Part B

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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 epicenter 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 impart quality technical education, conduct scientific research of excellence and generate world class professionals to excel in the dynamic realm of Information Technology and contribute to the needs of the society.

Mission of the Department

The Information Technology Department is committed

- To achieve excellence in **higher education** and **research** through dissemination of quality technical education with a strong foundation.
- To continuously scout for and build opportunities in the field of IT and sustain **long-term interaction** with the institute and industry.
- To build and uphold high professional and ethical standards to make the nation noted for its progressive contribution to global society.

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 ensure the Vision and Mission are communicated effectively to all stakeholders namely students, faculty, parents, industry, regulating authority, alumni and management etc.

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 for the growth 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 some of best educational institutions running similar programmes.
2. Feedback from all stakeholders is considered.
3. Departmental Advisory Board(DAB)/Development and Monitoring Committee (DDMC) makes the draft.
4. These proposals will be reviewed and ratified by the Academic Council.

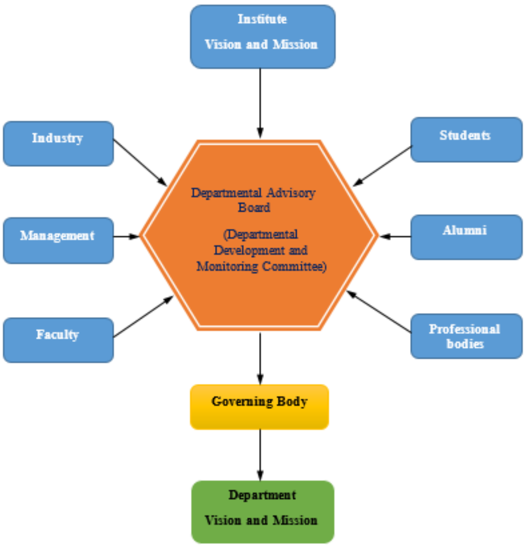


Figure 1: The Process for defining Mission and Vision of the Department

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)

This education is meant to prepare our students to thrive and to lead. During their progression,

PEO 1: Graduates of the program will have successful **technical and professional careers,** play supportive and leadership roles with correct attitude and appropriate skills to be team players even in a multidisciplinary environment.

PEO 2: Graduates of the program will have the ability to effectively understand, use and develop modern **data storage**, interpret, analyze and **simulate technologies** and possess the capability to acquire other engineering concepts and tools.

PEO 3: Graduates of the program will be able to **communicate effectively**, recognize and incorporate societal needs and address constraints in their professional endeavors, and also practice their profession with high regard to legal and ethical responsibilities.

PEO 4: Graduates of the program will engage in **life-long learning** to remain abreast in their profession and be an epicenter of creative solutions to increase their employability.

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)

PEOs are published and disseminated through the following methods:

Print Media: Departmental Brochure/Booklets, Course Registers,OBE booklet

Electronic Media: College/Departmental Website, Display Monitors

Display Boards: Notice Boards**,**

Direct Communication: Orientation Programs to freshers /parents, Induction Programs 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 Stakeholders for the programme are

1.Students

2.Faculty

3.Parents

4.Industry

5.Alumni

6. Management

7.Professional Bodies

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.

Professional Bodies: Professional bodies are groups of experienced professionals with lots of experience in their respective profession. They have knowledge of the latest developments in the field and what skills the young engineers should have to flourish in their career. The opinions of professional bodies are given due consideration.

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.

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

Regular input from alumni is obtained via 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.

Alumni faculty interaction: Alumni will be regularly interacting with some of the faculty with whom they are more conversant and they share their experiences, feelings, problems etc. which will be more useful in redesigning the programme.

Employers: Input from employers plays a vital role in the formulation and review of the PEOs which reflect 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: Department regularly arranges tours to industries as part of their courses education processes. Discussions with the industries, and the visiting faculty 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 Institution of Engineers, CII, CREDAI, ICI, IGS, IRC, IWWA, 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 and Department are taken as the basis to interact with all the key stake holders.

Step 2: All documents relating to the Programme and the department are also forms the necessary inputs. These include instructional materials which are collected for all the courses. The Outcomes in terms of courses are listed for the programme and the Graduate attributes are taken into account apart from 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 current status of the institute, teaching learning environment, student and faculty quality and infrastructure. Feedback from prospective employers and current employers of alumni are collected.

Step 4: Programme Assessment Committee reviews and recommends within the guidelines defined for the formulation of the PEOs to DAB (DDMC).

Step 5: DAB (DDMC) finalizes the PEOs and submits to Academic Council.

Step 6: PEOs suggested by DAB (DDMC) are ratified by the Academic Council

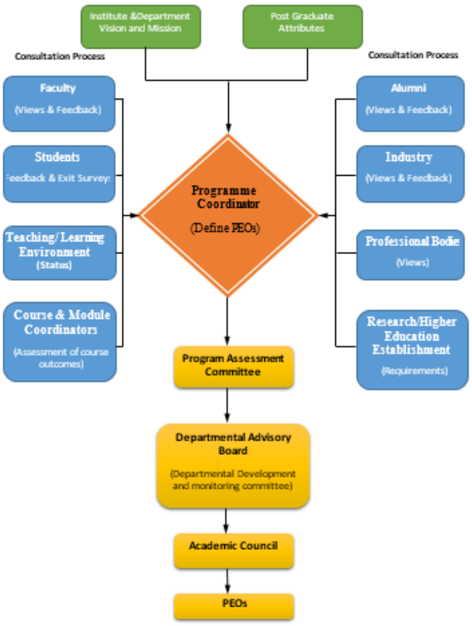

Institute &Department Vision and Mission
Post Graduate Attributes
Consultation Process
Consultation Process
Faculty (Views & Feedback)
Students Feedback & Exit Survey
Teaching/Learning Environment (Status)
Course & Module Coordinators (Assessment of course outcomes)
Programme Coordinator (Define PEOs)
Alumni (Views & Feedback)
Industry (Views & Feedback)
Professional Bodie (Views)
Research/Higher Education Establishment (Requirements)
Program Assessment Committee
Departmental Advisory Board (Departmental Development and monitoring committee)
Academic Council
PEOs

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 Information Technology-PEOs reflect the expected accomplishments of the graduates a few years after their graduation. These objectives are consistent with the GRIET Mission statement as is evident from the statement above.

By educating students in the fundamentals of Information Technology, they are being molded 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.

Programme Educational Objectives	**Mission of the Department**		
	Technical Knowledge	**Global Opportunities**	**Ethical Standards**
PEO 1: Graduates of the program will have successful technical and professional careers, play supportive and leadership roles with correct attitude and appropriate skills to be team players even in a multidisciplinary environment.	**H**	**M**	**M**
PEO 2: Graduates of the program will have the ability to effectively understand, use and develop modern data storage, interpret, analyze and simulate technologies and possess the capability to acquire other engineering concepts and tools.	**H**	**M**	**M**
PEO 3: Graduates of the program will be able to communicate effectively, recognize and incorporate societal needs and address constraints in their professional endeavors, and also practice their profession with high regard to legal and ethical responsibilities	**H**	**L**	**M**
PEO 4: Graduates of the program will engage in life-long learning to remain abreast in their profession and be an epicenter of creative solutions to increase their employability	**M**	**H**	**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.
2. The academic factors are decided by Academic Council and Board of Studies which involve university professors, Industrial experts and subject experts from the department. 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 teaching.
8. By collaborating with leading institutions, professional bodies and industries.
9. By effectively employing appropriate technologies to enhance instructions and student learning.

Course Component	**PEOs**	**Curriculum Content (% of total number of credits of the program)**	**Total number of contact hours**	**Total number of credits**
Basic Sciences	1, 3	15	41	30
Engineering Sciences	1, 2	11.5	30	23
Humanities and Social Sciences	1, 3, 4	7.5	21	15
Program Core	1, 2, 4	49.5	133	99
Program Electives	1, 2, 4	7	16	14
Open Electives	1, 2, 4	1.5	4	3
Project(s)	1, 2, 4	6	13	12
Internships/Seminars	1, 4	1	3	2
Any other (Comprehensive Viva)	4	1	3	2
Total number of Credits				**200**

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:** One of the faculty among those teaching same course, monitors and reviews the activities related to attainment of course outcomes
2. **Module Coordinator:** Senior faculty coordinates and supervises the faculty teaching similar 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. **Programme Assessment Committee**
3. **Board of Studies**
4. **Departmental Advisory Board (Departmental Development and Monitoring Committee)**
5. **Academic Council**

Committee	**Chair**	**Members**	**Responsibilities**
Class Coordinators Committee (CCC)	Programme coordinator	1. Faculty designated as class coordinators, 2. Faculty of a particular course 3. Course and module coordinators 4. Student representatives	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
		1. All module coordinator of each course/ specialization offered. 2. Not more than two persons to be co-opted for their expert knowledge including those belonging to	1. To review implementation of institutional quality assurance in the department for improving programme.

Programe Assessment Committee(PAC)	Programme coordinator	concerned profession or industry. 3. One post-graduate meritorious alumni nominated by the Principal. 4. Head of the department / Programme coordinator to act as chairman.	2. Guiding in evolving POs and COs based on assessment. 3. Develops and recommends new or revised PEOs.
Board of Studies **(BOS)**	BOS Chairman	1. All teaching faculty of each course/ specialization offered. 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: 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.	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 Advisory Board/ Depatmental Development and Monitoring Committe	Head of the Department	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	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.
Academic Council	Principal	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 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. 4. Two nominees of the parent university 5. A faculty member nominated by the Principal of the institute to act as Member Secretary.	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 programmes and their educational objectives, academic regulations, curricula, syllabi, their objectives and outcomes and modifications, instructional and evaluation arrangements, methods, procedures etc. 3. To make regulations regarding the admission of students to different programs of study in 4. To recommend to the Governing Body the proposals of institution for new programs of study. 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. 6. To advise the Governing Body on suggestion(s) pertaining to academic affairs made by it. 7. To perform such other functions as may be assigned by the Governing Body.

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

S.NO	Method	Assessment Tool	Description
1	Direct	Oral & Written Exams	Objective, subjective, theory, practical, seminar and viva evaluation
2		Projects	Mini & Major project evaluation

3	Indirect	Student Exit Survey	Passing out students
4		Alumni Survey	Old batches of the students
5		Employer Survey	Industries which recruit our students
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.

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, Comprehensive Viva	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
IT Result Analysis
IT Placements
Minutes of Meeting
IT Survey Forms

We have introduced the Outcome Based Education system in full spirit in GRIET recently. Therefore it will take three more academic years to have students having experienced the learning environment as per new defined PEOs and three to five years from exit for them to experience the field of their careers. In the absence of such complete data, the evaluation guidelines are given, however attainment of the PEOs are commented based on available data.

However 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.

Evidence

PEO	**Assessment**	**Good**	**Average**	**Below Average**	**Attainment**
PEO 1	Performance	Above 60% distinctions	40-60% with distinctions	Below40% with distinctions	Above 60% distinctions
	Placements	Above 70% placement record	40 - 70 % placement record	Less than 40 % of students selected off campus	Above 50% placements are done in recent passed out batch.
	Higher Education	Above 35% graduates pursue higher education	20-35% of graduates pursue higher education	Below 20 % of graduates pursue higher education	Above 35 % for higher education
	Alumni	Above 70% satisfied with their training.	50-70% satisfied with their training.	Below 50% satisfied with their training.	Above 75% satisfied
	Industry	Returned for subsequent placement drives with more intake	Returned for subsequent placement drives	Reluctant to come for placement drives	Returned for subsequent placement drives with more intake
	Employer	Highly satisfied graduates performance	Satisfied graduates performance	Not satisfied graduates performance	Highly satisfied graduates performance
	Student Exit Survey	Above 80% graduates are satisfied with their curriculum	60-80% graduates are satisfied with their curriculum	Below 60% graduates are satisfied with their curriculum	Above 90% graduates are satisfied with their curriculum
		Above 60%		Below 40%	

PEO 2	Alumni Survey	Above 60% graduates are in Software Engineering Profession working in large teams	40-60% graduates are in Software Engineering Profession working in large teams	Below 40% graduates are in Software Engineering Profession working in large teams	Above 65% are in Software Engineering Profession working in large teams
	Employer Survey	Above 65% of graduates possess good managerial skills	50-65% of graduates possess good managerial skills	Below 50% of graduates possess good managerial skills	Above 70% of graduates possess good managerial skills
	Industry Survey	Above 70% graduates are familiar with modern tool usage	40-70% graduates are familiar with modern tool usage	Below 40% graduates are familiar with modern tool usage	Above 80% graduates are familiar with modern tool usage.
PEO 3	Alumni Survey	Above 70% have undergone for additional courses and qualifications.	50-70% have undergone for additional courses and qualifications.	Below 50% have undergone for additional courses and qualifications.	Above 70% have undergone for additional courses and qualifications.
	Employer survey	Above 55% of graduates were able to analyze societal problems	40-55% of graduates were able to analyze societal problems	Below 40% of graduates were able to analyze real time problems	Above 60% graduates were able to analyze societal problems
PEO 4	Alumni Survey	Above 65% have undergone for additional courses and qualifications.	50-60% have undergone for additional courses and qualifications.	Below 55% have undergone for additional courses and qualifications.	Above 75% have undergone for additional courses and qualifications.
	Employer survey	Above 70% of graduates were able to analyze societal problems	40-60% of graduates were able to analyze societal problems	Below 45% of graduates were able to analyze real time problems	Above 65% graduates were able to analyze societal problems

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)

We have introduced the Outcome Based Education system recently. Therefore students, having experienced the learning environment as per newly defined PEOs are yet to graduate from the Institute. The PEOs have been defined based on the vision and mission of institution and the department. The curriculum is developed based on these PEOs and uses the feedback received from the stakeholders through surveys. The continuous process of assignments, direct and indirect assessments and evaluation will lead to the revision and refinement of the PEOs. A mechanism is provided to review the results of the evaluation of our outcome based education system at the end of each academic year. Our Institute is first year of outcome based education and will review and redefine the PEOs at the end of the programme.

