is actively involved in making students to be socially conscious by promoting involvement in the following activities:

- Involvement with **NIRMAN**, a home for mentally challenged students at Chintal, Hyderabad. Every year time and assistance is spared to make a one day memorable for the inmates. On 15 Aug 2011, students of Mechanical Engineering designed & Manufactured a paper plate making machine as part of the final year project and donated the same to **NIRMAN** to make them self reliant. A true example of Engineers Social Responsibility vindicating the GRIET Mission statement.
- Associated with '**Sahaya**', a home for destitute children at Miyapur, Hyderabad.
- **Blood Donation Camp:** GRIET is honoured by Governor, AP in June 2011 for being the highest donor in college category by Red Cross Society. The College has received this award four times in the last five years.
- **Green Campus awareness:** Waste disposal, power and water optimization, plantations etc.
- In the recently held great power race, clean energy campus competitions in India, China & US in July-Oct 2010, GRIET is adjudged the second best.
- As part of WOW (Wealth from Waste), an effort from ITC, GRIET was appreciated as one of the top contributors in saving Trees. GRIET was felicitated on National Recycling Day on 01 July 11.
- Relief activities during floods in AP in October 2009
- **Reudo:** An Environmental fest is organized annually.

d) Other activities:

College promotes literary expressions through **REFLECTIONS** the college annual magazine, and **GEM** (GRIET E Magazine) a monthly letter.

Other Important Annual Functions are as follows:

- **Annual Day:** Celebrated on 26 January of each year
- **Graduation Day:** Second Saturday in July of each year. A unique celebration similar to the convocation ceremony in University. Graduate students are presented with provisional certificates in traditional graduation robes.
- **Alumni Day:** 15 Aug of each year Alumni meet at the college
- **Parents Interaction Day:** Parents are welcome to interact on every second Saturday
- **Women's Day**
- **Blood Donation Day**
- **Teachers Day, Engineers Day** are also celebrated.

7.2.8 Games and Sports facilities, and qualified sports instructors (5)

Institute Marks : 5.00

(Instruction: The institution may specify the facilities available and their usage in brief)

GRIET understands that real education should concentrate on activities to develop body, mind and soul. There is adequate emphasis and facilities for physical activities. The Director of Physical Education supervises the students, oversees the management of equipment and the facility apart from interacting with other external sporting bodies for involving his protégé's in sports competitions. Sports and games is an essential extra - curricular activity to maintain competitive spirit, discipline and team spirit. Physical education also encourages the talented sports persons of the institute to excel in the all India inter-university competitions. Those who come out with good performance are given suitable incentives.

The Director of Physical Education as the chief organizer of the sports events plans, conducts and supervises them throughout the year.

OUTDOOR GAMES				
S. No.	Name of the Event	Facility available	Management	Usage of Students
1	Basket Ball	38 x 18 mtrs	Physical Director	60
2	Volley Ball	28 x 20 mtrs		120
3	Foot Ball	110 x 70 mtrs		80
4	Hockey	100 x 50 mtrs		20
5	Throw Ball	20 x 15 mtrs		150
6	Tennikoit	12 x 9.5 mtrs		75
7	Shuttle Badminton	13.5 x 6 mtrs		50
8	Ball Badminton	24 x 12 mtrs		30
9	Atheletic Track	200 mtrs		20
10	Cricket	Hard Pitch		200
INDOOR GAMES				
S.No.	Name of the Event	Facility available	Management	Usage of Students
1	TT	5 International Standard tables	Physical Director	80
2	Carroms	5 Game Boards		50
3	Chess	10 Game Boards		50
4	Gymnasium	Assorted Fitness Equipment worth Rs.15 lakhs		40
5	Billiards	1 Table with accessories		30

All the games and sports as mentioned above are extensively played every working day also at times holidays are also utilized for play in the spirit of competition.

Listed below are the categories and events that the students have participated in National/International and won awards in the last three academic years.

National and International Achievements:

1. G. Rohit of ECE (2006-10 Batch) is a Chess Player and

- Participated in World Junior Chess Championship
- Runner in Asian Junior Chess Championship
- Participated four times in All India Inter University Championship
- Winners in JNTU Inter University Championship

2. K. Sreekanth of Civil Engineering (2009-13 Batch) is a Cricket Player and

- Participated under 25 Andhra 'A' Team
- Participated under 22 Andhra Team
- Participated in South Zone Inter University Championship
- Runners Vizzy Trophy
- Participated in Ranji Trophy T20
- Selected for BCCI Specialist Academy Chennai

Others:

- Moulikaram of I B Tech CSE in Tennis, P Tejasri of I B Tech CE Ball Badminton.
- Mr L Rakesh lal of IV B Tech (EEE) won the "TCS Fit4life-Campus Challenge" a 5KM run organized by TCS on 08 Feb 15.
- Ms. Moulika Ram of II B Tech (CSE) won the 26 Rank in ITF and Runner of South Zone Inter University.
- Mr N Abhishek, 14245A0423, II B Tech (ECE) won the Gold Medal in Hyderabad District Archery Championship, Bronze Medal in 34th Sub junior National Archery Championship at Haryana, and through glory to the state by imagining , Bronze Medal in 35th National Games at Kerala. Please give them a big hand to encourage them.
- Swimming: Mr C M Sai Prasad participated in All Inter University.
- Volley Ball: Mr Varun of IV B Tech (EEE) participated in South Zone Inter University
- Circket: Mr Vikram II B Tech (CE) and Circket Mr Rohit B II B Tech (ECE) participated in South Zone Inter University
- Basket Ball: Ms Mrunalini II B Tech participated in South Zone Inter University
- Ball Badminton: Ms. S Soujanya participated in South Zone Inter University
- Kabadi: Ms Prameela B Tech (Mech) participated in South Zone Inter University
- Food Ball: Mr V Kalyan III B Tech (CSE) and Mr Varun Giri IV B Tech (BT) participated in South Zone Inter University
- Shuttle Badminton: Ms. P Teja girls single runners in JNTUH Inter college Competitions

Other Achievements:

Session	Category Name	Event Name	Organizer	Results
2014-15	Cricket	Vignan University Tournament	Vignan University	Winners
	Cricket	MVSR	MVSR	Semis
	Cricket	Aurora	Aurora	Semis
	Cricket	JNTU Zonals	JNTU	Leagues
	Cricket	JNIT	JNIT	Quarters
	Cricket	Telangana	Telangana	Semis
	Cricket	JNTUH tournament	JNTUH	Runners
	Cricket	MGIT Tournament	MGIT	Runners
	Basket Ball	MRCET Tournament	MRCET	Runners
	Basket Ball	CMRIC Tournament	CMRIC	Runners
	Basket Ball	VNR SLASH Tournament	VNR	Runners
	Basket Ball	MVSR Tournament	MVSR	Winners
	Basket Ball	HITAM Tournament	HITAM	Winners
	Basket Ball	BITS Hyderabad All India Tournament	BITS	Runners
2013-14	Football	SNIST tournament	SNIST	Runners
	Football	MGIT Tournament	MGIT	Runners
	Football	CVSR Tournament	CVSR	Runners
	Basket Ball	Sreenidhi Tournament	Sreenidhi	Runners
	Basket Ball	NBA JAM	NBA	Runners
	Basket Ball	Osmania University Tournament	OU	Winners
	Basket Ball	All India BITS PILANI	BITS PILANI	Runners
	Basket Ball	HITAM College Tournament	HITAM College	Runners
	Basket Ball	CMR College Tournament	CMR College	Runners
	Cricket	MGIT Tournament	MGIT	Runners
	Table Tennis (Doubles)	SNIST Fest	SNIST	Runners
	Table Tennis (Singles)	SNIST Fest	SNIST	Runners
2012-13	Cricket	JNTU Tournament	JNTUH	Winners
	Volley Ball	BIE Tournament	Bharat Institute of Engineering	Winners
	Badminton (Singles)	CBIT Tournament	CBIT	Winners
	Cricket	Nexus Tournament	-	Runners
	Shuttle	JNTU Zonals	JNTUH	Runners
	Table Tennis (Singles)	JNTU Tournament	JNTUH	Runners
	Basket Ball	CMR Tournament	CMR College	Runners
2011-12	Volley Ball	Sreenidhi Tournament	Sreenidhi Institute of Engineering and Technology	Runners
	Shuttle (Double)	JNTUH zone A Intercollegiate tournament	JNTUH	Runners
	Cricket	Intercollegiate Tournament	Bandari Srinivas Engineering Institute.	Runners
	Volley Ball	TRR Tournament	TRR College	Third Place
	Volley Ball	VNRTournament	VNRVIJET	Third Place
	Volley Ball	JNTU Zonals	JNTUH	Third Place
Cricket	DVR Tournament	DVR Institute	Third Place	

8 Governance, Institutional Support and Financial Resources (75)**Total Marks : 75.00****8.1 Campus Infrastructure and Facility (10)****Total Marks : 10.00**