For Redefining PEOs, exit students survey, professional bodies view, alumni survey, employer survey and feedback are collected by the Programme Coordinator. These are reviewed and redefined PEOs are drafted by Programme Assessment Committee. The same is finalized by DAB (DDMC). Then the proposed PEOs are ratified by Academic Council.

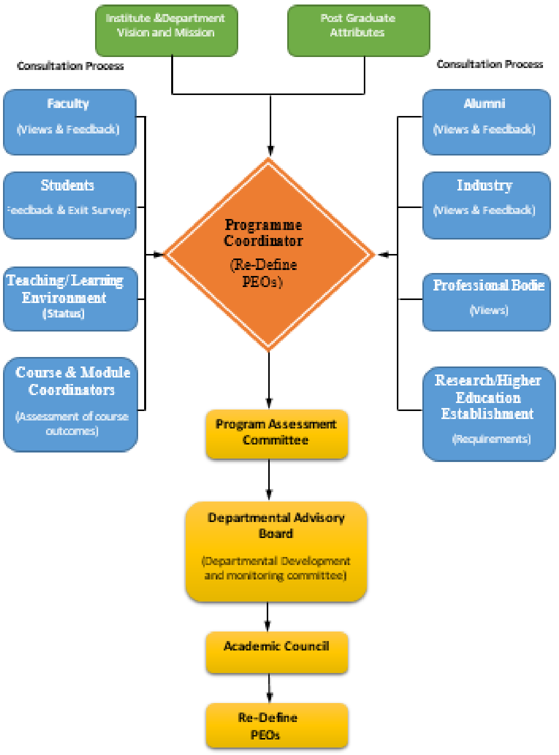

Institute &Department Vision and Mission
Post Graduate Attributes
Consultation Process
Consultation Process
Faculty (Views & Feedback)
Students Feedback & Exit Survey
Teaching/Learning Environment (Status)
Course & Module Coordinators (Assessment of course outcomes)
Programme Coordinator (Re-Define PEOs)
Alumni (Views & Feedback)
Industry (Views & Feedback)
Professional Bodie (Views)
Research/Higher Education Establishment (Requirements)
Program Assessment Committee
Departmental Advisory Board (Departmental Development and monitoring committee)
Academic Council
Re-Define PEOs

Figure 3: Redefining of Programme Educational Objectives

2 Programme Outcomes (225)

Total Marks : 225.00

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 INFORMATION TECHNOLOGY

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.
GR14A1019	FUNDAMENTALS OF ELECTRONICS AND	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.

	ENGINEERING	4. Discriminate the principle, construction and operation BJTs, 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 Transistor amplifiers using h-parameters.
GR14A1025	ENGINEERING WORKSHOP	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	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	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		
GR14A1003	TRANSFORM CALCULUS AND FOURIER SERIES	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 by eliminating arbitrary functions and arbitrary constants.
		7. Compile the solution of Boundary value problems (PDE) by Fourier Transform Method.
GR14A1004	NUMERICAL METHODS	1. Develop the skill of determining approximate solutions to problems having no analytical Solutions in different contexts
		2. Solve problems related to cubic spline fitting and approximation of functions using B-splines and least squares
		3. Develop the skill of finding approximate solutions to problems arising in linear differential Equations
		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.
		5. Interpret the mathematical results in physical or other terms to see what it practically means and implies.
		6. Explain the concept of interpolation is useful in predicting future out comes base on the present knowledge.
		7. Solve the model by selecting and applying a suitable mathematical method.
GR14A1008	ENGINEERING CHEMISTRY	1. Analyse water for the industry required specifications.
		2. Comprehend the fundamental principles of electrochemistry for energy production and corrosion Prevention.
		3. Identify the origin of different types of engineering materials used in modern technology.
		4. Identify new materials for novel applications.
		5. Develop the skills required for synthesis and analysis of materials.
		6. Relate the structure of materials to their properties and applications.
		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.
GR14A1010	DATA STRUCTURES	1. Classify and infer various data structures.
		2. Demonstrate operations like insert, delete, search and display of various data structures.
		3. Exemplify and experiment applications of various data structures.
		4. List applications of data structures in real time environments.
		5. Compare and contrast static and dynamic data structure implementations.
		6. Demonstrate different methods of traversing trees and construct trees from traversals.
		7. Implement searching and sorting techniques and analyze their performance.
GR14A1023	ENGINEERING GRAPHICS	1. Demonstrate different types of lines, the use of different types of pencils and drafter to represent
		2. Illustrate the basic drawing techniques, conic sections, cycloid curves, involutes and engineering
		3. Comprehend the basic concept of principle of planes of projections in front view and top view.
		4. Implement the orthographic projections of points, lines, planes and solids
		5. Analyze the structure which was hypostatically designed ex: development of surfaces, section of

		6. Explain the logic to convert pictorial vies to orthographic projections and orthographic projections to
		7. Evaluate conversions of isometric views to orthographic views helps in inventing new machinery.
GR14A1018	BASIC ELECTRICAL ENGINEERING	1. Comprehend the basics of Electrical Engineering and practical implementation of Electrical fundamentals.
		2. Illustrate applications of commonly used electric machinery.
		3. Identify the methods for numerical solutions to fundamental electrical engineering.
		4. Apply the basic principles involved in electrical engineering concepts.
		5. Analyze the practical methods of basic house wiring.
		6. Identify methods to solve AC circuits.
		7. Comprehend basics of electric machines like induction motors, generators, transformers etc. used in industries.
GR14A1024	BUSINESS COMMUNICATION AND SOFT SKILLS	1. Interpret and categorize the role and importance of various forms of communication skills.
		2. Apply and relate verbal and non-verbal communication with reference to professional contexts.
		3. Appraise professional responsibilities in an analytical manner
		4. Plan and organize the activity of sequencing ideas in an efficacious style.
		5. Evaluate and illustrate a neutral and correct form of English.
		6. Distinguish and prioritize behavior in formal situations.
		7. Combine business communication skills & soft skills to meet the requirement of corporate communication.
GR14A1026	IT WORKSHOP	1. Recognize different peripherals and install different system and application softwares.
		2. Analyze and use of web browsers and related tools for information extraction.
		3. Create different documents, presentations and spreadsheet applications.
		4. Recognize different network devices and their usage and identify and use different cables.
		5. Explore the internet for information extraction and other innovative applications.
		6. Design a static webpage.
		7. Design and develop Database.
GR14A1030	ENGINEERING CHEMISTRY LAB	1. Perform analysis of water to the required industrial standards.
		2. Apply the redox and acid-base titrations for analysing materials used in routine usage like cement, coal, acid in lead acid battery, etc.,
		3. Develop the skills required for assessing the quality of materials used in industries.
		4. Identify novel ways of instrumental 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
II B.Tech I Semester		
		1. Estimate the chance of occurrence of various uncertain events in different random experiments with strong basics in probability

GR14A2011	PROBABILITY AND STATISTICS	2. Evaluate random processes which occur in engineering application covered by binomial poison 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
GR14A2064	ADVANCED DATA STRUCTURES THROUGH C++	1. Differentiate between procedure oriented and object oriented programming
		2.Implement data structures operations like insertion,searching,deletion and traversing.
		3. Exemplying and experiment basic data strctures using C++ .
		4. Compare and contrast the benefits of dynamic and static data structures implementations
		5. Generate dictionary using hashing,balanced trees.
		6. Critique various data structures' performances.
		7. Recognize data structures concepts in other domins like databases,compiler construction.
GR14A2065	DIGITAL LOGIC DESIGN	1. Apply knowledge of fundamental Boolean principles and manipulation to design Logic Circuits.
		2. Apply various techniques of Boolean function simplification to create minimal expressions.
		3. Create combinational circuits for a specified behavior with minimal specification.
		4. Apply state minimization and reduction to synthesize Sequential circuits.

		5. Realize combinational circuitry using Combinational PLDs
		6. Synthesize and simulate combinational and sequential circuits using HDL
		7. Test HDL models of combinational and sequential circuits.
GR14A2066	ADVANCED DATA STRUCTURES THROUGH C++ LAB	1. Implement object oriented programming concepts to develop classes.
		2. Exemplying and experiment basic data strctures using C++ .
		3. Critique operations like -insertion, deletion, traversing of different data structures.
		4. Recall OOPS concepts to choose data structures for real world problems.
		5. Analyse the various data structures performance.
		6. Implement the dictionary using hashing .
		7. Develop a simple projects using C++.
GR14A2067	Data Base Management System LAB	1. Check different database schemas for any given problem.
		2. Generate queries on a data base using SQL commands.
		3. Implement SQL functions on the retrieved query results.
		4. Develop indexes for better query performance.
		5. Use the views to provide data security.
		6. Recognize appropriate aggregate operators to provide grouping of data.
		7. Exemplify DCL commands to provide security to the data base
GR14A2068	DIGITAL ELECTRONICS LAB	1. Identify the logic gates to solve the real world problems.
		2. Validate and check the various combinational circuits like adders, comparators, multiplexers and checkers.
		3. Verify various sequential circuits like flip flops, registers, counters.
		4. Translate the Boolean expressions using hardware description language.
		5. Implement the sequential and combinational circuits over hardware description language.
		6. Analyze and synthesize logic circuits.
		7. Design any Boolean function using universal gates such as NAND and NOR.
GR14A2001	ENVIRONMENTAL SCIENCE	1. Importance of environment, its purpose, design and perspectives
		2. Environmental issues related to the exploitation of natural resources and development of the mankind
		3. Role of professionals in protecting the environment from degradation
		4. The solutions for environmental problems created by local, national and global Developmental activities.
		5. Critically evaluate literature on environmental problems;
		6.Develop relevant research questions for environmental investigation
		7. Use methods and tools of environmental research, including statistical analysis, GIS, and other techniques;
II B.Tech II Sem		
GR14A2104	MANAGERIAL ECONOMICS AND FINANCIAL ANALYSIS	1. understand the markets and competition;
		2. forecast the demand;
		3. plan the operations and the production;
		4. choose an appropriate form of organisation;
		5. know the cost and decide the price of the products and/or services produced, and
		6. understand the financial statements and make financial analysis.
		7. To understand the global economic and environmental studies and

		try to use the related tools of the management concepts
GR14A2069	OPERATING SYSTEMS	1. Describe functions ,structures of operating systems
		2. Comprehend various process management concepts including scheduling, synchronization, deadlocks
		3. Learn the concepts of memory management including virtual memory.
		4. Solve issues related to file system interface and implementation disk management.
		5. Recognize protection and security mechanisms and familiar with various types of operating systems including UNIX.
		6. Analyze the sharing of system resources among the users.
		7. Differentiate various types of operating systems.
GR14A2070	OBJECT ORIENTED PROGRAMMING THROUGH JAVA	1. Distinguish between higher threading and multi threading
		2. Differentiate between procedure oriented programming and object oriented programming.
		3. Apply object oriented programming features and concepts for solving a given problem.
		4. Use java standard API library to write complex programs.
		5. Implement object oriented programming concepts using java
		6. Find the errors and trace the output of the program.
		7. Develop interactive programs using applets and swings.
GR14A2071	COMPUTER NETWORKS	1. Define basic terminology of computer networks
		2.Apply various network configurations and transmission media to build a network for an organization
		3.Gain knowledge and develop error correction technique for specified problems
		4.Compare various routing methods and give solutions for transmission problems
		5.Explain various transmission methods
		6.Relate different protocols with various applications
		7.Demonstrate solutions to various security problems related web applications
GR14A2076	COMPUTER ORGANIZATION	1. Demonstrate knowledge of register organization of a basic computer system
		2. Infer control unit organization and micro programmed control.
		3. Check the performance of central processing unit of abasic computer system.
		4. Impliment various algorithms to perform arithmetic operations and propose suitable hardware for them.
		5. Demonstrate knowledge of register organization of a basic computer system
		6. Infer control unit organization and micro programmed control.
		7. Check the performance of central processing unit of a basic computer system.
GR14A2072	OBJECT ORIENTED PROGRAMMING THROUGH JAVA LAB	1. Differentiate between procedure oriented programming and object oriented programming
		2. Implement object oriented programming features and concepts for solving given problem
		3. Produce complex programs using Java standard API Library
		4. Evaluate the quality of program and improve it
		5. Recognize required validations in the internet programming
		6. Check for errors and do needed corrections of the program
		7. Generate interactive programs using applets and swings.
	OPERATING SYSTEMS	1.Understand and analyze the various file organization techniques
		2. Interpret and adapt the different operating systems and Networking systems

GR14A2073	AND COMPUER NETWORKS LAB	3. Implement of CPU scheduling algorithms
		4. Compare and Contrast page replacement techniques
		5. Understand the implementation aspect of data link layer
		6. Implement various routing algorithms
		7 . Compare and contrast the various encryption mechanisms
GR14A2074	WEB DESIGNING LAB	1.Build a static web sites using HTML
		2.Design and implement web services
		3.Apply the techniques and knowledge to provide the web interactivity
		4.Apply the knowledge to provide security to the applications
		5.Apply adobe Photoshop to create broachers and edit the photos
		6.Apply adobe flash to create the animations
		7.Design the Web Pages using Dreamweaver tools
GR14A2002	VALUE EDUCATION AND ETHICS	1.Choose the right value system by self analysis and right understanding
		2.Make use of positive thinking, dignity of labour for building harmony and peace in self, family and 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
III B.Tech I Semester		
GR14A3057	SOFTWARE ENGINEERING	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, envonmental, 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	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	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
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
GR14A3056	DESIGN AND ANALYSIS OF ALGORITHMS	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
GR14A2059	MICRO CONTROLLERS LAB	1. Cicrocontrollers
		2. Analyze the code and build simple real time applications using microcontrollers
		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
		4. Describe the LCD and UART based programs
		5. Interpret with various applications using TRIAC, ADC and DAC
		6. Discriminate the Control based programs
		7. Interpret with RF 433 MHz, Bluetooth and ZigBee transmitter and Receiver
GR14A3063	WEB TECHNOLOGIES LAB	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.
GR14A3100	ADVANCED ENGLISH COMMUNICATIONS SKILL LAB	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.
		III B.Tech II SEM

	III B.Tech II SEM	
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. Diffentiate 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.
GR14A3064	AUTOMATA AND COMPILER DESIGN	1.Graduates will get an understanding about abstract machines and their capability and limitations
		2.complete understanding about the compilation process and its complexity
		3.Graduates will be able to understand the distinct features of the parsing techniques and their usage
		4.A capability to understand the type system
		5.An understanding about the different storage allocation techniques
		6.Graduates will be able to understand and implement the various code optimization techniques
		7.An understanding about the code generation aspect of the computer program
GR11A3065	OBJECT ORIENTED ANALYSIS AND DESIGN	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
GR14A3067	DATA WAREHOUSING AND DATA MINING	1.Learn the concepts of database technology evolutionary path which has led to the need for data mining and its applications.
		2.Design a data mart or data warehouse for any organization
		3.Apply pre-processing statistical methods for any given raw data
		4.Develop skills to write queries using DMQL
		5.Extract knowledge using data mining techniques
		6.Adapt to new data mining tools
		7.Explore recent trends in data mining such as web mining, spatial-temporal mining
GR14A3068	DISTRIBUTED DATABASES AND SYSTEMS	1.Demonstration of the Distributed Database environment
		2.Applicability to solve the fragment queries
		3.Capability of understanding the architecture of the distributed database environment
		4.Definition of the Transaction and the Concurrency issues
		5.Analysing the reliability of the Distributed Database
		6.Outlining of the object databases
		7.Capability to understand data integration issues
		1.Student should be able to assess the principles and commonly used paradigms and techniques of computer graphics
		2.Student should be able to comprehend mathematical processes to computer graphics problems and applications

GR14A3061	ARTIFICIAL INTELLIGENCE AND NEURAL NETWORKS	3.Student should be able to writing applications that produce 2D computer graphics
		4.Student should be able to writing applications that produce 3D computer graphics
		5.Student should be able to realize various computer animation techniques
		6.Student should be able to develop programs to display graphic images for given specifications
		7.Ability to develop appropriate solutions and problems
GR14A3062	COMPILER DESIGN & UNIFIED MODELLING LANGUAGE LAB	1.An ability to learn analysis and design of a business process and system as a whole by using UML
		2.An ability to apply forward and reverse engineering of system using UML with a team effort
		3.An ability to distinguish the different UML diagrams
		4.An ability to learn how to apply the UML to a number of common modelling techniques
		5.Students will get an understanding about the complete compilation process
		6.Students will learn to write code for the lexical and syntax phases of compiler design
		7.Students will understand about the three address coding intermediate code generation
GR14A3072	ADVANCED UNIX PROGRAMMING LAB	1.Use a core set of UNIX commands with mechanism of shell and kernel programming techniques.
		2.To understand the inner workings of UNIX-like operating systems
		3.Gain knowledge in system call programming, multithreaded programming
		4.Demonstrate the various signal handling concepts
		5.Identify the role of kernel in file management and directory management
		6.Able to use semaphores, shared memory, message queues for inter-process communications
		7.Learn the various techniques involved in Inter Process Communication
GR14A3101	INDUSTRY ORIENTED MINI PROJECT	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.
GR14A3063	WEB TECHNOLOGIES LAB	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		
		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

GR14A3102	MANAGEMENT SCIENCE	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
GR14A3060	SCRIPTING LANGUAGES	1.Analyze a problem, identify and define the computing requirements appropriate to its solution.
		2.Design Web pages with DB.
		3.Design a form containing several fields and be able to process the data provided on the form by a user in a PHP-based script.
		4.Implement the PHP Authentication Methodolgies.
		5.Understand the syntax and functions available to deal with file processing for files on the server as well as processing web URLs.
		6. Create efficient web application framework using python.
		7. Design good, effective and customized web sites.
GR14A4093	Wireless Networks and Mobile Computing	1.An ability to know the difference between Wired and Wireless Network Technology
		2.An ability to setup a LAN, MAN, WAN, with different transmission technologies using Mobile devices and to understand the characteristics, applications of Mobile Computing
		3.An ability to understand the GSM architecture & protocol and practically can check the performance of cellular communication through a Network Simulator
		4.An ability to design a MAC protocol and test the performance through any Network Simulator
		5.An ability to understand the concept of Mobile IP and Mobile TCP
		6.An ability to understand and co-relate Mobile Computing technology with database related issues and to develop practical skill for mobile computing application
		7.An ability to differentiate between Cellular Networks & Ad hoc Networks and develop some routing protocols for MANET
GR14A4077	SOFTWARE TESTING METHODOLOGIES	1. Create a model for testing and criticize various consequences of bugs.
		2. Interprit 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.
GR14A3061	ARTIFICIAL INTELLIGENCE AND NEURAL NETWORKS	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
GR14A4094	SEMANTIC WEB AND SOCIAL NETWORKS	1. Explain the three generations of the web
		2. Understand semantic web basics, architecture and technologies
		3.Understand the semantic relationships using Resource Descriptive Framework (RDF)
		4.Analyze and explain how technical changes affect the social aspects of Web based computing
		5. Understand and analyze key web applications including search engines and social networking sites
		6. Develop Linked data applications using Semantic Web Technologies
		7. Explain the three generations of the web
GR14A4069	DIGITAL IMAGE PROCESSING	1.Apply to current technologies and issues that are specific to image processing systems.
		2.Know how images are formed, sampled, quantized and represented digitally.
		3.Leverage the student’s knowledge of image processing to a practical system.
		4.Compress the Digital image which is required for storage and transmission of digital images.
		5.Identify transform-domain representation of images (Fourier, DCT, Haar, WHT)
		6.Learn the morphological processing and wavelet transforms
		Know the principles of image compression, enhancement and restoration and segmentation
GR14A4095	INFORMATION RETRIEVAL SYSTEMS	1. Understand and apply the basic concepts of information retrieval
		2. Appreciate the limitations of different information retrieval techniques
		3.Write programs to implement search engines
		4. Evaluate search engines
		5.Apply various document clustering techniques for clustering of document over internet
		6.Demonstrate techniques of information visualization
		7. Compare and contrast various models of system evaluation.
GR14A4096	STORAGE AREA NETWORKS	1. The need for storage area network
		2. Best option for any given application environment
		3. Architecture of backup
		4. Architecture of recovery
		5.Architecture of virtualization technologies
		6.RAID implementation
		7. Basics and Principles of SAN
		1. Demonstrate understanding of the TCP/IP model and relevant protocols

GR14A4098	NETWORK PROGRAMMING	in each layer
		2.Describe the IP addressing, Internet domain names and recognize the role of the DNS servers
		3. Identify and apply various socket programming concepts and mechanisms
		4.Use effectively the socket interface or remoting to develop Client-Server applications
		5. Practice software engineering principles and methods in building network-aware applications
		6. Design and implement Client-Server applications using TCP and UDP sockets
		7. Design and create a communication channel between dissimilar machines
GR14A4084	SCRIPTING LANGUAGES LAB	1.Recall process of executing a PHP-based script on a webserver.
		2.Compare different Data Base languages.
		3.Generate complete web applications using PHP and MySQL.
		4.Analyze requirements of software system for the purpose of implementing in PERL/PYTHON.
		5.Implement simple graphical user interfaces that drive their programs.
		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.
		7.Organize websites to load data from them (web scraping).
GR14A4099	MIDDLEWARE TECHNOLOGIES LAB	1.To understand the role of middleware in the distributed environment
		2.To study the set of services that a middleware system constitutes of
		3.To understand how middleware facilitates the development of distributed applications in heterogeneous environments
		4.An Ability to understand the EJB Architectures and Applications
		5. To study how it helps to incorporate application portability, distributed application component interoperability and integration
		6. To learn the object oriented middleware basics through the example of the following CORBA objects
		7. To understand the basics of Web services that is the most oft-used middleware technique
GR14A4100	ANIMATIONS LAB	1.Identify the 12 principles of animation
		2.Calculate and apply appropriate frame rates
		3.Manipulate animation production equipment
		4.Describe characteristics of well-designed and executed animation
		5.Assess and critique past and current animation trends
		6.Demonstrate progress in basic drawing and animation skills
		7.Demonstrate skills in the use of industry standard tools for animation
IV B.Tech II Semester		
GR14A4082	MOBILE APPLICATION	1.Recall the key technological principles and methods for delivering and maintaining mobile applications.
		2.Evaluate suitable software tools and APIs for the development of a particular mobile application
		3.Implement High level and Low level Displays of mobile and Storing data by using Record Management System(RMS
		4.Produce mobile applications using an appropriate software development environment with Database.

	DEVELOPMENT	5.Critique requirements for mobile platforms to establish appropriate strategies for development and deployment
		6.Interpret a scenario, plan, design and develop a prototype hybrid and native mobile application
		7.Differentiate leading edge developments in mobile application development.
GR14A4101	SOFTWARE PROJECT MANAGEMENT	1.To take responsibility of a project team and project organization
		2.Apply problem solving skills, core IT concepts, best practices and standards to information Technologies
		3.Work with high level and low level Displays of mobile and storing data by using record management system
		4.Design, implement and deploy mobile applications using an appropriate software development Environment with database
		5.Understands how different management and development practices affect software and process quality
		6.Apply theoretical knowledge on project management and software development into practice
		7.Be well aware on ethical issues related to software project management and can apply this ethical knowledge in practical situations
GR14A4091	E-COMMERCE	1. Summerize nature and types of e-commerce.
		2. Differentiate all types of business models.
		3. Attribute the appropriate technologies to develop and deliver e-commerce applications.
		4. Plan suitable software, hardware and e-com tools for developing a better web application.
		5. Implement a robust, safe and secured online payment system.
		6. Recognize online content and management.
		7. Interpret about the current e-commerce development and usage of effective internet.
GR14A3043	VLSI DESIGN	1.Differentiate between IC families and their manufacturing processes.
		2.Analyze and model the MOS transistor circuit, down to physical level considering parasitic components.
		3.Analyze and implement various CMOS subsystems at gate level and transistor level.
		4.Compare the various parameters used in fabrication process
		5.Describe the various operations like stick and layout diagrams of VLSI
		6.Implement designs using various programmable devices.
		7.Know the testing of ICs and design IC s with testability features.
GR14A4102	ADHOC AND SENSOR NETWORKS	1.Work with existing Ad-hoc and sensor network protocols and standards
		2.Create a Sensor network environment for different type of applications
		3.Designadhoc and sensor network architectures using QoS and Congestion control mechanisms
		4.Interpret the various control fields of the protocol in each layer
		5.Select appropriate routing algorithms for different network environments
		6.Program ad-hoc and sensor network for various applications