8.1.1 Maintenance of academic infrastructure and facilities (4)

Institute Marks : 4.00

(Instruction: Specify distinct features)

- Immaculately maintained campus with aesthetic Green coverage by Housekeeping and gardening personnel.
- All rooms have ample and large windows for day light and ventilation, Electrical illumination and electric fans as backup.
- Furnished Class rooms and labs with Desks and chairs, experiment tables; Lecture halls have White board, Over-head Projectors and LCD projectors-on demand, Wi-Fi internet. Maintained by qualified and trained Technical support staff.
- Laboratories are well equipped for the contemporary experiments as well as for projects, maintained by Laboratory Technicians and support staff.
- The campus has a fiber-optic cable backbone between the buildings and has Wi-Fi internet connectivity manned by qualified technical staff.
- Well-equipped workshops.
- Library Facility available at both Central and Department levels. Central library is maintained by the Librarian and support staff.
- Four seminar halls with seating capacity of 250 persons and a Main seminar hall with seating capacity for 450 persons, maintained by the House keeping and Trade technicians.
- Fully furnished and equipped Department Seminar Halls with LCD TV/Monitor, Projection screen, Lectern, Audio-Video equipment, Power backup and Air-conditioners, maintained by the House keeping and Trade technicians.
- Fully equipped and manned Career Guidance, Training and Placement cell.
- Open air Amphitheater and stage with seating capacity for 2000 persons.
- Adequate Toilet facilities are maintained by housekeeping.
- Reverse Osmosis water treatment Plant for purified drinking water. The raw water is brought by water tankers on a need basis for drinking and general purposes.

- ample parking space on campus, coordinated by the Security wing.
- Oriental Bank of Commerce, Bachupally, GRIET campus- a nationalized bank with ATM facility on campus is maintained by branch personnel.
- Equipped Sports facilities for both Outdoor and Indoor games supervised by the Physical Director and manned by support staff.
- Hygienic Food Service by a Canteen, Kiosks and other catering facilities maintained by contractors.
- Institute owns a Fleet of Buses and Vans to cater to transportation needs of staff and students. They are operated and maintained by a team of experienced drivers, cleaners overseen by a Supervisor-Transport department and his support staff. The bus service covers all the corners of the city as per student demand.
- Stationery and Reprographic Centre maintained by contractor.
- Stand by Generators for uninterrupted power supply apart from UPS at vital nodes maintained by Support staff.
- The Institute contributes to reduction in Carbon foot print by adopting Green initiative -Solar Power generation with an installed capacity of 110 kW, the excess power being transferred to the State Power grid.
- Established Infrastructure Maintenance team of Housekeeping, Mechanical, Electrical, Plumbing, civil trades.
- Round-the-clock Security Team and Surveillance devices, maintained by Contractor.
- Dedicated Health Centre with Doctor and a Paramedic.

8.1.2 Hostel (boys and girls), transportation facility, and canteen (2)

Institute Marks : 2.00

Transport facility:

College owns an exclusive fleet of 32 Light and Heavy vehicles for students and staff, ferrying them to and from notified stops on prominent routes in the surrounding areas and Special routes running across the city connecting borders of the city limits including maintenance vehicles.

Category	Passenger Buses	Mini Buses	Minivan /Trucks/Trollies
Student	19	7	-
Staff	1	1	-
Maintenance	-	-	Mini trucks-2; Water Tanker -1; Tractor Trolley-1

The routes and destinations are designed to transport students residing along an axis based on their density. The drivers are whetted for their experience and driving skills required to drive Education Institution vehicles and the support staff are trained to ensure safe and prompt shuttle services keeping the schedules. All Vehicles used are complying with the safety norms laid down by the Road Transport Authority for educational institution passenger vehicles. The Institute Transport committee periodically updates the staff on safety and related issues.

Canteen Facility:

Meeting the shift timings of Instructions for each batch of students the diet component is kept in mind to facilitate them with healthy food made by approved contractors. A spacious built-up facility is provided specifically for dining and refreshments for both staff and students. The Boys and girls section is demarcated so is the staff section to provide relaxed environment while consuming food. Hygiene is constantly monitored via feed back to the Canteen committee. The students and staff have a variety of food available both 'a la carte' and 'table dhôte' or platter. They also have the choice of specialist kiosks.

Additionally the institute runs the "Annarasadam Scheme", a social initiative to promote "sharing/ giving food" concept amongst GRIET members. The scheme started with providing 'free lunch' for 5 persons and has grown with voluntary contributions from staff members to provide free meals to up to 200 persons by noon. Volunteers from both students and staff apart from 2 cooks from support staff prepare homely meals and also help in self-service.

8.1.3 Electricity, power backup, telecom facility, drinking water, and security (4)

Institute Marks : 4.00

(Instruction: Specify the details of installed capacity, quality, availability, etc.)

a) Electricity

Description	Qty
Transformers	2

b) Power Backup

Description	Qty
Diesel Generator Sets: 250 KVA -1 No.	2
160 KVA -1 No.	
UPS 10 KVA	1
UPS 5KVA	6
Solar power systems 10 KVA	1
Solar power systems 100 KVA	1

c) Telecom Facility

Description	Qty
Tata Indicom (Land lines)	10
Mobiles	10

Description	Qty
R.O. Plant with a capacity of 3000 litres per hour	1
Tanker (12 KL) to convey	1
Mineral Water coolers with purifiers	30

e) Security

Description	Total
Security staff	35
Supervisors	3

8.2 Organisation, Governance, and Transparency (10)

Total Marks : 10.00

8.2.1 Governing body, administrative setup, and functions of various bodies (2)

Institute Marks : 2.00

(Instruction: 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.)

Committee	Chair	Members			
Governing Body	Dr. Gokaraju Ganga Raju	Management	Sri G.V.K. Ranga Raju	Vice-President	<ol style="list-style-type: none"> To set and monitor the organization's mission, purpose, direction, priorities and strategies within the boundaries of the organizational policies and bye-laws. To approve the institution of new programmes of study, leading to the award of Degrees and or Diplomas based on the recommendations of the Academic Council. To develop policies that allows the organization to serve well all its stakeholders. To monitor the organization's programmes and services by influencing decisions and finances. To institute scholarships, fellowships, studentships, medals, prizes and certificates. To monitor development, the direction and growth of the institute and issue directions and recommendations. To perform such other functions and institute committees, as may be necessary and deemed fit for the proper development and fulfill the objectives of the institute. To approve appointments made by the Appointment/Selection Committee. <p>Committee Scheduled Meetings: Once in Three months</p>
			Sri G. Rama Raju	Member	
			Smt A. Vani	Member	
			Prof P S Raju	Member	
		Teachers of the Institute	Dr. S. V. Jayaram Kumar	Member	
			Dr. S. Rama Murthy	Member	
		Educationist/Industrialist	Prof. V S Raju	Member	
			Sri V Rajanna	Member	
		AICTE Nominee	Mr. S. K. Jena	Member	
		UGC Nominee	Dr. S. Devaneshan	Member	
		State Government Nominee	Dr. S. Narsing Rao	Member	
		University Nominee	Dr. A. Damodaram	Member	
Principal of Institute	Dr. Jandhyala N Murthy	Member-Secretary			
Academic Council	Principal	<ol style="list-style-type: none"> Heads of Departments. Four faculty members other than the Heads of Departments representing the various categories (by rotation and seniority). Four persons including educationalists of repute, one person from the industry and engineering related to the activities of the institute, who are not in the service of the institute and nominated by the Governing Body. Three nominees of the parent university A faculty member nominated by the Principal of the institute to act as Member Secretary. 		<ol style="list-style-type: none"> To exercise general supervision over the academic work of the institute, to give directions regarding method(s) of instruction, evaluation, research and improvements in academic standards. To scrutinize and approve the proposals of the Board of Studies related to courses of study, academic regulations, curricula, syllabi, their objectives and outcomes and modifications, instructional and evaluation arrangements, methods, procedures etc. To make regulations regarding the admission of students to different programs of study. To recommend to the Governing Body the proposals of institution for new programs of study. To recommend to the Governing Body, institution of scholarships, studentships, fellowships, prizes and medals, and to frame regulations for the award of the same. To advise the Governing Body on suggestion(s) pertaining to academic affairs made by it. To perform such other functions as may be assigned by the Governing Body. <p>Committee Scheduled Meetings: Two time a year</p>	
		<ol style="list-style-type: none"> Programme Coordinators of the Department. All teaching faculty of each course/ specialization offered. Module coordinators. Two external experts in the course concerned and nominated by the Academic Council. One expert to be nominated by the Vice-chancellor from a panel of six recommended by Principal of the institute. Not more than two persons to be co-opted for their expert knowledge including those 			<ol style="list-style-type: none"> To prepare, frame and modify the syllabus for the various courses keeping in view the Programme objectives of the programme. Evaluates programme effectiveness and proposes continuous improvement. To suggest panel of names for appointment of examiners; and coordinate research, teaching, extension and other academic activities in the programme / institute.
		Board of	Chairman		