		7.Deploy security mechanisms in the wireless ad-hoc and sensor networks
GR14A4104	HUMAN COMPUTER INTERACTION	1. Successfully order the stages of the process and identify methods or principles for conducting each of the stages
		2. Articulate the strengths and weaknesses of each evaluation method and determine when they can be successfully used
		3.Select effective style for a specific application
		4. Evaluation of interfaces
		5. Conduct experiments on Design and Usability
		6.Conduct experimental testing and evaluation of human computer interaction systems
		7. Awareness of the methodologies and technologies supporting advances in HCI
GR11A4090	DESIGN PATTERNS	1. Apply Singleton Pattern to provide controlled access to the sole instance of a class.
		2. Apply Composite Pattern to represent whole-part hierarchies of objects.
		3. Explain Factory Method Pattern to eliminate the need to hard-code specific class names.
		4. Attribute Strategy Pattern to configure a class with one of many alternate behaviors..
		5. Produce creational patterns to help make systems independent of how its objects are created.
		6. Plan structural patterns to compose classes and objects into larger structures.
		7. Critique other behavioral pattern to manage algorithms and assign responsibilities to objects
GR11A4087	CLOUD COMPUTING	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, and technological implications in selecting Cloud Computing Paradigm for an organization.
		6. Understand and Analyze the Challenges and Risks involved in the Cloud.
		7. Create/Deploying of an Application on a Cloud
GR14A4041	OPERATION RESEARCH	1.Apply the various linear programming techniques for optimal allocation of limited resources such as machine, material and money
		2. Solve transportation problems to minimize cost and understand the principles of assignment of jobs and recruitment polices.
		3. Apply Game theory to analyze various business competitions.
		4.Distinguish various inventory models and develop proper inventory policies.
		5.Solve sequencing problems.
		6. Develop optimum replacement policy.
		7. Solve Dynamic Programming Techniques
GR14A4105	MOBILE APPLICATION	1.Ability to design and implement and make a mobile application on android platform
		2.Ability to do work on operating system and various key applications
		3.To gain knowledge to work on various APIs

	DEVELOPMENT LAB	4.To learn to work on deploying android applications
		5.They can do various mobile apps on animations and gaming
		6.Able to work on SQLITE database.
		7.To install and run the .apk file in mobile
GR14A4143	SEMINAR	1. A more advanced knowledge of the region including research and writing in a seminar format.
		2. Self-study on multidisciplinary areas related to CSE engineering.
		3. Develop required skills for technical presentation
		4. Improvises the communication, presentation skills
		5. Develop self- confidence
		6. Concentrate on specific topic in scientific and engineering fields.
		7. Discuss new trends among group of students and facilities.
GR14A4142	COMPREHENSIVE VIVA	1. Ability to articulate knowledge on various fundamentals.
		2. Ability to articulate knowledge on design concepts.
		3. Ability to define engineering basics, Applications, concepts.
		4. Improves in-depth knowledge about the Core subjects
		5. Learn about the real time interview process
		6. Ability to express sufficient knowledge in selected course.
		7. Ability to respond face interview, oral presentation and oral examination.
GR14A4144	MAJOR PROJECT	1. Applying theoretical concepts into working model.
		2. Improve their communication skills and team work.
		3. Plan, implement and document the problem solution.
		4. Analyze, design, and develop while providing solution to the problem.
		5. Ability to work in a team
		6. Learn the real time environment and possess leader ship qualities
		7. Use the latest technologies and tools which are sort after by the industries.

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)

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

Presently 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, presentations to visiting academicians, industry personnel, parents etc.

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.)

The POs (a-l) are as 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.

The programme assessment committee formulates the programme outcomes after considering the views of all stakeholders and the PEOs. This is forwarded to DAB (DDMC) for its recommendations and submission to Academic council. The programme outcomes are approved by Academic council. The process is presented in the flow chart given below.

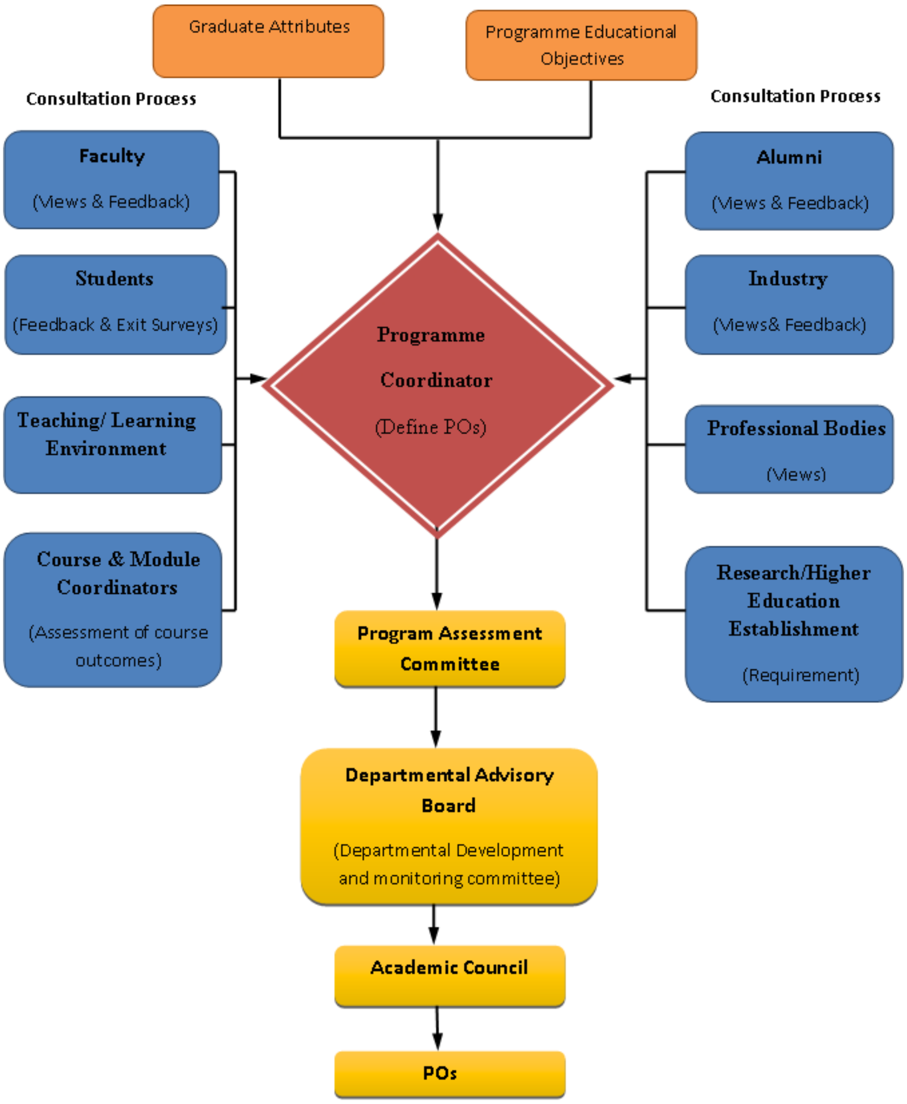

Graduate Attributes
Programme Educational Objectives
Consultation Process
Consultation Process
Faculty (Views & Feedback)
Students (Feedback & Exit Surveys)
Teaching/ Learning Environment
Course & Module Coordinators (Assessment of course outcomes)
Alumni (Views & Feedback)
Industry (Views& Feedback)
Professional Bodies (Views)
Research/Higher Education Establishment (Requirement)
Programme Coordinator (Define POs)
Program Assessment Committee
Departmental Advisory Board (Departmental Development and monitoring committee)
Academic Council
POs

Figure: 4 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
- Project management and finance
- Life- long learning

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**
Engineering Knowledge	X											X

Problem Analysis		X										X
Design/Development of Solutions			X									X
Conduct investigations 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 Teamwork									X			X
Communication										X		X
Project Management and Finance											X	X
Life Long Learning												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)

Program Educational Objective(PEO)	**Program Outcomes(PO)**
PEO 1: Graduates of the program will have successful technical and professional careers, play supportive and leadership roles with correct attitude and appropriate skills to be team players even in a multidisciplinary environment.	a. Ability to apply knowledge of mathematics, science, and engineering. d. Ability to function on multi-disciplinary teams. e. Ability to identify, formulates, and solves engineering problems h. The Broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context k. Ability to utilize experimental, statistical and computational methods and tools necessary for engineering practice. l. An ability to advance professionally through organized training or self-learning in areas related to Information Technology throughout their career
PEO 2: Graduates of the program will have the ability to effectively understand, use and develop modern data storage, interpret, analyze and simulate technologies and possess the capability to acquire other engineering concepts and tools	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. d. Ability to function on multi-disciplinary teams. e. Ability to identify, formulates, and solves engineering problems j. Knowledge of contemporary issues
PEO 3: Graduates of the program will be able to communicate effectively, recognize and incorporate societal needs and address constraints in their professional endeavors, and also practice their profession with high regard to legal and ethical responsibilities.	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 f. Understanding of professional and ethical responsibility g. Ability to communicate effectively
PEO 4: Graduates of the program will engage in life-long learning to remain abreast in their profession and be an epicenter of creative solutions to increase their employability	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. e. Ability to identify, formulates, and solves engineering problems i. Recognition of the need for, and an ability to engage in life-long learning. k. Ability to utilize experimental, statistical and computational methods and tools necessary for engineering practice. l. An ability to advance professionally through organized training or self-learning in areas related to Information

	Technology throughout their career

Mapping of Programme Educational Objectives with Programme Outcomes

Programme Educational Objectives		Programme Outcomes											
		a	b	c	d	e	f	g	h	i	j	k	l
PEO1	Graduates of the program will have successful technical and professional careers, play supportive and leadership roles with correct attitude and appropriate skills to be team players even in a multidisciplinary environment.	H			H	M			H			M	H
PEO2	Graduates of the program will have the ability to effectively understand, use and develop modern data storage, interpret, analyze and simulate technologies and possess the capability to acquire other engineering concepts and tools	H	M		H	M					H		
PEO3	Graduates of the program will be able to communicate effectively, recognize and incorporate societal needs and address constraints in their professional endeavors, and also practice their profession with high regard to legal and ethical responsibilities.			H			M	H					
PEO4	Graduates of the program will engage in life-long learning to remain abreast in their profession and be an epicenter of creative solutions to increase their employability			H		M				H		M	H

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)

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
		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	H			M		H	M	M			H	M

GR14A1001	**LINEAR ALGEBRA AND SINGLE VARIABLE CALCULUS**	constant coefficient equations)												
		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
GR14A1002	**ADVANCED CALCULUS**	Solve problems on function optimization with and without constraints	M	M	H		H		M	M			H	
		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	H	H	M	M	H			M			M	H

		techniques to know the composition of Nano material.	H	H	M	M	H			M			M	H
GR14A1009	**COMPUTER PROGRAMMING**	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 arrays, strings, functions, pointers, structures, files.	H	H	H	M	H			M		M	M	H
		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

GR14A1025	**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		H	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 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
		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

GR14A1003	**TRANSFORM CALCULUS AND FOURIER SERIES**	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		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
GR14A1004	**NUMERICAL METHODS**	Develop the skill of determining approximate solutions to problems having no analytical Solutions in different contexts	M	M	H		H			M			H	
		Solve problems related to cubic spline fitting and approximation of functions using B-splines and least squares	M	M	H		H				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	
		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	H			M			M		M		M	M

GR14A1008	**ENGINEERING CHEMISTRY**	analysis of materials.												
		Relate the structure of materials to their properties and applications.	H			M			M		M		H	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	M
GR14A1010	**DATA STRUCTURES**	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
		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
		Comprehend the basics of Electrical												

GR14A1018	**BASIC ELECTRICAL ENGINEERING**	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			

Correlation between Course Outcome and Program Outcomes of II B.Tech Information technology

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 poison 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	
GR14A2062	**MATHEMATICAL FOUNDATION OF COMPUTER SCIENCE**	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
		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
		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												

GR14A2063	**DATABASE MANAGEMENT SYSTEMS**	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
		Exemplying and experiment basic data strctures 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 domins 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
GR14A2066	**ADVANCED DATA STRUCTURES THROUGH C++ LAB**	Implement object oriented programming concepts to develop classes.	H	M	M		M	M			M			M
		Exemplying and experiment basic data strctures using C++ .	H	H	M	H	M		M				M	H
		Critique operations like -insertion, deletion, traversing of different data structures.	H		H	H	H			M			H	H
		Recall OOPS concepts to choose data structures for real world problems.	H	M				H		H			M	
		Analyse the various data structures performance.	H	H	M		H				M		M	H
		Implement the dictionary using hashing .	H	H	M	M			M				M	H

		Develop a simple projects using C++.	H	M			M			M			M	H
GR14A2067	Data Base Management System **LAB**	Check different database schemas for any given problem.	H	M			M		M				M	H
		Generate queries on a data base using SQL commands.		H			M						M	
		Implement SQL functions on the retrieved query results.		H	H		M			M			M	M
		Develop indexes for better query performance.		H	H		M			M			M	M
		Use the views to provide data security.	H	H	M		M							H
		Recognize appropriate aggregate operators to provide grouping of data.	H	M	M			M		M			M	M
		Exemplify DCL commands to provide security to the data base	H	M			M				M			H
GR14A2068	**DIGITAL LOGIC DESIGN LAB**	Identify the logic gates to solve the real world problems.	H	H				M		M			M	H
		Validate and check the various combinational circuits like adders, comparators, multiplexers and checkers.		M			M		M				M	H
		Verify various sequential circuits like flip flops, registers, counters.		M				M					M	H
		Translate the Boolean expressions using hardware description language.	H	M	M		M			M			M	H
		Implement the sequential and combinational circuits over hardware description language.	H			M		M			H			
		Analyze and synthesize logic circuits.		M			M		M				H	
		Design any Boolean function using universal gates such as NAND and NOR.		M	M				M				M	M
GR14A2001	**ENVIRONMENTAL SCIENCE**	Importance of environment, its purpose, design and perspectives		M	M		H		H		H			
		Environmental issues related to the exploitation of natural resources and development of the mankind	H	M		M			M				M	H
		Role of professionals in protecting the environment from degradation	H			M				H		M		
		The solutions for environmental problems created by local, national and global Developmental activities.	H				H			M			H	
		Critically evaluate literature on environmental problems;	H	M			M			M			M	
		Develop relevant research questions for environmental investigation		H	M		M			M		H	M	H
		Use methods and tools of environmental research, including statistical analysis, GIS, and other techniques;	H	M			M			M		M		H
GR14A2104	**MANAGERIAL ECONOMICS AND FINANCIAL ANALYSIS**	understand the markets and competition;	H	M	M		M			M			M	H
		forecast the demand;	H	H	M		H				M	M	H	
		plan the operations and the production;	H	M			M			M			M	
		choose an appropriate form of organisation;	H	M			M				M		M	
		know the cost and decide the price of the products and/or services produced, and	H	M			M			M			M	
		understand the financial statements and make financial analysis.	H	M			M			M			M	M
		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
		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	
			H	H	M		H						M	H

GR14A2070	**OBJECT ORIENTED PROGRAMMING THROUGH JAVA**	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	
GR14A3056	**DESIGN AND ANALYSIS OF ALGORITHMS**	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
GR14A2072	**OBJECT ORIENTED PROGRAMMING THROUGH JAVA LAB**	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 API Library	H	M			M		M		M		M	
		Evaluate the quality of program and improve it		H	M		M					H	M	H
		Recognize required validations in the internet programming	H	M			M							H
		Check for errors and do needed corrections of the program	H				M			M			M	H
		Generate interactive programs using applets and swings.	H	M	M		M	M						M
GR14A2073	**OPERATING SYSTEMS LAB**	Evaluate the performance of different types of CPU scheduling algorithms.	H	H	M	H	M		M		M		M	H
		Compare different page replacement policies.	H		H	H	H						H	H
		Compare the types of fragmentations that results with different paging techniques of memory management.	H	M				H		H			M	
		Implement algorithms for disk scheduling techniques and evaluate their performance.	H	H	M		H						M	H
		Implement file organization techniques.	H	H	M	M				M			M	H
		Recognize need of Banker's algorithm for deadlock avoidance.	H			M		M					M	H
		Critique the use of semaphores for producer-consumer, readers'-writers' problem, Dining Philosophers problems	H	M			M			M			M	H
GR14A2074	WEB DESIGNING LAB	1.Build a static web sites using HTML		H			M						M	
		2.Design and implement web services		H	H		M			M			M	M
		3.Apply the techniques and knowledge to provide the web interactivity		H	H		M			M			M	M
		4.Apply the knowledge to provide security to the applications	H	H	M		M							H
		5.Apply adobe Photoshop to create broachers and edit the photos	H	M	M					M			M	M
		6.Apply adobe flash to create the animations	H	M			M							H
		7.Design the Web Pages using Dreamweaver tools	H	H			M			M			M	H
		Choose the right value system by self analysis and												

GR14A2002	**VALUE EDUCATION AND ETHICS**	Choose the right value system by self analysis and right understanding		M			M						M	H
		Make use of positive thinking, dignity of labour for building harmony and peace in self, family and society		M			M	M	H				M	H
		Analysing the importance of personality on effective behaviour	H	M	M		M						M	H
		Identify and solve ethical dilemmas by finding value based and sustainable solutions in professional life.	H			M		M			H			
		Find sustainable technological solutions for saving environment		H	H		M	M				M	H	
		Compile value and ethical systems for continuous happiness and prosperity	H			M	M				M		M	
		Take part in effective team work bringing out win-win solutions for complex problems	H		M		M		M	M	H		M	

Correlation between Course Outcome and Program Outcomes of III B.Tech Information technology

Course Code	Course Title	Course Outcomes	Programme Outcomes											
			a	b	c	d	e	f	g	h	I	j	k	l
GR14A3103	**UNIX AND SHELL PROGRAMMING**	Recognize the functionality of UNIX Operating System Utilities and commands.	H	M			M						M	H
		Exemplify shell programs in the UNIX environment while exploring OS features.	H	M			M						M	
		Develop C programs using Unix Commands.	H	M										
		Implement awk scripts in UNIX environment.	H	M			M						M	
		Diffentiate various methods for Inter Process Communication in UNIX.	H				M						M	H
		Evaluate the performance of visual and screen editors.	H	M	M		M	M						M
		Generate applications based on UNIX Operating System functionalities.	H	M	M		M						M	
GR14A3051	**COMPILER DESIGN**	Infer the basic concept of compiler design	H	M		M							M	H
		Classify different phases and passes of Compiler.	H	H			M						M	
		Differentiate the process of Parsing types i.e. Top-down and Bottom-up parser.		H	M		M					H	M	H
		Implement semantic rules into a parser that performs attribution while parsing.	H				M						M	H
		Check different error detection and correction methods	H	M	M		M	M						M
		Design principles in the construction of software systems of varying complexity.	H	M			M							H
		Generate a compiler for a concise programming language.		M	M	M								
GR14A2055	**MICRO CONTROLLERS**	Compare the functionally and architectures of microprocessors and microcontrollers		M	H		H				H	M		
		Analyze assembly language programming techniques		M	H	M		M			M	M	M	
		Explain the implementation of 8051 instruction set		M		M			H		M			
		Analyze assembly language programming concepts	H				M						M	H
		Acquainted with design of microcontrollers		M			H				M	M	H	
		Interface various devices with microcontrollers	H				M						M	
		Design various programs to run several applications	H	M			M							
		Recognize different types of network topologies.	H	M	H	H				M	M	M	M	H
		Explain connecting components used for different layers in Network model.	H	M	M	H	H			H	M	H	H	H
		Summarize various kinds of transmission media used in wired networks and wireless networks for communication.	H				M						M	H
		Critique different routing technologies	H	M	M		M	M						M

GR14A3052	**COMPUTER NETWORKS**	involved in Unicasting and Broadcasting networks.	H	M	M		M	M						M
		Compare the performance of Internet Protocol (IP), Transport Control Protocol (TCP) and User Datagram Protocol used (UDP) in Internet.	H	H	H	M				H	M	M	M	H
		Analyze and use appropriate network protocols in real time applications for efficiency.	H	H	H		H			H	M	M	M	M
		Produce security algorithms in different networks for protection.	M	M	M		H			M	M	H	H	H
		Exemplify formal methods of syntax.	M	M	H		M			M	M	M	M	M
		Implement dividing a program into sub-programs in order to increase the readability and reusability.	M	M	M						M	M	M	M
		critique application of logic programming language and functional programming language.	H	M	M		M						M	H
		Examine abstract data types, concurrency.	M	M	M	M	M	M	M	M	M	M	M	M
		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 Compile and compose the programs on LED patterns, Switches and LEDs	H				M	M	M				M	H
		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
		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 manner (as pseudo codes).	H	M		M							M	H
		Critique the efficiency of the algorithms.	H	H			M						M	
		Attribute various searching and sorting algorithms for different applications.		H	M		M					H	M	H

GR14A3056	**DESIGN AND ANALYSIS OF ALGORITHMS**	Exemplifying various techniques like divide and conquer, greedy and dynamic approach in solving problems.	H				M						M	H
		Plan the appropriate algorithm design techniques for real world problems.	H	M	M		M	M						M
		Comparing performances of various problem solving techniques and selecting the best suitable approach.	H	M			M							H
		Differentiate between deterministic and non-deterministic problems		M	M	M								
GR14A3057	**SOFTWARE ENGINEERING**	Plan to solve engineering problems.		M	H		H				H	M		
		Recognize the professional and ethical responsibility.		M	H	M		M			M	M	M	
		Implement the schedule of software development.		M		M			H		M			
		Attribute the impact of engineering solutions to global, economic, environmental, and societal context.	H				M						M	H
		Compare different life cycle models.		M			H				M	M	H	
		Critique based on cyclomatic complexity of different softwares being developed.	H				M						M	
		Design and maintain software systems.	H	M			M							
GR14A3058	**INFORMATION SECURITY**	Implement the applications defined with confidentiality, integrity, and authentication.	H	M	H	H				M	M	M	M	H
		Interpret various cryptographic algorithms.	H	M	M	H	H			H	M	H	H	H
		Summarize intrusion and intrusion detection, Web security and firewalls.	H				M						M	H
		Compare various message authentication algorithms.	H	M	M		M	M						M
		Recognize the threats to information security	H	H	H	M				H	M	M	M	H
		Differentiate the Key Management techniques	H	H	H		H			H	M	M	M	M
		Critique the issues with structure of Authentication Service and Electronic Mail Security	M	M	M		H			M	M	H	H	H
GR14A3059	**WEB TECHNOLOGIES**	Recall html, JavaScript, CSS and applet codes .	M	M	H		M			M	M	M	M	M
		Implement hierarchy of objects in HTML and XML.	M	M	M						M	M	M	M
		Design dynamic and interactive web pages by embedding Java Script code in HTML.	H	M	M		M						M	H
		design a creative and dynamic website	M	M	M	M	M	M	M	M	M	M	M	M
		Critique different technologies used for WEB designing	H	M			M						M	
		Analyze and create XML documents and XML Schema	H	M			M						M	
		Analyze and build interactive web applications using ASP and ASP.NET	M	M	M	M			H	M				M
GR14A3060	**SCRIPTING LANGUAGES**	Organize computing requirements appropriate to solution of a problem on hand.		H	H	M	M	M	M					M
		Generate applications using PHP, Python	H				M	M	M				M	H
		Implement connecting Web pages with DB		M			M	M	M					M
		Exemplify form containing several fields and be able to process the data provided on the form by a user in a PHP-based script.		M	M	M	M	M	M					M
		Recall basic PHP syntax for variable use, and standard language constructs, such as conditionals and loops.	H	M									M	
		Implement the syntax and use of PHP object-oriented classes.	H	M			M						M	H
		Critique the syntax and functions available to deal with file processing for files on the server as well as processing web URLs.	H	M	M		M						M	
		Implement Heuristic approach for dealing with real world problems	H	M	M	M							M	H
		Recognize Proposition logic for fact representation	H	M	M	M	M						M	H
		Compare Optimization techniques												

GR14A3061	**ARTIFICIAL INTELLIGENCE AND NEURAL NETWORKS**	available for solving the problems	H	M	M		M						M	
		Implement Back propagation networks for machine learning	H	M	M		M						M	M
		Analyze Feature learning techniques for classifying/recognizing the patterns	H	M	M		M						M	H
		Check Training and validation mechanisms of Artificial neural networks for abstraction	H	M	M								M	H
		Generate solutions using Adaptive resonance theory for scientific problems	H	M			M						M	H
		Distinguish between higher threading and multi threading	H	M										
		Implement SIMD techniques for data driven real time applications	H	M			M						M	
		Implement Programming skills of OMP for scientific problems	H				M						M	H
		Recall MPI concepts while dealing with parallel problems	H	M	M		M	M						M
		Analyze Scheduling in multi-threaded environment	H	M	M		M						M	
		Check load balancing in multi core environment	H	M		M							M	H
GR14A3101	**INDUSTRY ORIENTED MINI PROJECT**	Work in a team.	H	H			M						M	
		Analyze, design and implement a real time problem.		H	M		M					H	M	H
		Understand the various phases involved in developing a product.	H				M						M	H
		Express/ interpret their views with out hesitation	H	H	M		M				M			M
		Produce the project in product based form.	H	M	M		M	M						M
		Lose their stage fear and develop self -confidence	H		M	M		M	M	H			H	
		Present the project orally and in written report.	H	M			M							H
GR14A3100	**ADVANCED ENGLISH COMMUNICATIONS SKILL LAB**	Ability to explore and utilize different forms of communication to convey one’s ideas in various professional contexts.		M	M	M								
		Ability to engineer self-presentation and socializing.		M	H		H				H	M		
		Ability to appear various international online exams like GRE, TOEFEL, IELTS.		M	H	M		M			M	M	M	
		Ability to prepare technical writing for effective professional documentation.		M		M			H		M			
		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 Information technology