Studies	Board of Studies	<p>belonging to the concerned profession or industry.</p> <ol style="list-style-type: none"> 7. One post-graduate meritorious alumni nominated by the Principal. 8. The Chairman Board of Studies may with the approval of the Principal of the Institute co-opt: <ol style="list-style-type: none"> a. Experts from outside the institute whenever special courses of studies are to be formulated. b. Other members of the staff of the same faculty. 	<ol style="list-style-type: none"> 7. To suggest new methodologies for innovative teaching and evaluation techniques and tools. 5. To review implementation of institutional quality assurance in the department for improving programme. 6. Guiding in evolving POs and COs based on assessment. <p>Committee Scheduled Meetings: As and when necessary</p>
Finance Committee	Principal	<ol style="list-style-type: none"> 1. One person nominated by the Governing Body of the institute for a period of two years. 2. Two senior-most faculty member of the institute to be nominated in rotation by the principal for two years. 3. Administrative Officer (Finance). 	<ol style="list-style-type: none"> 1. To review the financial affairs of the Institute and report it to the Governing body. 2. To consider budget estimates relating to the grant received/receivable from funding agencies, and income from fees, etc. collected for the activities to undertake the scheme of autonomy; 3. To prepare Annual Budget of the institution and Audited accounts for all the incomes and expenditures. 4. To review the audit reports and making recommendations. 5. To contribute to the preparation of the draft budget and recommending their approval to the Governing Body. <p>Committees Scheduled Meetings: Once a Year</p>
Selection Committee	Chairman of Governing Body or his nominee	<ol style="list-style-type: none"> 1. Principal / Director of the institute. 2. Two nominees of the Vice Chancellor of the affiliating University. 3. Two subject experts 4. Head of the concerned programme of Professor Cadre. 	<ol style="list-style-type: none"> 1. To prepare a detailed list of vacant posts in all the programmes of the institute based on consultations with the Institute development committee, the HOD's of various programmes and guidelines from various agencies like UGC, AICTE, Parent University and the State Government. 2. To oversee notification, publication and scrutiny of the applications received before scheduling the tests, interviews and demo lectures. 3. To involve in the pro-active recruitment periodically of high quality faculty with exceptional qualifications from India or overseas. 4. To facilitate highly qualified personnel from both industry and R & D institutions as adjunct or visiting faculty for short durations to undertake teaching / research assignments. <p>Committee Scheduled Meetings: Two time a year</p>
Internal Quality Assurance Committee (IQAC)	Chairperson: Principal	<ol style="list-style-type: none"> 1. Senior Administrative Officer 2. Administrative Officer 3. Faculty Members from all branches -7 4. Management Member-1 5. Student Members- 2 6. External Members- 2 (Industry and University) 7. Senior Professor Coordinator -1 	<ol style="list-style-type: none"> 1. Development of quality benchmarks/parameters for various academic and administrative activities of the institution and carry out the gap analysis for GRIET. 2. Facilitating the creation of a learner-centric environment conducive to quality education and faculty maturation to adopt the required knowledge and technology for participatory teaching and learning process carrying out periodic check of course outcome attainment and action taken from each faculty and its mapping on to POs, PEOs. 3. Monitor the action taken by departments on feedback response from students, parents and other stakeholders on quality-related institutional processes. 4. Dissemination of information on various quality parameters of higher education. 5. Organization of inter and intra institutional workshops, seminars on quality related themes and promotion of quality circles. 6. Documentation of the various programmes/activities leading to quality improvement. 7. Acting as a nodal agency of the Institution for coordinating quality-related activities, including adoption and dissemination of best practices, in tune with the institution strategic plan and goals by various departments. 8. Development and maintenance of institutional database through MIS for the purpose of maintaining /enhancing the institutional quality. 9. Development of Quality Culture in the institution. 10. Preparation of the Annual Quality Assurance Report (AQAR) and submit to NAAC. <p>Committee Scheduled Meetings: Two times a year or as and when needed.</p>
			<ol style="list-style-type: none"> 1. Principle Planning Body 2. Monitoring of Institute performance by Top Down-Bottom Up approach. 3. Monitors the attainment of Mission and Vision of

Institutional Development Monitoring Committee (IDMC)	Principal-IDMC Coordinator	<ol style="list-style-type: none"> 1. Heads of all Departments/ Programme coordinators. 2. Two external members, 3. The administrative officer, 4. Two deans/senior Professors. 5. Student Representative from UG and PG programmes. 	<ol style="list-style-type: none"> 4. Evaluation of Departmental Mission and Vision, Programme specific POs and PEOs. 5. Taking suggestions from all stake holders and its subcommittees -Academic Affairs Committee, Departmental Development and Monitoring Committee, Class Coordinators Committee. 6. To provide the developmental and application of quality benchmarks/ parameters for the various academic and administrative activities of the institution. 7. To monitor promotion, implementation and continuous improvement of innovations in Curriculum, Co-curricular and Extra-curricular activities and facilities of the institution. 8. To advice and recommend the General Body and the academic council on any matter, that is considered necessary for the fulfillment of the objectives of the institute for consideration and approval. 9. To promote synergetic relationship with the industry and society, and promote Research and Consultancy. <p>Committee Scheduled Meetings: Once in three months.</p> <p>(A copy of sample is annexed)</p>
Academic Affairs Committee	Dean Academic Affairs	<ol style="list-style-type: none"> 1. Deans of the institute 2. HODs of all the programmes. 	<ol style="list-style-type: none"> 1. To monitor and review academic activities as per academic calendar. 2. To monitor programme adherence of course work as per framed time tables. 3. To monitor attendance and implement promotional policy based on attendance and credits. 4. To generate student data required for Student Information System (SIS). <p>Committee Scheduled Meetings: Once in three months or as and when needed</p>
Departmental Development and Monitoring Committee (DDMC)	Head of the Department	<ol style="list-style-type: none"> 1. All faculty are members- one among them will act as Secretary, 2. Members may be co-opted from other programmes, University, industry and key stake holders as per requirement 	<ol style="list-style-type: none"> 1. To formalize the departmental vision and mission. 2. Deliberates on the report of Programme Assessment Committee (PAC) and future issues. 3. To plan and monitor the growth of programmes of the department. 4. Develops and recommends new or revised PEOs 5. To ensure infrastructure, support facilities and activities to ensure for attainment of PEOs. <p>Committee Scheduled Meetings: Two times a semester or as and when needed.</p> <p>(A copy of sample is annexed)</p>
Programme Assessment Committee (PAC)	Programme Coordinator	<ol style="list-style-type: none"> 1. Module Coordinators 2. Faculty of a particular course 3. Class Coordinators 	<ol style="list-style-type: none"> 1. To monitor feed backs from stake holders and taking action thereafter on academic matters 2. To monitor assessment and attainment of COs, POs and PEOs. 3. Evaluate Programme effectiveness and propose necessary changes for continuous improvement. 4. Motivate faculty and students to attend workshops, developing projects, working models, paper publications and research. 5. Interacts with Students, faculties, Programme coordinator, Module coordinators, and external stake holders in facilitating PEOs. 6. The report is submitted to the Department Development & Monitoring Committee <p>Committee Scheduled Meetings: Once a semester or as and when needed.</p> <p>(A copy of sample is annexed)</p>
Class Coordinating Committee (CCC)	Respective Class Coordinator	<ol style="list-style-type: none"> 1. Faculty of a particular course 2. Student representatives. 	<ol style="list-style-type: none"> 1. To tap the suggestions of the students, to enhance teaching-learning process. 2. To monitor and improve the relations and shortfalls between academics and teaching environment. 3. Review of activities related to attainment of course outcomes <p>Committee Scheduled Meetings: Two times a semester or as and when needed.</p> <p>(A copy of sample is annexed)</p>
			<ol style="list-style-type: none"> 1. To encourage faculty from each programme to submit research projects for extra-mural funding. 2. To screen, modify and submit the projects to funding agencies.

Research committee	Dean R&D	1. Five Staff members with R &D /Industry experience nominated by the Principal of the institute	<ol style="list-style-type: none"> 3. To promote tie-up with industry and other reputed universities. 4. To monitor the progress of the sanctioned projects, consultancy, patents and tie-ups. 5. To initiate industry-institute interaction for promoting new projects. 6. To guide and counsel, conduct courses on Entrepreneurship. <p>Committee Scheduled Meetings: Two times a year or as and when needed.</p>
Institute Coordinators Committee (ICC)	Dean Student Affairs	1. Coordinators of Extra- curricular Groups, Student Clubs and Faculty In-charge for college diary and The Physical Director	<ol style="list-style-type: none"> 1. Prepare college diary for the academic year 2. Monitor the progress of events as per diary 3. Collect and act on feedback of extra-curricular and beyond curricular activities for overall development of students. <p>Committee Scheduled Meetings: Two times a year or as and when needed.</p>

8.2.2 Defined rules, procedures, recruitment, and promotional policies, etc (2)

Institute Marks : 2.00

(Instruction: List the published rules, policies, and procedures; year of publications; and state the extent of awareness among the employees/students. Also comment on its availability on Internet, etc.)

Policy:

The institution is constantly upgrading its quality of education and increasing the intake. To match changes in existing staff strength (both Teaching & Non-teaching), the human resources are constantly upgraded through fresh recruitments on biannual basis, also during emergencies/exigencies to meet the academic schedule. The institution recruits once in May / June and in Nov / Dec of the academic year.

Following acts and rules are adopted as guidelines for procedures, recruitments, promotional policies, code of conduct issued from time to time by the regulatory bodies:

- Rules for Affiliation by Jawaharlal Nehru Technological University Hyderabad 2011-12
- AICTE Norms
- UGC Norms for autonomous college 2012-2017
- Rules and Bye laws of Society

Recruitment Procedure:**Teaching Staff:**

Cadre Structure for Teaching Staff:

- (a) Director
- (b) Principal
- (c) Dean -Professor / Associate Professor
- (d) Professor / Associate Professor
- (e) Assistant Professors / Lecturer (Selection Grade)
- (f) Senior Lecturer / Senior Librarian
- (g) Lecturer / Librarian / Director of Physical Education
- (h) Teaching Assistants

Qualifications:

Faculty has been recruited based on the qualifications prescribed by the AICTE from time to time. Additionally JNTUH-FET, UGC-CSIR NET, PhD, and Post graduates with Industry Experience are preferred.

For the top administrative position of the Principal, apart from the guidelines given by the AICTE and JNTUH, administrative experience and ratification by the University is taken into consideration.

Mode of Selection of Teaching Staff:

Direct recruitment to all cadres is based strictly on merit. Invariably in almost all cases, the following procedure is followed:

- (a) Advertisements are issued in leading newspapers.
- (b) Applications are scrutinized on the fourth day after the last day for receipt of application.
- (c) A Selection Committee is constituted as per Affiliating University and AICTE norms.
- (d) Call letters for interviews are sent to eligible candidates, specifying place, date and time of interview.
- (e) Selection Committee decides and recommends the candidates.
- (f) Letters of appointment are issued to selected candidates.

Sometimes depending on emergency / exigency of the situation, adhoc appointments are made on contract basis for specified periods.

Non-Teaching Staff:

Cadre Structure for Non-Teaching Staff:

(a) Office

- Administrative Officer
- Office Superintendent
- Senior Assistant
- Junior Assistant
- Record Assistant/ Data Entry Operator
- Attender

(b) Labs (other than computer Labs)

- Lab Assistant
- Lab Technician (Diploma)
- Lab Attender (SSC/Inter/ITI)

(c) Computer Labs

- System Administrator
- Programmer
- Lab Assistant
- Lab Technician

Qualifications:

Non-Teaching Staff has been recruited based on the guidelines prescribed by state government.

Mode of Selection for Non – Teaching Staff:

All positions are advertised in the news papers or notified in the local notice boards. After scrutiny of applications received, a short listing is made by the GRES Secretary / Principal. Interview call letters are sent to eligible candidates to appear for a trade test and subsequent personal interview. The selection committee consists of some or all of the following:

- (a) President / nominee of President of the society
- (b) Principal
- (c) Administrative Head
- (d) HOD of concerned department

- All appointments (Teaching and Non-teaching staff) made after selection, are forwarded to the Chairman for approval and the governing body is notified.
- Management is a single term, used to collectively represent the society through resident of GRES also known as Chief Executive Officer (CEO), Vice President also known as Chief Operations Officer (COO).

Promotion Policy:**Teaching Staff:**

- Career Advancement Scheme implemented strictly in accordance with AICTE Rules.
- Higher Posts such as Professor and Associate Professor are offered through selection procedure.

Non-Teaching Staff:

- Time Bound promotions given to Non-Teaching Staff.
- Promotion to higher post through selection procedure.

Awareness:

- The administrative rules and regulations covering all cadres of staff employed also all information relating to roles, powers and administration is mentioned with clarity in the Institutes Administrative Manual/ GRIET Manual.
- The rules and regulations cover general administration, recruitment of staff, service conditions, duties, promotion policies, increments, awards and disciplinary actions etc.
- Syllabus books containing current regulation and rules, Programme and course related information are made available for all students and staff, apart from its availability on the institute Web site www.griet.ac.in.
- Awareness of staff recruitment is made utilizing Newspaper and electronic media and widely broadcasted to attract fresh talents and skills.
- At the time of joining and through periodic departmental meetings and notices, awareness of rules and procedures is being maintained.
- The institute website publishes information on fresh vacancies and appointments for new posts.
- The 'College Diary', gives the academic calendar and all activities (circular and beyond), and the same information is accessible on the institute web site.

8.2.3 Decentralisation in working including delegation of financial power and grievance redressal system (3)

Institute Marks : 3.00

(Instruction: List the names of the faculty members who are administrators/decision makers for various responsibilities. Specify the mechanism and composition of grievance redressal system, including faculty association, staff-union, if any.)

The management of the institute consists of a Governing Body with a panel of members as per norms of Society (GRES), nominees from industry, regulatory bodies such as UGC, AICTE, Affiliating University and the State Government.

I. Decentralization in working:**(i) Administration**

- The Principal of the college is the head of the institution providing the required leadership to the institution and its system. The principal ensures that all provision of the university bye-laws, statutes and the regulations are observed. He convenes the meetings of the Advisory councils, the Academic council, Board of Studies, Finance committee, Institutional Development and Monitoring Committee, Selection Committee. He also oversees admission of students, recruitment of faculty, curricular co-curricular and extra-curricular activities, student feedback, internal and external assessments, financial implications, course contents.
- B.Tech I Year is monitored by Vice-Principal (I Year) while the B.Tech II, III and IV Year and PG Programmes are monitored by the respective Head of Departments.
- The faculty are actively engaged and involved in decision making process.
- Periodic meetings of HODs of all of the departments and also the intra-departmental meetings, convey and implement decisions taken by the committees and endorsed by management. Senior faculty members are represented in all committees by rotation to enhance administrative experience of all staff. This will help to refine and run the system of administration to continuously sustain, renew and enhance quality of the education by the institution.
- The Senior Administrative Officer oversees the non-academic aspects of Management of the institutes support systems including HR and is assisted by the Administrative Officer and Office Assistants who look after correspondence, admissions, HR, scholarships etc.
- The Finance aspects are looked after by the Finance Officer and are assisted by the Accountant and Deputy Accountant.

(ii) Examinations

- All the examination matters are dealt by Dean of Examinations (DOE) assisted the Controller of Examinations (CE) and by five Assistant Controllers of Examination (ACEs). The duties are delegated to the ACEs to assist the DOE in smooth functioning of both conduct and evaluation of examinations, publishing of result and maintaining records.

(iii) Departments

- HODs through their departmental committees and coordinators, administer each department's activity.
- Various annual activities, professional bodies and clubs are organized through their respective coordinators. The activities are grouped as given below:

(a) Academic Activities

S.No	Academic Activity
1	Ist Year B.Tech (All Branches)
2	M.Tech Programme
3	B.Tech (CCC)
4	TASK
5	EDP Cell
6	Technology Cell
7	College Diary
8	College Web Page
9	GRIP
10	Faculty Club
11	Women Development Cell
12	FSW
13	GRIET Alumni Association
14	Gaming Club
15	Robotic Club

(b) Co-Curricular & Extra-Curricular Activities

S No.	Activity
1	Annual Day
2	Graduation Day
3	NSS
4	Pragnya
5	Pulse
6	Quizzicals
7	Reflections
8	Rhythms
9	Scientific Forestep
10	Souvenir
11	Spices
12	Spirals
13	Sports & Games
14	x-Kernel

(c) Other Committees

S No	Committee
1	Canteen
2	Editorial
3	Library
4	Public Relations
5	Time Table
6	Transport
7	e-Resources

(d) Professional Bodies

S No.	Professional Bodies
1	CSI
2	IEEE
3	ISTE
4	SAE
5	SME
6	ICI
7	IEI
8	IETE
9	HMA
10	AIMS
11	TIE

12	BMSI
13	CII
14	CREAM

II. Delegation of Financial Power

(i) Director / Principal

Director / Principal is delegated with financial powers up to a maximum of Rs. 200,000/- for purchase and unplanned up to Rs. 50,000/-

- To authorize purchase of consumables for laboratories over and above the powers of the Head of the Departments.
- To permit reimbursement of traveling and other expenses for official purposes within the permitted limit to be decided by the CEO.
- To entertain guests.
- To sponsor faculty / staff for any academic and co-curricular activities as per norms.
- To authorize any other expenses he may deem essential.