			Programme Outcomes

Course Code	Course Title	Course Outcomes	a	b	c	d	e	f	g	h	i	j	k	l
GR14A3065	**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	
GR14A4077	**SOFTWARE TESTING METHODOLOGIES**	Create a model for testing and criticize various consequences of bugs.	H	M		M							M	H
		Interprit 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								
GR14A3102	**MANAGEMENT SCIENCE**	To define and describe the functional areas of management		M	H		H				H	M		
		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							
GR14A4078	**MOBILE APPLICATION DEVELOPMENT**	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		M			H	M		M	M
		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												

GR14A4087	**CLOUD COMPUTING**	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
GR14A4093	Wireless Networks and Mobile Computing	1.An ability to know the difference between Wired and Wireless Network Technology		H	H	M	M	M	M					M
		2.An ability to setup a LAN, MAN, WAN, with different transmission technologies using Mobile devices and to understand the characteristics, applications of Mobile Computing	M	M	H		M			M	M	M	M	M
		3.An ability to understand the GSM architecture & protocol and practically can check the performance of cellular communication through a Network Simulator		M			M	M	M					M
		4.An ability to design a MAC protocol and test the performance through any Network Simulator		M	M	M	M	M	M					M
		5.An ability to understand the concept of Mobile IP and Mobile TCP	H	M									M	
		6.An ability to understand and co-relate Mobile Computing technology with database related issues and to develop practical skill for mobile computing application	H	M			M						M	H
		7.An ability to differentiate between Cellular Networks & Ad hoc Networks and develop some routing protocols for MANET	H	M	M		M						M	
GR14A4077	SOFTWARE TESTING METHODOLOGIES	1. Create a model for testing and criticize various consequences of bugs.	H	M	M	M							M	H
		2. Interprit sensitization and instrumentation of paths	M	M	H		M			M	M	M	M	M
		3. Apply a path testing technique for a given software.	H	M	M		M						M	
		4. Check various state testing techniques for exploring state related bugs.	H	M	M		M						M	M
		5. Recognize domains for data items used in an application.	H	M	M		M						M	H
		6. Design test cases based on decision tables.	H	M	M								M	H
		7. Attribute graph matrices techniques for the simplification of testing process.	H	H									M	H
GR14A4082	**MOBILE APPLICATION DEVELOPMENT**	Recall the key technological principles and methods for delivering and maintaining mobile applications,		M	M					M				H
		Evaluate suitable software tools and APIs for the development of a particular mobile application			M								M	
		Implement High level and Low level Displays of mobile and Storing data by using Record Management System(RMS)	M				M							
		Produce mobile applications using an appropriate software development environment with Database.	M	M									M	
		Critique requirements for mobile platforms to establish appropriate strategies for development and deployment,	M	M	H		M			M	M	M	M	M
		Interpret a scenario, plan, design and develop a prototype hybrid and native	M	M									M	

		mobile application,												
		Differentiate leading edge developments in mobile application development.	M	H	H	M	H	M		M		M	H	
GR14A3068	**DISTRIBUTED DATABASES**	Demonstration of the Distributed Database environment	M	M		M	H	M		M		H	H	
		Applicability to solve the fragment queries	M	H	H	M	H	M		M		M	H	
		Capability of understanding the architecture of the distributed database environment.	H	M	H	M	H	M		M		M	H	
		Definition of the Transaction and the Concurrency issues	M	H	H	M	H	M		M		M	H	
		Analysing the reliability of the Distributed Database	H		H	M	H	M		M		M	H	
		Outlining of the object databases	M	H	H		H	M		M		M	H	
		Capability to understand data integration issues	H	M	H		M	M				M		
GR14A4083	**ADVANCED NETWORK PROGRAMMING LAB**	Implement client server applications in the UNIX environment while exploring OS features.			H				M			M	M	
		Exemplify inter-process communications using semaphores, shared memory, message queues.	H	H			M						M	H
		Develop TCP Client Server applications..	M	M	H		M			M	M	M	M	M
		Develop UDP Client server applications		H			M						M	
		Differentiate CONNECTION ORIENTED and CONNECTIONLESS communication between client server	H	M									M	
		Generate Socket Programming in Linux environment	H	M			M						M	
		Implement the peer to peer communication in Linux Platform	H	H			M						M	H
GR14A4084	**SCRIPTING LANGUAGES LAB**	Recall process of executing a PHP-based script on a webserver.	H	H			M						H	H
		Compare different Data Base languages.	M	M	H		M			M	M	M	M	M
		Generate complete web applications using PHP and MySQL.	H	H			M						M	H
		Analyze requirements of software system for the purpose of implementing in PERL/PYTHON.				M			H		H			
		Implement simple graphical user interfaces that drive their programs.	M	M									M	
		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.		M			M						M	
		Organize websites to load data from them (web scraping).	H	H			M						M	H
GR14A4085	**OBJECT ORIENTED ANALYSIS AND DESIGN LAB**	Recall the fundamental priniciple of object oriented programming.	H	H			M						H	H
		Compare the design based on the different diagrams drawn to find any missing requirements.	M	M	H		M			M	M	M	M	M
		Implement UML diagrams for Library management system.	H	H			M						M	H
		Organize different diagrams into packages.	H	H			M						M	H
		Critique the applications developed for Railway reservation system and ATM.	M	M	H		M			M	M	M	M	M
		Generate USE CASE diagrams for different applications	H	M	M		M						M	
		Produce multiple design artifacts for projects.	H	M	M		M						M	M
GR14A3067	**DATAWARE HOUSING AND DATA MINING**	Recognize the need for data mining and its applications.	H	M	M		M						M	H
		Create data mart or data warehouse for any organization	H	M	M								M	H
		Apply Preprocessing statistical methods for any given raw data	M	M	H		M			M	M	M	M	M
		Exemplify queries using DMQL	H	M	M		M						M	
		Implement data mining techniques to extract knowledge	H	M	M		M						M	M
		Implement new data mining tools.	H	M	M		M						M	H
		Check recent trends in data mining such												

		Check recent trends in data mining such as web mining, spatial-temporal mining	H	M	M								M	H
GR14A3061	ARTIFICIAL INTELLIGENCE AND NEURAL NETWORKS	1. Implement Heuristic approach for dealing with real world problems	M	M	H		M			M	M	M	M	M
		2. Recognize Proposition logic for fact representation	H	M	M		M						M	
		3. Compare Optimization techniques available for solving the problems	H	M	M		M						M	M
		4. Implement Back propagation networks for machine learning	H	M	M		M						M	H
		5. Analyze Feature learning techniques for classifying/recognizing the patterns	H	M	M								M	H
		6. Check Training and validation mechanisms of Artificial neural networks for abstraction	M	M	H		M			M	M	M	M	M
		7. Generate solutions using Adaptive resonance theory for scientific problems	H	M	M		M						M	
GR14A4097	**BUSINESS INTELLIGENCE**	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.	H	M	M		M						M	M
		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.	H	M	M		M						M	H
		Devise a framework to assess 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
GR14A4094	SEMANTIC WEB AND SOCIAL NETWORKS	1. Explain the three generations of the web	H	M	M		M						M	H
		2. Understand semantic web basics, architecture and technologies	H	M	M								M	H
		3.Understand the semantic relationships using Resource Descriptive Framework (RDF)	M	M	H		M			M	M	M	M	M
		4.Analyze and explain how technical changes affect the social aspects of Web based computing	H	M	M		M						M	
		5. Understand and analyze key web applications including search engines and social networking sites	H	M	M		M						M	
		6. Develop Linked data applications using Semantic Web Technologies	H	M	M		M						M	M
		7. Explain the three generations of the web	H	M	M		M						M	H
GR14A4069	DIGITAL IMAGE PROCESSING	1.Apply to current technologies and issues that are specific to image processing systems.	H	M	M								M	H
		2.Know how images are formed, sampled, quantized and represented digitally.	M	M	H		M			M	M	M	M	M
		3.Leverage the student’s knowledge of image processing to a practical system.	H	M	M		M						M	
		4.Compress the Digital image which is required for storage and transmission of digital images.	H	M	M		M						M	
		5.Identify transform-domain representation of images (Fourier, DCT, Haar, WHT)	H	M	M		M						M	M
		6.Learn the morphological processing and wavelet transforms	H	M	M		M						M	H
		Know the principles of image	H	M	M								M	H

		compression, enhancement and restoration and segmentation												
GR14A4090	**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
GR14A4091	**E-COMMERCE**	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
		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
GR14A4092	**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
		Exemplifing Queries using DMQL	H	M	M		H		H			M		
		Evaluate Apriori and FP growth algorithms for Association Rule Mining.	H	M	M		M						M	
GR14A4143	**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	
		Ability to articulate knowledge on various fundamentals.	H	M	M		M						M	M
		Ability to articulate knowledge on	H	M	M		M						M	H

		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	
GR14A4142	**COMPREHENSIVE VIVA**	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	
GR14A4144	**MAJOR PROJECT**	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 providing solution to the problem.	H	M	M		M						M	
		Ability to work in a team	H	M	M		H		M	M			H	
		Learn the real time environment and possess leader ship 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 objectives 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 basic concept 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 and 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 Main Project works in the curriculum gives practical and analytical exposures to students. They can learn and apply subject knowledge while implementing 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 / expert's 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, decision making and molding 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. Involving students in research and consultancy projects handled by faculty members help the students in getting exposure to real time field problems.

E-Resources: Faculty provides course information and peripheral knowledge on the web so that students can asynchronously accept the same. Students are motivated to access the online video lectures and course material of reputed institutes.

Attainment of POs 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					
Seminars/Workshops					X					X		X
Project Work			X	X				X	X		X	
Road Shows								X		X	X	
Mentoring and Counseling						X		X				X
Educational/Industrial Tours			X			X					X	
Certification Courses					X					X		X
Research Projects					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.)

Course assessment is done through internal and external exams and indirectly through student feedback and student end of year survey. Performance of the student in the examinations, seminars, projects etc indicates the level of attainment of knowledge and POs

Assessment Tools		
Delivery Methods	**Student feedback**	**Student end of year survey**
Lectures/Presentation	Satisfactory	Satisfactory
Guest Lecturers/Expert Lecturers	Satisfactory	Satisfactory
Seminars/Workshops	Satisfactory	Satisfactory
Project Work	Satisfactory	Satisfactory
Road Shows	Satisfactory	Satisfactory
Mentoring and Counseling	Satisfactory	Satisfactory
Educational/Industrial Tours	Satisfactory	Satisfactory
Certification Courses	Satisfactory	Satisfactory
Research Projects	Satisfactory	Satisfactory
e-Resources	Satisfactory	Satisfactory

Satisfactory - in point scale of 5; 3 and above is satisfactory

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.)

Course	Associated Laboratory
GR14A1003-C Programming and Data Structures	GR14A1006:Computer Programming &Data Structures Lab
GR14A1004-Engineering Physics	GR14A1007-Engineering Physics Lab
Basic Engineering Subjects	GR14A1008:Engineering Workshop
Basic Engineering Subjects	GR14A1013-IT Workshop
GR14A1011-Engineering Chemistry	GR14A1014-Engineering Chemistry Lab

GR14A2007:Digital Logic Design	Digital Electronics lab (GR11A2046)
GR14A1003-C Programming and Data Structures	GR14A1006:Computer Programming & Data Structures Lab
GR14A1004-Engineering Physics	GR14A1007-Engineering Physics Lab
Basic Engineering Subjects	GR14A1008:Engineering Workshop
Basic Engineering Subjects	GR14A1013-IT Workshop
GR14A1011-Engineering Chemistry	GR14A1014-Engineering Chemistry Lab
GR14A1002-English	GR14A1015: English Language Communication Skills Lab
GR14A2076:Database Management Systems	GR14A2079:Database Management Systems Lab
GR14A2075:Data Structures Thru C++	GR14A3078: Data Structures Thru C++ Lab
GR14A2007: Digital Logic Design	GR14A2046:Digital Electronics lab
GR14A2052:Object Oriented Programming	GR14A2055:Object oriented programming lab
GR14A2073:Operating system, GR14A3052: Computer Networks	GR14A2078:CN&OS Lab
GR14A3059:Web Technologies	GR11A2086:Web designing lab
GR14A3059:Web Technologies	GR14A3063:Web Technologies Lab
GR14A3100:Advanced English Communication skills Lab	GR14A3100:Advanced English Communication skills Lab
GR14A4067: Data Ware housing and Data Mining	GR14A4092: Datawarehousing and Datamining Lab
GR14A3065:Object Oriented Analysis and Design	GR14A4085: Object Oriented Analysis and Design Lab
GR14A4082:Mobile Application Development	GR14A4105:Mobile Application Development Lab

LABORATORIES:

1)Computer programming and data structure lab: is exclusively used, it accommodates 65 students and sufficient exercises are conducted. It is equipped with computers, printers and softwares. Qualified faculty, staff with good condition of computer lab equipment has created an ambience for learning. In these lab students learns programming with C language and data structure trough number of laboratory experiments. Find Fibonacci series, find prime numbers, find sum/multiplication, sorting roots of quadratic equation, tower of Hanoi etc. In these workshop students learns how to use various tools for engineering applications.