The Principal may in case of any contingency obtain oral permission from the CEO, if the expenditure to be incurred exceeds his powers and get ratified by the CEO along with required receipts.

(ii) Heads of Departments:

The HODs are delegated with powers up to Rs.25,000/- for sanctioned work and Rs.10,000/- for unplanned work

- To make urgent consumable purchases for Lab.
- To meet small non-recurring expenses.
- To incur any other expense deemed necessary.

Utilization of financial powers for each of the assessment years:

Delegation of Financial Powers

S.No	Account Head	Delegated Amount	Utilization			
			CFY	CFYm1	CFYm2	CFYm3
1	Director /Principal	₹. 2,00,000	4,44,925	95,429	Nil	35,000
2	Head of Department / Programme	₹. 25,000	*			

(*to be filled in from HODs accounts)

III. Grievance Redressal Cell

All grievances of staff and students are to be redressed expeditiously, and each member is a key stakeholder of the organization. Any grievance reported verbally or written will be appropriately dealt with by the concerned Head of the Department. However, the aggrieved, if so desires or feels that his/her grievance is not redressed satisfactorily, can approach the Grievance Redressal Cell for Redressal. The composition of Cell is as follows:

Chairman

- Vice President, Governing Body

Members

- Director

- Dean Student Affairs
- Dean Faculty Development

- Dean Discipline

The Grievance Redressal cell delegates to three other sub committees to deal with specific complaints, which are described as follows:

(i) Discipline Committee

The main role of discipline cell is to address the complaints from Student and Staff.

Self-discipline is primarily desirable, and all members in the institutions environment are expected to adhere to rules and regulations in an ideal situation. Any aberrations in this regard are to be referred to the Discipline Committee, who should dispose of the case expeditiously. All discipline matters of students and matters related to Teaching and non-Teaching staff are to be referred to Discipline Committee, consisting of:

Chairman

- Dean Discipline

Members

- Dean Student Affairs
- Physical Director
- Two faculty Members nominated by the Principal

Co-opted

- HOD of concerned member staff/student
- Student member/Non-teaching staff member

(ii) Anti-ragging Committee

Ragging involves an act by senior students in baiting or bullying new students. Though a Universal phenomena, it often takes a malignant form wherein the newcomers may be subjected to psychological or physical discomfort or harassment.

To prevent and deter such incidents in Higher Educational Institutions, the Government of India has taken serious view on the cases of ragging. The other effective steps taken by the Government include notification of anti-ragging regulations by regulatory authorities viz. All Indian Council for Technical Education (AICTE) and University Grants Commission (UGC) vide F.1-16/2009(CPP-II) dated 21 October 2009. The media campaign started by Government since 2009 through print, audio/visual has created awareness throughout the country is reiterated every year.

Anti-ragging Committee members are as below:

- Principal
- Dean Discipline
- Circle Inspector of Police of Local Police Station
- Dean Student Affairs
- Dean Academic Affairs
- Physical Director
- Senior Administrative Officer
- Students Members –One from each Programme

GRIET follows the notification strictly and implements to protect its academic atmosphere from being marred by the acts of ragging. GRIET follows a three pronged approach of “Awareness, Avoidance & Action”. All direct approaches of talking to students in addition to using various media to make aware of the bad effects and strict punishments if indulged in. Under Avoidance it has instituted Anti Ragging squads under the Anti Ragging Committee to prevent ragging at the time of joining and continues the monitoring through the first year session. It also procedurally segregates Instructions, Travel and Canteen timings respectively. Any cases of ragging observed are to be referred to Disciplinary Committee for appropriate action. The students/parents are required to submit anti-ragging related affidavit to the Institute at the time of admissions.

(iii) Anti Sexual Harassment Cell

The Honorable Supreme Court in the case of Vishaka and Others Vs State of Rajasthan and Others (JT1997 (7) SC 384), has laid down guidelines and norms to be observed to prevent sexual harassment of working women. These are ingrained in the Government of India CCS Conduct Rules [Rule 3 (1) (iii)] in the light of misconduct which attracts appropriate disciplinary action at work place and where ever such conduct amounts to a specific offence under IPC the concerned authorities can initiate appropriate action under the law. Being a private academic institution GRIET is also within the purview of the law and its jurisdiction as UGC in its notification F.No.14-4/ 2012 (CPP-II) of December 2012 has formulated regulations in the letter (Para 1.1 and 1.2, which also applies to institutions recognized under Clause (f) of Section 2 of UGC act 1956).

Further, the Principal has constituted the Anti Sexual Harassment Cell for prevention of sexual harassment in the campus, and the cell is empowered to deal with cases concerning sexual harassment of women staff and students and hence will function as a sub-committee of the institute.

The list of members and terms of references are given below:-

1. Chairperson
2. Faculty members from all departments
3. Senior Administrative Office
4. Co-opted Members
 - i. Social Activist
 - ii. Student Representative
 - iii. Non-teaching Staff Representative

Functions:

- To deal appropriately with reported cases of sexual harassment, abuse or discrimination, and initiate action against particular grievances in respect of unfair treatment due to gender bias.
- The Anti Sexual Harassment Cell is responsible for initiating the necessary process of inquest on receipt of complaint from the dean Discipline.
- In case of the complaint is against any staff member of the committee then the Principal shall nominate appropriate Chair or member for the enquiry.
- The Anti Sexual Harassment Cell arbitrates sexual harassment cases, complete with provisions to recommend suitable punishment of the guilty to the Grievance Cell for further action.
- The guidelines have provisions depending on the different degrees of fault or offence-Minor, Moderate or Major, there are different degrees of "punishment" to deal with such offences

Tools to respond to offences include (1) Communication of the standard, (2) Disapproval, (3) Verbal warning, (4) Written warning, (5) Suspension/ Rustication of the guilty parties, (6) Termination of employment, in order to protect complainants from victimization.

- The guidelines followed are meant to act as a deterrent, and that this cell can be effective only influence suitable attitudinal change.

IV. Women's Development Cell

The activity of WDC addresses problems of women employees and empowerment of women.

(i) History & Inception

The JNT University Hyderabad, makes it mandatory for all affiliated colleges to have a Women's Development Cell and gives guidelines to the college establishment relating to functioning of gender issues cells (2001). Following in the footsteps of the JNT University, Gokaraju Rangaraju Institute of Engineering & Technology also has established a Women's Development Cell.

(ii) Scope

The Women's Development Cell of GRIET purports to conduct activities for the students, teachers and administrative / supporting staff of the college at 3 levels- Apex, College and Departmental levels. Activities at the Institutional Apex, level will aim at the community at large, the focus being on providing community interaction and meaningful humanitarian experience to students and teachers. It will also interact with governmental social bodies that address women's issue such as sexual harassment — verbal or physical in nature.

(iii) Objectives

- Create awareness on equal opportunity for women that will ultimately lead to improved attitude and behavior.
- To raise awareness vide lectures/ workshops for GRIET women students and staff members on different aspects of women's welfare.
- Bring about attitudinal and behavioral change in adolescent youth of the female gender.
- To discuss and suggest methods to promote gender amity amongst all GRIET women employees and students.
- Conduct programmes for ladies to empower them physically, emotionally, mentally and financially.
- To educate the women students to break out of social impediments and to convince them to come forward with problems and complaints.
- Provide a harassment free working atmosphere, by identifying and fixing responsibility on the concerned persons for ensuring equal treatment of and participation by women in all areas.
- To consider any other matter on women's issues referred to the cell.

(iv) Constitution of the Women's Development Cell:

1. Coordinator Lady Faculty

2. Members

Dean Faculty Development

Dean Student Affairs

Senior Lady Faculty

3. Co-opted members

Lady Faculty

(v) Programmes/Activities:

In order to achieve the stated goals, the following programmes will be conducted / celebrated.

- March 8 - Women's Day
April 7 - Health Day

Lectures will be organized, as per convenient timings, on adolescent health issues, women's professional problems, women's domestic / personal problems due to work-place pressures, and gender discrimination at different levels. Competitions such as Quiz, Debates and, Elocution competitions will be held besides activities of interest to ladies such as Rangoli, Mehendi, and Cooking etc.

V. Malpractice Prevention Committee:

A Malpractice Prevention Committee shall be constituted to examine and punish the students who indulge in malpractice/ behave in an undisciplined way in examinations as per the punishment guidelines approved by the Academic Council.

Composition

- The Principal
- Controller of Examinations of the college
- Observer/ Invigilator
- Subject Expert (case/offence dependent)
- Head of Department of concerned candidate

8.2.4 Transparency and availability of correct/unambiguous information (3)

Institute Marks : 3.00

(Instruction: Availability and dissemination of information through the Internet. Information provisioning in accordance with the Right to Information Act, 2005).