2)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 students learns design, mathematical modeling and complex analysis of various physical components.

3)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.

4) 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.

5) 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 students learns design, mathematical modeling and complex analysis of various chemical components.

6)English language and communication 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

7)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++.

8)Database Management 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 understanding of fundamental DBMS , various SQL statements -DDL, DML, TCL, 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.

9)Object Oriented Programming 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.

10)Web 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 student learn about Adobe Photoshop, Designing a Layout using HTML5 tags, Java Scripts,Dream Waver, Adobe Flash.

11)Computer Networks and 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 Data link layer protocols,Error detection using CRC, routing algorithms,Error correction using Hamming distance and client server applications. and also learn about CPU scheduling algorithms,Page replacement algorithms,Semaphore solution for producer-consumer problem,memeory management techniques.

12) 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.

13) Mobile Application Development 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 Installation of Java Wireless Toolkit (J2ME),Working with J2ME Features: Working with J2ME Features: Say, creating a Hello World program Experiment with the most basic features and mobile application interaction concepts ,Threads & High Level UI, Working on Drawing and Images, Developing Networked Applications using the Wireless Toolkit, Authentication with a Web Server, Web Application using J2ME,Web Application using J2ME.

Laboratory Tasks	Type	PO
GR14A1006: Computer programming and data structures lab		
1. Program for a)To find the sum of individual digits of a positive integer. b) Generate the first n terms of the Fibonacci sequence	Problem Analysis	a,c,k
2.Program for a)Generate all the prime numbers between 1 and n b) Calculate the following Sum: Sum=1-x2/2!+x4/4!-x6/ 6!+x8/8!-x10/10!	Problem Analysis	a,b,c,l
3. Program to find the roots of a quadratic equation using if-else.	Problem Analysis	a,b,l
4.Programs that use both recursive and non-recursive functions a)To find the factorial of a given integer. b)To find the GCD (greatest common divisor) of two given integers.	Problem Analysis	a,b,k
5.program to find the distance travelled by a vehicle at regular intervals of time given the values of ‘u’ and ‘a’	Problem Analysis	a,b,k
6.program, which takes two integer operands and one operator form the user, performs the operation and then prints the result. (Consider the operators +,-,*,/,% and use Switch Statement)	Problem Analysis	A,b,k
7.program to find both the largest and smallest number in a list of integers.	Problem Analysis	a,b,k
8.program that uses functions to perform the Addition of Two Matrices	Problem Analysis	a,b,k
9.program that uses functions to perform the Multiplication of Two Matrices	Problem Analysis	a,b,k
10.program that uses functions to perform the following operation: To insert a sub-string in to given main string to a given position.	Problem Analysis	a,b,k
11.program that uses functions to perform the following operation: To delete n Characters from a given position in a given string.	Problem Analysis	a,b,k
12.program to determine if the given string is a palindrome or not?	Problem Analysis	a,b,k
13.program that displays the position or index in the string S where	Problem Analysis	a,b,k

the string T begins, or – 1 if S doesn't contain T.		
14.Program to count the lines, words and characters in a given text.	Problem Analysis	b,c,k
15.a)Program to generate Pascal's triangle. b)Program to construct a pyramid of numbers.	Problem Analysis	a,b,k
16.program to read in two numbers, x and n, and then compute the sum of this geometric progression: 1+x+x2+x3+…………+xn	Problem Analysis	a,b,k
17.Program that uses functions to perform the following operations: i) Addition of two complex numbers ii) Multiplication of two complex numbers	Problem Analysis	a,b,k
18.a)Program to display the contents of a file. b) Program merging of two files in a single file. c)Program to append data into a file.	Problem Analysis	b,c,l
19.a)Program which copies one file to another. b) Program to reverse the first n characters in a file.	Problem Analysis	b,c,l
20.Program to Search for a given element using Linear & Binary Search Techniques.	Problem Analysis	b,c,k
21.Program to Sort a given list of integers using a)Bubble Sort Technique. b) Merge Sort Technique. c) Insertion Sort Technique. d) Quick Sort Technique. e) Selection Sort Technique.	Problem Analysis	b,c,l
GR14A1007-Engineering Physics Lab		
1. Measurements using Multimeter.	Demonstration	b,k,l
2. Measurement of voltage and Frequency using CRO.	Demonstration	a,c,k
3. B-H curve.	Problem Analysis	b,c,l
4. Determination of Dielectric constant.	Problem Analysis	a,k,l
5. Energy gap of a semi conductor	Problem Analysis	a,c,l
6. Study of magnetic field along the axis of a circular coil.	Problem Analysis	b,c,l
7. Study of Hall Voltage	Problem Analysis	b,k,l
8. Determination of carrier concentration and carrier mobility of a semiconductor.	Problem Analysis	a,c,k
9. Numerical Aperture of optical fiber.	Problem Analysis	b,c,l
10. Bending losses in optical fiber.	Problem Analysis	a,k,l
11. Air gap losses in optical fiber	Problem Analysis	a,c,l
12. Characteristics of LASER diode	Problem Analysis	a,b,l
GR14A1008:Engineering Workshop		
1. Carpentry	Demonstration	b,k,l
2. Fitting	Demonstration	a,c,l
3. Tin – Smithy and Development of jobs carried out and soldering.	Demonstration	b,k,l
4. House – Wiring	Demonstration	a,c,k
5. Black Smithy-	Demonstration	a,k,l
6. Foundry	Demonstration	a,c,l
7. Welding	Demonstration	a,b,l
8. Plumbing	Demonstration	a,b,k
9. Power tools	Demonstration	b,c,k
GR14A1015:English Lab		
1. Introduction to the sounds of English – Vowels, Diphthongs & Consonants.	Demonstration	g,f
2. Situational Dialogues/Role-play.	Demonstration	g,f
3. 'Just A Minute' Sessions (JAM).	Demonstration	g,f
4. Describing Objects/Situations/People.	Demonstration	g,f
5. Information Transfer.	Demonstration	g,f
6. Debate.	Demonstration	g,f
7.Telephone Skills	Demonstration	g,f
8.Giving Directions	Demonstration	g,f
GR14A1013: IT work shop		
1.PC Hardware	Demonstration	a,c,k
2.Internet & World Wide Web	Demonstration	a,c,k
3.Productivity tools	Demonstration	b,c,h

4.Hardware Troubleshooting	Demonstration	a,c,h
5.Software Troubleshooting	Demonstration	a,c,h
6.Orientation & Connectivity Boot Camp	Demonstration	a,c,k
7.Web Browsers, Surfing the Web	Demonstration	a,c,h
8.Search Engines & Netiquette	Demonstration	b,k,h
9. Cyber Hygiene.	Demonstration	a,c,k
10.Productivity Tools	Demonstration	b,c,l
GR14A1014-Engineering Chemistry Lab		
1. Conductometry	Demonstration	a,c,l
2. Potentiometry	Demonstration	b,k,l
3. Lubricants	Demonstration	a,b,k
4. Organic preparations.	Demonstration	a,c,k
5. Complexometry.	Demonstration	a,c,k
6. Permanganometry	Demonstration	a,c,l
GR14A1015: English Language Communication Skills Lab		
1. Introduction to the sounds of English – Vowels, Diphthongs & Consonants.	Demonstration	g,f
2. Situational Dialogues/Role-play.	Demonstration	g,f
3. 'Just A Minute' Sessions (JAM).	Demonstration	g,f
4. Describing Objects/Situations/People.	Demonstration	g,f
5. Information Transfer.	Demonstration	g,f
6. Debate.	Demonstration	g,f
7.Telephone Skills	Demonstration	g,f
8.Giving Directions	Demonstration	g,f
GR14A2078: Data Structures Through C++		
Write C++ programs to implement the Constructors ,destructors and Friend functions	implementation	b,e,k
Write C++ programs to implement Function, Operator Overloading , function , Class Templates and Inheritance	implementation	b,e,k
Write C++ programs to implement Polymorphism and Streams I/O	implementation	b,e,k
Write C++ programs to implement using an array: Stack ADT andQueue ADT	implementation	b,e,k,l
Write C++ programs to implement using single linked list: Stack ADT andQueue ADT	implementation	b,c,k,l
Write a C++ program to implement all the functions of a dictionary (ADT) using Hashing	implementation	b,c,e,k,l
Write a C++ program to perform operations: Insert an element into a binary search tree, Delete an element from a binary search tree, Search for a key	implementation	b,c,k
Write C++ programs using Recursive and Non-recursive functions to traverse the given binary tree in Preorder ,Inorder and Postorder	implementation	b,c,e,k
Write C++ programs for the implementation of BFS and DFS for a given graph.	implementation	b,c,k,l
Write a C++ program to perform the operations Insertion into an AVL-tree, Deletion from an AVL-tree	implementation	b,c,k
Write a C++ program to implement Kruskal's algorithm to generate a minimum cost spanning tree.	implementation	b,c,k
Write a C++ program to implement Prim's algorithm to generate a minimum cost spanning tree.	implementation	b,c,k
GR14A2079:Data Management System Lab		
Creation, altering and dropping of tables and inserting rows into a table (use constraints while creating tables) examples using SELECT command.	design	b,c,k
Queries (along with sub Queries) using ANY, ALL, IN, EXISTS, NOTEXISTS,UNION, INTERSET, Constraints.	problem analysis	b,c,k
Queries using Aggregate functions (COUNT, SUM, AVG, MAX and MIN),GROUP BY, HAVING and Creation and dropping of Views.	problem analysis	a,b,l
Queries using Conversion functions (to_char, to_number and to_date), string functions (Concatenation, lpad, rpad, ltrim, rtrim, lower, upper, initcap, length,substr and instr), date functions (Sysdate, next_day,		

add_months, last_day, months_between, least, greatest, trunc, round, to_char, to_date) Creation of simple PL/SQL program which includes declaration section, executable section and exception –Handling section (Ex. Student marks can be selected from the table and printed for those who secured first class and an exception can be raised if no records were found) II)Insert data into student table and use COMMIT, ROLLBACK and SAVEPOINT in PL/SQL block.	problem analysis	a,b,c,k
Develop a program that includes the features NESTED IF, CASE and CASE expression. The program can be extended using the NULLIF and COALESCE functions.	problem analysis	b,c,l
Program development using WHILE LOOPS, numeric FOR LOOPS, nested loops using ERROR Handling, BUILT –IN Exceptions, USE defined Exceptions, RAISE- APPLICATION ERROR.	problem analysis	b,c,l
Programs development using creation of procedures, passing parameters IN and OUT of PROCEDURES.	problem analysis	b,c,k
Program development using creation of stored functions, invoke functions in SQL Statements and write complex functions.	problem analysis	b,c,k
Program development using creation of package specification, package bodies, private objects, package variables and cursors and calling stored packages. Develop programs using features parameters in a CURSOR, FOR UPDATE CURSOR, WHERE CURRENT of clause and CURSOR variables.	problem analysis	b,c,k
Develop Programs using BEFORE and AFTER Triggers, Row and Statement Triggers and INSTEAD OF Triggers	problem analysis	b,c,k
GR14A2046:Digital Electronics Lab		
Programs 1)Realization of gates	Demonstration	a,c,d,f,h
2)Design of Half adder, Full adder	Design	a,b,d,g,h,k
3)Verification of 4 bit Magnitude comparator	Demonstration	a,d,i,k,l
4)Design of 2 to 4 decoder	Design	a,c,d,h,l
5)Design of 2 to 1 Multiplexer	Design	a,b,g,h,i
6)Design of 1 to 4 De multiplexer	Design	a,d,g,k,l
7)Implementation of Binary to Grey code converter	Demonstration	a,b,d,g,h
8)Design a 4 bit Parity Checker	Design	a,c,d,g,k
9)Verification of truth tables of D and T Flip-Flops	Demonstration	a,d,i,k,l
10)Implementation of Frequency divider	Demonstration	a,c,d,i,k
11)Conversion of JK Flip Flop to D Flip Flop	Demonstration	a,d,i,k,l
12)Design of Binary counter	Design	a,b,d,g,l
m)Design of Asynchronous Up counter	Design	a,b,g,h,i
n)Design of Synchronous Down counter	Design	a,d,e,f,g
GR14A2078: Operating systems and Computer Networks Lab		
1. Simulate the following CPU scheduling algorithms a) Round Robin b) SJF c) FCFS d) Priority	Implementation	B,c,e,k
2. Simulate all file allocation strategies a) Sequential b) Indexed c) Linked	Implementation	B,c,e,k
3. Simulate MVT and MFT	Implementation	B,c,e,k
4. Simulate all File Organization Techniques a) Single level directory b) Two level c) Hierarchical	Implementation	B,c,e,k
5. Simulate Bankers Algorithm for Dead Lock Avoidance	Implementation	B,e,k
6. Simulate Bankers Algorithm for Dead Lock Prevention	Implementation	B,e,k
7. Simulate all page replacement algorithms a) FIFO b) LRU c) LFU	Implementation	B,e,k
8. Simulate Paging Technique of memory	Implementation	B,e,k