- Personal information, qualifications, professional skills and experience are taken from new recruits at the time of joining and used to leverage the strengths of the departments and the institute.
- The data of all staff are periodically collected and updated, the teaching faculty information is uploaded on the college web site.
- The administrative rules and regulations covering all cadre of staff employed is mentioned with clarity in the GRIET Manual which is updated. This manual is available with all the administrative heads as well as Head of Departments. Transparency is maintained relating to rules followed which include general administration, recruitment of staff, service conditions, duties, promotion policies, increments and awards and disciplinary actions.
- Recruitment and interview of all staff is done by issuing advertisements in leading local and national News papers and on college web site.
- The Selection Committee chaired by the Chairman, Governing Body or his nominee, the Principal, subject experts, Head of Departments and nominee of affiliating university form the constituent members and the recruitment and the short listed candidates are intimated by telephone and e mail.
- Recruited teaching faculty are interviewed and ratified by the University Ratification Committee and the result is intimated.
- All activities at the institute are recorded and posted on the institute web site.
- Periodic meetings of the Governing Body, Academic Council, Board of Studies are recorded as minutes of the meeting and the decisions and ratifications are handed down to the department levels. The departments in turn intimate the faculty members during the Departmental meetings. All administrative meetings held are recorded for transparency in order to maintain unambiguity.
- Mobile phone Short Messaging Service (SMS) are also effectively utilized to alert Students, staff, and other stake holders.
- All schedules are displayed on the Notice Boards, College Diary and the Web site. The College Diary gives the academic calendar and all activities (curricular and beyond) and the same can be accessed through the college web site.
- The Academic Regulations and Syllabus give transparency in implementing academic plans and gives information on the current regulations in force and its rules, credits, courses, attendance, examination etc. this information is available on the college web site.
- All relevant documents of the administrative and academic processes are displayed and available for inspections by several regulatory bodies such as the Affiliating University Task Force, State Government Task Force/ Committee, AICTE, NAAC, UGC and NBA teams. It is also available for corporate entities who recruit students, such as TCS, Infosys etc.
- The mandatory disclosure presented on the website provides all the academic details including the academic regulations and syllabus
- There are notice boards in all the blocks through which information is made available to the staff and students and very significant circulars are sent to the classrooms.

8.3 Budget Allocation, Utilisation, and Public Accounting (10)**Total Marks : 10.00**

Summary of current financial year's budget and the actual expenditure incurred (exclusively for the institution) for three previous financial years.

(Instruction: The preceding list of items is not exhaustive. One may add other relevant items if applicable.)

Item	Budgeted in 2015-2016	Expenses in 2015-2016	Expenses in 2014-2015	Expenses in 2013-2014
Infrastructure built-up	55000000	63030000	5149000	4864000
Library	5000000	3228000	3790000	4131000
Laboratory equipment	35750000	27512000	28591000	11512000
Laboratory consumables	3900000	2465000	1311000	1049000

Accounting and Non Accounting Staff Salary	15000000	15000000	15000000	15000000
R&D	3305000	6037000	1800000	1655000
Training and Travel	6500000	4969000	1356000	1017000
Maintenance and spares	25100000	2329000	5484000	6524000
Other Equipments	29000000	17167000	13603000	14587000
Others	42500000	51332000	67279000	53944000
Total	454055000	429636000	320712000	252964000

8.3.1 Adequacy of budget allocation (4)

Institute Marks : 4.00

(Instruction: Here the institution needs to justify that the budget allocated over the years was adequate.)

GRIET follows the process of distributing the available financial resources to departments in a manner consistent with our institute's vision, mission, long-term goals which is transparent to stakeholders. The allocation model is updated annually and will continue to serve as the allocation instrument. Keeping in view that no budgeting process is perfect and that ideally there would be more funds to allocate, the goals of the process are to:

- Recognize the importance of staff to our long term success
- Encourage areas to focus on outputs directly related to our strategic plan
- Improve instructional and support facilities to make the learning environment vibrant
- Increase Research and Development

The institute allocates the available resources to the departments based on the forecasted requirements of the departments keeping the curricular and beyond curricular activities, R&D, Library, Transport, Welfare and Maintenance. It is the responsibility of the Departmental Development and Monitoring Committee (DDMC) to ensure the allocated resources are expended as per their forecasted plans. The emphasis will be to increase quality of academic inputs delivered and positively contribute to the institute in terms of development of new technologies, methods and practices.

8.3.2 Utilisation of allocated funds (5)

Institute Marks : 5.00

(Instruction: Here the institution needs to state how the budget was utilised during the last three years.)

The respective academic and supportive units are informed on allocation of funds under various heads. At the department level, the DDMC decides the utilization for the financial year's allocated funds following the purchase procedures.

Purchases are done up to the level of allocated funds, however under some special priority considerations, the purchases can go beyond the allocated funds which will be later ratified by the Governing Body. Delegation of financial powers done to keep the autonomy of the departments and reduce time delays.

Regular auditing and inventory checks keep the mechanism free from over or unjust spending.

8.3.3 Availability of the audited statements on the institute's website (1)

Institute Marks : 1.00

(Instruction: Here the institution needs to state whether the audited statements are available on its website.)

YES, the Audited statements are available on GRIET website www.griet.ac.in

8.4 Programme Specific Budget Allocation, Utilisation (10)**Total Marks : 10.00**

Summary of budget for the CFY and the actual expenditure incurred in the CFYm1 and CFYm2 (exclusively for this programme in the department):

Items	Budgeted in 2015-2016	Actual Expenses in 2015-2016	Budgeted in 2014-2015	Actual Expenses in 2014-2015	Budgeted in 2013-2014	Actual Expenses in 2013-2014
Laboratory equipment	3300000	2280000	3000000	2485000	2500000	2116000
Software	900000	488000	300000	67000	200000	167000
R&D	200000	213000	100000	30000	150000	100000
Laboratory consumables	200000	109000	300000	90000	300000	130000
Maintenance and spares	1100000	1041000	1000000	373000	1000000	477000
Training and Travel	200000	134000	200000	118000	300000	301000
Miscellaneous expenses for academic activities	200000	177000	200000	65000	200000	35000
Total	6100000	4442000	5100000	3228000	4650000	3326000

8.4.1 Adequacy of budget allocation (5)

Institute Marks : 5.00

(Instruction: Here the institution needs to justify that the budget allocated over the years was adequate.)

The process of analyzing the adequacy of budget allocation involves the analysis of information pertaining to each item of the budget with respect to the priorities and policies set out by the institution. The priorities of the organization are:-

1. Improvement in the quality of education.
2. Development of infrastructure including classrooms, teaching aids and student facilities in classroom.
3. Research and Development.
4. Addition of latest Laboratory equipment.
5. Addition of resources in the Library.

In this regard, by comparing the priorities set out with the allocations made, it can be informed that the items included are in line with the policies and long term goals of the institution.

(**to be quoted as below as per expenditure under various heads of the programme vis-a-vis preceding years)

For, **example**, the budget in the year 2015-16, half of the budget amount was allocated towards the laboratory equipment. This was due to improvement of laboratories to enhance the technical skills.

Another substantial spending amount was for building infrastructure making GRIET one of the leading institutions having state of the art infrastructure. Institutional infrastructure is the key and the base to provide quality environment, similarly emphasis is given towards development of laboratory equipment and resources.

R&D is the next key area where major funds are allocated for projects, patents and tie-ups.

A good emphasis is given on training both teaching and non-teaching staff by conducting FDP's and workshops in the college and also encouraging staff to attend FDP's, workshops and conferences outside the institution with sufficient funds. Hence it can be interpreted that the allocated funds are very much in line with the priorities set out by the institution.

8.4.2 Utilisation of allocated funds (5)

Institute Marks : 5.00

(Instruction: Here the institution needs to state how the budget was utilised during the last three years.)

The allocated funds act as guideline towards making purchase of lab equipment, programme conduction, training activities and other miscellaneous needs. The department conducts regular meeting to see that the allocated funds are properly utilized vis-à-vis the projection and plans.

The allocated funds are utilized as per the priorities set at the department level. The emphasis is on increasing quality of academic inputs delivered and positively contributes to the Institute in terms of development of new technologies, methods and practices.

For example, in the year 2015-16, the institute increased spending by 31% over last expenditure on infrastructure, books and periodicals, laboratory equipment, recruitment of quality faculty, training of senior faculty members. Emphasis is given on training both teaching and non-teaching staff by conducting FDP's and workshops in the college and also encouraging staff to attend FDP's, workshops and conferences outside the institution with sufficient funds. Hence it can be interpreted that the allocated funds are very much in line with the priorities set out by the institution. This is for continuous improvement of quality literature for teaching and laboratories and to enhance the teaching and technical skills as an investment towards teaching and learning process. The increase in expenditure is observed compared to the preceding years.

GRIET management is a forerunner in terms of providing the best and updated infrastructural facilities to its staff and students and also in facilitating funds for the purpose of improving quality of teaching and research. Departments make optimum utilization of this attitude and policy of the management by utilizing the funds allocated by spending it in lines with the mission and objectives.

8.5 Library (20)

Total Marks : 20.00

8.5.1 Library space and ambience, timings and usage, availability of a qualified librarian and other staff, library automation, online access, networking, etc (5)

Institute Marks : 5.00

(Instruction: Provide information on the following items).

• Library Services	Yes
• Carpet area of library (in m2)	1670
• Reading space (in m2)	1355
• Number of seats in reading space	300
• Number of users (issue book) per day	200
• Number of users (reading space) per day	300
• Timings: During working day, weekend, and vacation	8 AM to 8 PM
• Number of library staff	08
• Number of library staff with degree in Library	04
• Management Computerisation for search, indexing, issue/return records Bar coding used	

At present the Library Information Center uses in-house developed Library Management Software

• Library services on Internet/Intranet INDEST or other similar membership Archives

The following Library services are present on Internet / Intranet.

Library Management Computerization for search, indexing, issue/ return records Bar coding used

to present the library information center uses an in-house developed library management software from the following categories automated

- Circulation Section – Issue / Return using bar codes and code reader
- Information Retrieval Services
- Which includes searching of data and retrieval of data using various search options like title, author, subject, publisher etc.
- Recently barcoding of library holdings was taken up and successfully completed.

Library Services on internet / intranet, membership archives

- Library Services on internet / intranet, membership archives

1. NPTEL (National Programme for Technology Enhanced Learning) lessons are procured and are available all over campus through intranet at link <http://172.16.0.88> LocalG that can be accessed from any system with LAN connection. These lessons are stored at IBM server of library with capacity of 3TB.
2. DELNET (Developing Library Network): GRIET Library is a member of DELNET through which services such as Inter Library Loan (ILL) facility is available. Through this, a book or a document or a part of a document / article can be procured from any member library throughout India.

- Links to E-Journals / Databases

The following e-resources / online e-Journals Packages of various publishers can be accessed from any computer (with internet) connected to the campus LAN including Library. IP based access to the subscribed journals are provided through these resources.

1. IEEE ASPP - Transactions & Magazines (for CSE, ECE, EEE, IT Depts.) <http://ieeexplore.ieee.org>
2. ELSEVIER - Science Direct (for Engineering) <http://www.sciencedirect.com>
3. ASCE Digital library (for Civil Dept.) <http://ascelibrary.org>
4. ASME Digital Library Online : (for Mechanical Dept.) <http://asmedl.org>
5. Springer link: (for CSE, ECE, EEE, IT Depts.) <http://springerlink.com/journals>
6. McGraw-Hills Access Engineering (for Engineering) <http://accessengineeringlibrary.com>
7. J-Gate Engineering and Technology (JET) (for Engineering & Technology) <http://jgateplus.com>
8. ASTM Digital Library (for Engineering) <http://enterprise.astm.org>
9. J-Gate Social and Management Sciences (JSMS) (for Management Sciences) <http://jgateplus.com>
10. EBSCO-BSA (for Management Sciences) <http://www.search.ebscohost.com>

S.No	Package	No of Journals	Back files up to
11	IEEE-ASPP	145	2000
2	ASCE	34	1983
3	McGraw Hill	Access Engineering-274 titles	All
4	Springer-EEE,ECE,CSE	149 (Titles Collection)	1997
5	ASME	26	2000
6	J-Gate (E & T)	1700	2001
7	Elsevier-Science Direct	275(Engineering & Computer Sci.)	2000
8	ASTM	Digital Library	complete
9	J-Gate Management Science	2000	2001
10	EBSCO-BSA	1102 titles	

8.5.2 Titles and volumes per title (4)

Institute Marks : 4.00

Year	Number Of New Titles Added	Number Of New Editions Added	Number Of New Volumes Added
2013-2014	655	475	4764
2014-2015	395	230	1572
2015-2016	830	265	5600

8.5.3 Scholarly journal subscription (3)

Institute Marks : 3.00

Year	No. of Technical Magazines/Periodicals	No. of Total Technical Journals subscribed		Scholarly Journal Titles(in originals, reprints)
		In Hardcopy	In Softcopy	
2015-2016	249	249	6849	6849
2014-2015	293	293	6849	6849
2013-2014	300	300	300	300
2012-2013	300	300	8412	300

8.5.4 Digital Library (3)

Institute Marks : 3.00

- Digital Library Services

Yes

courses, number of e-books, etc. Availability of an exclusive server)	YES; 260 NPTEL
• Availability of an exclusive server	YES
• Availability over Intranet/Internet	YES
• Availability of exclusive space/room	YES
• Number of users per day	200

8.5.5 Library expenditure on books, magazines/journals, and miscellaneous contents (5)

Institute Marks : 5.00

Year	Expenditure (in Rs.)				Comments, If Any
	Book	Magazines/Journals (for hard copy subscription)	Magazines/Journals (for soft copy subscription)	Misc. Contents	
2013-2014	19.06	6	16.2	-	-
2014-2015	15.13	6.75	20.2	2	-
2015-2016	16.92	5.91	23.09	-	-

8.6 Internet (5)

Total Marks : 5.00

Institute Marks : 5.00

(Instruction: The institute may report the availability of Internet in the campus and its quality of service.)

• Internet Services	Yes
• Name of the Internet provider	AIRTEL
• Available bandwidth	65 Mbps
• Access speed	100 Mbps
• Availability of Internet in an exclusive lab	Yes
• Availability in most computing labs	Yes
• Availability in departments and other units	Yes
• Availability in faculty rooms	Yes
• Institute's own e-mail facility to faculty/students	Yes
• Security/privacy to e-mail/Internet users	Yes

- The institute is currently subscribed with the service provider "Bharti – Airtel" for the internet services.
- Wi-Fi routers in all vantage points connecting all registered laptops in the departments and faculty rooms.
- The same network is used for institute's intra-mail.
- The network is secure in that it has its own firewalls and anti-virus/worm programmes to protect vital institute information and database apart from confidential emails of all its users.

8.7 Safety Norms and Checks (5)

Total Marks : 5.00

8.7.1 Checks for wiring and electrical installations for leakage and earthing (1)

Institute Marks : 1.00

- Institute buildings are well designed with proper electrical installations.
- Special care is taken at the time of installation by using quality certified components in terms of wiring, switches, plugs and circuit breakers.
- Monthly maintenance is done which includes arrest of any leakage, working condition check for lighting conductor, earthing / grounding system checks and inspection of electrical installations for safety.

Separate Electrical Maintenance is monitored by the Maintenance & Safety Officer with a dedicated team to deal with routine and emergency maintenance.

8.7.2 Fire-fighting measurements: Effective safety arrangements with emergency / multiple exits and ventilation/exhausts in auditoriums and large classrooms/laboratories, fire-fighting equipment and training, availability of water, and such other facilities (1)

Institute Marks : 1.00

- Institute buildings are designed with adequate light, ventilation, stairs, corridors, pathways, multiple / wide staircases and all round approach.
- Pathways, corridors and stairs are wide enough to handle emergencies.
- Large size class rooms, Seminar halls and laboratories have two exits.
- Laboratories handling chemicals have adequate ventilation and exhaust facilities.
- Fire extinguishers are provided at key points in all buildings.
- First Aid facility is available in all emergencies.
- Each building is being provided with automatic alarm system with water tanks and fire prevention system.
- Safety instructions are prominently displayed throughout the college.
- Quarterly maintenance drills are done for awareness and familiarity with hazards and safety actions in case of emergencies.

8.7.3 Safety of civil structure (1)

Institute Marks : 1.00

Details of the measures taken for the safety of civil structures are given below:

- Buildings are well designed by expert architects and qualified structural engineers
- Quarterly inspection is carried out for the safety of civil structures
- Adequate maintenance is done by taking care of painting and white-wash, crack filling, water logging, and leakages

8.7.4 Handling of hazardous chemicals and such other activities (2)

Institute Marks : 2.00

(Instruction: The institution may provide evidence that it is taking enough measures for the safety of the civil structures, fire, electrical installations, wiring, and safety of handling and disposal of hazardous substances. Moreover, the institution needs to show the effectiveness of the measures that it has developed to accomplish these tasks.)

Safety measures taken for handling hazardous materials are given below:

- Safety precautions such as shoes, aprons, safety glasses are insisted upon for staff and students.
- Special drives are done to collect electronic wastage.
- Awareness of safety precautions for handling chemicals is done every semester.

8.8 Counselling and Emergency Medical Care and First-aid (5)

Total Marks : 5.00

8.8.1 Availability of counselling facility (1)

Institute Marks : 1.00

(Instruction: The institution needs to report the availability of the facilities discussed here.)

- An experienced counselor Ms. Revathi Thuraga, life member of the International Association of Holistic Psychology (IAHP), is being consulted whenever needed
- Dean Career Guidance and Counseling, GRIET deals with students and parents by giving counseling and motivating them in all aspects.

8.8.2 Arrangement for emergency medical care (2)

Institute Marks : 2.00

(Instruction: The institution needs to report the availability of the facilities discussed here.)

Medical facility within the Institution:

- A Qualified Medical Practitioner is available every day between 9:30 am-1.00 pm on the campus medical centre.
- He is being assisted by a qualified medical assistant and a Lady attendant.

Medical facility nearby:

- College is being situated at a distance of 4.5 km from busy KPHB (Kukatpally Housing Board) area. Even the connecting road called Nizampet Road is densely populated with all medical facilities doctors, clinics, pharmaceuticals & diagnostic centres.
- Nearest Hospitals: Apollo- 2 km, Remedy Hospitals-4.5 km at KPHB (Multi Specialty Hospital with good emergency facilities)
- Many private practitioners of every specialty are available at 1.5 km.
- Number of ambulances within the Institution : one
- Facility in ambulances : **First Aid**
- Response-time in calling ambulance services from outside : **7-10mins**
- College has a fleet of 32 buses, LMVs which can be used to ferry people in emergency as and when needed.
- Remedy Hospitals Ambulances and 108 EMRI-State Ambulance facility situated at Kukatpally Police station which is at 4 km, have very good track record of response time in meeting the emergencies. The journey time is involved in response to any emergency calls which is around 7-10 mins.

8.8.3 Availability of first-aid unit (2)

Institute Marks : 2.00

(Instruction: The institution needs to report the availability of the facilities discussed here.)

- College Medical centre provide first aid facility equipped with 4 beds, wheel chair, stretcher facility, consulting room with all emergency care and medical centre facility.
- The Medical Center consists of Emergency Medical equipment such as ECG, EMG machines, Pace Maker, Holter Monitor
- It is open throughout college working hours including sports periods.

9 Continuous Improvement (75)

Total Marks : 60.31

This criterion essentially evaluates the improvement of the different indices that have already been discussed in earlier sections.

9.1 Improvement in Success Index of Students (5)

Total Marks : 3.33

Institute Marks : 3.33

a, b and c are the success indices which correspond to LYGm2, LYGm1 and LYG respectively
 Assessment = (b-a) + (c-b) + (a+b+c)x(5/3)

Items	2011-2012(c)	2010-2011(b)	2009-2010(a)	Assessment
Success Index	0.67	0.54	0.97	3.33

9.2 Improvement in Academic Performance Index of Students (5)

Total Marks : 4.07

Institute Marks : 4.07

From 4.2

a, b and c are calculated respectively for LYGm2, LYGm1 and LYG by dividing the API values, obtained from the criterion 4.2 by 10. The maximum value of a, b, and c should not exceed one.

Assessment = (b-a) + (c-b) + (a+b+c)x(5/3)

Items	2011-2012(c)	2010-2011(b)	2009-2010(a)	Assessment
API	0.82	0.81	0.80	4.07

9.3 Improvement in Student-Teacher Ratio (5)

Total Marks : 3.21

Institute Marks : 3.21

From 5.1

a, b and c are calculated respectively for CAYm2, CAYm1 and CAY by dividing the STR values, obtained from the criterion 5.1 by 20. The maximum value of a, b, and c should not exceed one.

Assessment = (b-a) + (c-b) + (a+b+c)x(5/3)

Items	2015-2016 (c)	2014-2015 (b)	2013-2014 (a)	Assessment
STR	0.58	0.68	0.79	3.21

9.4 Enhancement of Faculty Qualification Index (5)

Total Marks : 3.24

Institute Marks : 3.24

From 5.3

a, b and c are calculated respectively for CAYm2, CAYm1 and CAY by dividing the FQI values, obtained from the criterion 5.3 by 10. The maximum value of a, b, and c should not exceed one.

Assessment = (b-a) + (c-b) + (a+b+c)x(5/3)

Items	2015-2016 (c)	2014-2015 (b)	2013-2014 (a)	Assessment
FQI	0.63	0.68	0.64	3.24

9.5 Improvement in Faculty Research Publications, R&D Work and Consultancy Work (10)

Total Marks : 1.46

Institute Marks : 1.46

From 5.7 & 5.9

a, b and c are calculated respectively for CAYm2, CAYm1 and CAY by dividing the FRP and FRDC values, obtained from the criterion 5.7 and 5.9 by 20. The maximum value of a, b, and c should not exceed one.

Assessment = (b-a) + (c-b) + (a+b+c)x(10/3)

Items	2015-2016 (c)	2014-2015 (b)	2013-2014 (a)	Assessment
FRP	0.20	0.41	0.13	2.40
FRDC	0.09	0.07	0.02	0.53

9.6 Continuing Education (10)

Total Marks : 10.00

Institute Marks : 10.00

Module Description	Any Other Contributory Institute/Industry	Developed/Organized By	Duration	Resource Persons	Target Audience	Usage and Citation,etc
A Two Week Workshop on "Computer Programming" by IIT Bombay in association with MHRD, Government of India	IIT Bombay	GRIET	Two Weeks	Experts from IIT Bombay	Faculty	Acquired knowledge on Computer Programming
A Two Week Workshop on "Computer Networks" by IIT Bombay in association with MHRD, Government of India	IIT Bombay	GRIET	Two Weeks	Experts from IIT Bombay	Faculty	Acquired Knowledge on Computer Networks
A Two Week ISTE Workshop on "Pedagogy for Effective use of ICT in Engineering Education" by IIT Bombay in association with MHRD, Government of India	IIT Bombay	GRIET	Two Weeks	Experts from IIT Bombay	Faculty	Acquired Knowledge

ISTE Workshop on "Introduction to Design of algorithms" by IIT Kharagpur in association with MHRD, Government of India	IIT Kharagpur	GRIET	Two Weeks	Experts from IIT Kharagpur	Faculty	Knowledge on Design of algorithms
DBMS workshop conducted by IITB	IIT B	GRIET	10 days	Faculty from IITB	Faculty	Acquired Knowledge on DBMS
IBM WORKSHOP-1and 2	Teqip	GRIET	20 days	Faculty from IBM	Faculty	Acquired Knowledge on Cognos
Training on IBM SEED Program	GRIET	GRIET	One Week	Faculty	Faculty	Acquired Knowledge
A 10th Faculty Development Programme on Achieving Academic Excellence - A Management Enhancement Capacity Program by IIM Raipur, under TEQIP	IIM Raipur	IIM Raipur	One Week	IIM Faculty	Faculty	Acquired Knowledge
A Workshop on "Spatial Data Mining" under TEQIP at GRIET, Hyderabad.	Teqip	Teqip	One week	Faculty	Faculty	Acquired Knowledge
Workshop on c & Data Structures behind auto suggest	Teqip	GRIET	One Day	Faculty from Being Zero	Students	Acquired Knowledge on Auto Suggest
STEPS-2015	GRIET	GRIET	One Week	Faculty from GRIET	Faculty	Acquired Knowledge
JNTU_EXCITE 2015	JNTU	JNTU	One Day	Faculty from Other Country	Faculty and Students	Acquired Knowledge

9.7 New Facility Created (15)**Total Marks : 15.00**

Institute Marks : 15.00

- IoT Lab has been established and some of the Industry Oriented Mini Projects have been done.
- Old Desktops have been replaced with High end Laptops.
- Individual laptop is given for Teaching Faculty.
- ICT based learning has been introduced in the Department.
- Elevator/Lift is provided for the benefit of Physically Challenged Students and a Wheel Chair is Provided.
- Emphasis on Internship Programs for the students is Intensified.
- IBM Center of Excellence Lab is Established in Associated with IBM.

9.8 Overall Improvements since last accreditation, if any, otherwise, since the commencement of the programme (20)**Total Marks : 20.00**

Institute Marks : 20.00

Specify the overall improvement:

GRIET is recognized as Scientific and Industrial Research Organization (SIRO) by Department of Scientific and Industrial Research (DSIR).

Accreditation by Tata Consultancy Services (TCS) of 'B' Category.

CSR-GHRDC Engineering Colleges Survey 2015 rated GRIET amongst the top 4 colleges in Telangana.

Ranked AAA+ among Telangana State Best Engineering Colleges CAREERS 360 Magazine, April 2015.

Specify the Strengths/Weakness	Improvement Brought In	Contributed By	List the PO(s), which are strengthened	Comments, if any
2015-2016	IoT Labotatory	GRIET	a,b,c,l	Bridged the gap between Industry and Academia.
2014-2015	Upgradation of equipments in Computer labs	GRIET	b,c,d	To strengthen the laboratory
2013-2014	Improvement in understanding about sustainable technologies	GRIET	g,j,l	Acquired knowledge in sustainable technologies
2012-2013	Improvement in Communication, Listening and Comprehension skill, team building skill, presentation skill	GRIET	h,i,j,k	Various skills are improved