management.		
GR14A2055:Object oriented Programming through java lab		
1. Simple Java applications - Handling strings in java	Design	b,c,e,k,l
2. Simple Package creation - Developing user defined packages in Java	Design	b,c,e,k,l
3. Interfaces -Developing user-defined interfaces and implementation -Use of predefined interface	Design	e,k,l
4. Threading and Multithreading	Design	e,k,l
5. Exception Handling mechanism in Java - Handling pre-defined exceptions - Handling user-defined exception	Design	e,k,l
6. Programs using applets	Design	b,c,e,k,l
7. Largest Number Finding of N Values	Analysis	b,e,k
8. Sorting of Name (String)	Analysis	b,e,k
9. String Manipulation	Analysis	b,e,k
10. Overloading & Constructor Implementation	Implementation	b,e,k
11. Bank Operation using Class & Object	Design	b,c,e,k,l
12. User Defined Package Creation	Design	b,e,k
13. Multiple Inheritance using Interface	Design	b,c,e,l
14. Simple AWT to Design Simple Calculator	Design	b,c,e,k
15. Biodata Generation using Frame	Design	b,c,e,k
16. Drawing 2D Shapes using Menubar	Design	A,b,e,k
GR14A2086: Web Designing Lab		
1) Designing a Layout using HTML5 tags.	Design	b,c,d,e,i,j
2) Design the following static web pages required for an online book store web site.	Problem Analysis ,Design	b,c,d,e,i,j
3) Design the following static web pages required for an college web site.	Problem Analysis ,Design	b,c,d,e,i,j
4) Create a HTML document using CSS 3.0 properties	Design	b,c,d,e,i,j
5) Validation of Forms using java script	Design	b,c,d,e,i,j
6) Slide Show Effects in java script	Design	b,c,d,e,i,j
7) Date / Calendar Integration using java script.	Design	b,c,d,e,i,j
8) Template Design in Dream weaver using various tags.	Design	b,c,d,e,i,j
9) Creating a Site for Static Project using various tool bar.	Design	b,c,d,e,h,j
10) Brochure Designing using Adobe Photoshop.	Design	b,c,d,e,h,j
11) Designing a Logo using Adobe Photoshop.	Design	b,c,d,e,i,j
12) Creating a Business Card using Adobe Photoshop.	Design	b,c,d,e,i,j
14) Creating Flash Banners using Adobe Flash.	Design	b,c,d,e,i,j
15) Creating Flash Website using Adobe Flash.	Design	b,c,d,e,i,j
GR14A2078: Operating systems and Computer Networks lab through Linux		
1. Implement the data link layer framing methods such as character, character stuffing and bit stuffing	Implementation	B,c,k,l
2. Implement on a data set of characters the polynomials CRC 12,CRC 16 and CRCCCIP	Implementation	B,c,k,l
3. Implement Dijkstras algorithm to compute the shortest path through a graph	Implementation	B,c,k
4. Routing table art each node using distance vector routing algorithm	Design	B,c,k
5. Take an example subnet of hosts. Obtain broadcast tree for it	Design	B,c,k
6. a) DES algorithm for encryption b) To break the DES coding	Design	B,c,k
7. Using RSA algorithm Encrypt a text data and Decrypt the same	Implementation	B,c,k
8. Simulate the following CPU scheduling algorithms a)Round Robin b)SJF c)FCFS d)Prority	Implementation	b,c,k,l
9. Simulate all File Organization Techniques a)Single level directory b)Two level c)Hierarchical d)DAG	Implementation	b,c,k,l
10. Simulate Bankers Algorithm for Dead Lock Avoidance	Implementation	b,c,k
11.Simulate Bankers Algorithm for Dead Lock Prevention	Implementation	b,c,k
12.Simulate all file allocating strategies a)Sequential b)Indexed c)Linked	Implementation	b,c,k
13.Simulate MVT and MFT	Implementation	b,c,k
GR14A3100:Advanced English Communication Skills Lab		
1. Introduction to the sounds of English – Vowels, Diphthongs & Consonants.	Demonstration	g,f
2. Situational Dialogues/Role play	Demonstration	g,f

2. Situational Dialogues/Role-play.	Demonstration	g,f
3. 'Just A Minute' Sessions (JAM).	Demonstration	g,f
4. Describing Objects/Situations/People.	Demonstration	g,f
5. Information Transfer.	Demonstration	g,f
6. Debate.	Demonstration	g,f
7.Telephone Skills	Demonstration	g,f
8.Giving Directions	Demonstration	g,f
GR14A3059: Web Technology Lab		
1) Design a static web page required for an online book store web site containing login page ,Registration page and catalogue page	Problem Design	a,b,e,i,k,l,j
2) Write a java script to validate the fields of the registration page of the above online book store like name, password, e_mail-id, phone-numbers etc.	Problem Analysis	a,b,c,e,i,k,l
3) Design a web page using CSS which includes different font, styles, colors etc, making use of style definitions and selectors for activation of the styles.	Problem Design	a,b,c,e,k,l,j
4) Write an XML file which will display the book information including title of the book, author name, ISBN number, Publisher name, Edition, Price.	Demonstration	a,b,c,e,i,k,l,j
5) Write a DTD for validation. The content display should be in the form of the table	Demonstration	a,b,c,e,i,k,l,j
6) Create a simple visual bean with a area filled with a color .The shape of the area depends upon the property change. The color of the area should also be changed for every mouse click.	Problem Analysis	a,b,c,e,i,k,l
7) Install TOMCAT web server and APACHE. Access the web pages developed in the week 1 and 2 by using proper URLs	Demonstration	a,b,c,e,i,k,f,j
8) Write a servlet for doing password authentication for multiple users and display proper message on authentication .using init-parameters	Problem analysis	a,b,c,e,i,k,l,j
9) Install a database(MySQL or Oracle).create a table containing name,password,email-id,phone numbers. Write a java program/servlet/JSP for connect to the database(using JDBC connectivity) and extract and inserting data.	Demonstration	a,b,c,e,i,k,l,j
10)Write a JSP for inserting details of 3 or 4 users who register with the web site by using registration form to perform authentication for the users.	Problem analysis	a,b,e,i,k,l,j
11)Create tables in the database which contain details of items(eg. Books)and also to modify and update the details of the catalogue page using JDBC Modify your catalogue and cart JSP pages to achieve the functionality of the sessions.	Problem Design	a,b,c,e,i,k,l,j
GR14A4105:Mobile Application Development Lab		
1. To Create a Program for Menu and Event Handling, Input Checking.	**Design**	b,c,k
2.Create a slide show, High-level UI,MIDP application	Design	a,b,c,e
3. Create a slide show which has three slides, which includes pictures at PNG format. Program should change to the new slide other 5 seconds.	Design	a,b,c,e,k
4 Create a MIDP application, which draws a bar graph to the display. Data values can be given at int[] array..	Case Study	a,b,c,j,
5.Create a MIDP application, which draws a pie graph to the display. Data values can be given at int[] array. You can enter four data (integer) values to the input text field	Demonstration	a,b,c,j,k,
6.Creating a Simple Client-Server Application	Case Study	a,b,c,e,k
7.Create, compile and run a basic UDP-based client-server application	Case Study	a,b,c,j,
8. Write a sample program to show how to make a SOCKET Connection from j2me phone.	Demonstration	a,b,c,j,k,
9.Write a sample program Login to HTTP Server from a J2ME Program	Demonstration	a,b,c,j,k,

Lab Courses P-Outcomes	**a**	**b**	**c**	**d**	**e**	**f**	**g**	**h**	**i**	**j**	**k**	**l**
Engineering Graphics(GR11A1012)	X	X	X					X	X		X	
Computer programming and DataStructures lab(GR11A1006)	X	X	X	X	X	X	X	X	X	X	X	X
Engineering physics lab (GR11A1007)	X	X	X		X	X		X			X	

Engineering chemistry lab (GR11A1014)		X	X		X			X	X		X	
English lab (GR11A1015)				X			X		X			X
ITworkshop (GR11A1013)		X	X		X	X		X	X		X	X
Digital Electronics lab (GR11A2046)	X	X	X	X	X			X	X		X	
Data Structures Thru C++ Lab (GR11A3078)	X	X	X		X					X	X	X
Database Management Systems Lab (GR11A2079)		X	X	X	X			X		X	X	X
Object oriented programming lab (GR11A2055)	X	X	X		X	X	X	X	X	X	X	X
Operating Systems Lab (GR11A2085)	X	X	X		X			X	X		X	X
Web designing lab (GR11A2086)		X	X	X	X	X	X		X	X	X	X
CN&OS Lab(55617)	X	X	X	X	X	X	X		X	X	X	X
Advanced English Communication skills Lab(55618)		X	X	X	X	X	X	X		X	X	X
Embedded systems & data mining Lab (56619)		X	X	X	X	X			X	X	X	X
Web Technologies Lab (56620)		X	X	X	X	X	X		X	X	X	X
Case tools and software testing Lab (57617)	X	X	X	X	X	X	X	X	X	X	X	X
Mobile Application Development Lab (57618)		X	X		X	X	X		X	X	X	

List of elements in the Lab Work

Elements	P-Outcomes											
	a	**b**	**c**	**d**	**e**	**f**	**g**	**h**	**i**	**j**	**k**	**l**
Design	X	X	X	X	X	X	X	X	X	X	X	X
Record		X		X			X	X	X	X	X	
Internal Exam		X	X						X	X	X	X
Viva		X	X						X	X	X	X
End exam		X	X						X	X	X	X

The contents of the following Project Works in the Curriculum of the Program are balanced with the contents of the theory courses and they satisfy for the achievements of POs.

Areas of Project Work	Type	PO
Data mining	Design and problem analysis	a,c,g,i,l
Image processing	Design and problem analysis	a,b,c,g,i,l
Neural networks	Design and problem analysis	e,f,h,i,j,l
Embedded Systems	Design and Proto type	a,b,e,f,h,i
Text Mining	Design and problem analysis	a,d,f
Web mining	Design and problem analysis	c,l
Cloud Computing	Problem analysis and simulation	a,c,i,l
Data warehousing	Design and problem analysis	b,c,i,k,l
Computer Networks	Problem analysis and simulation	a,b,c,e,i,k,l
Operating Systems	Design and problem analysis	b,c,e,i,j,k,l
Information security	Problem analysis and simulation	b,c,g,i,k,

List of elements in the Project Work

Elements	P-Outcomes											
	a	**b**	**c**	**d**	**e**	**f**	**g**	**h**	**i**	**j**	**k**	**l**
1	X	X	X	X	X	X	X	X	X			X
2	X	X	X	X	X	X	X	X	X	X	X	X
3	X	X	X	X	X	X	X	X	X	X	X	X
4		X	X	X			X		X	X	X	
5		X	X	X		X	X		X	X	X	
6	X	X	X	X			X		X		X	

Project Objectives

Project Outcomes

Project Work Course Outcomes-Program Outcomes (POs) Relationship Matrix

C-Outcomes	**P-Outcomes**											
	a	**b**	**c**	**d**	**e**	**f**	**g**	**h**	**i**	**j**	**k**	**l**
1		X	X	X			X		X		X	
2		X	X	X			X		X		X	
3	X	X	X	X	X	X	X	X	X	X	X	X

Comments: More than prescribed experiments were done at laboratory level.

1. Design
2. Observation record
3. Internal Exam
4. Viva
5. End Exam
6. Literature survey
7. Design
8. Experimentation
9. Results
10. Report
11. Viva / Seminar
12. The students will be in position to put their ideas and thoughts (H/W&S/W) into practice to realize a product.
13. The students may also go for the patent rights for their projects.
14. Help students to prepare technical presentation in the journals.
15. Ability to design and construct a hardware and software system, component, or process to meet desired needs**.**
16. Ability to work on multidisciplinary areas related to IT engineering.
17. Ability to work as IT professionals, with portfolio ranging from perform data management, networking, engineering computer hardware, database and software design, as well as management and administration of entire systems

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**	
	GR14A1007: Engineering Physics	**76**	
	GR14A1005: English	**96**	
	GR14A3051: Compiler Design	**88**	
	GR14A1023:Engineering Graphics	**92**	
	GR14A4142 :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**	
	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**	
	GR14A3059: Web Technologies	**94**	
	GR14A3067: Data Warehousing and Data Mining	**96**	
	GR14A3102: Management Science	**99**	
	GR14A3101: Industry Oriented Mini Project	**100**	

Direct Assessment			
PO	**Contributing Courses**	**Attainment %**	**Average Attainment**
	GR14A1009:Computer Programming	**81**	**94.2%**
	GR14A1025: Engineering Workshop Lab	**97**	
	GR14A2064: Advanced Data Structures Through C++ Lab	**99**	
	GR14A2072: Object Oriented Programming through java Lab	**100**	
	GR14A3053: Principles of programming Languages	**98**	
	GR14A3051: Compiler Design	**88**	
	GR14A3059: Web Technologies	**94**	
	GR14A3058: Information Security	**81**	
	GR14A1023: Engineering Graphics	**92**	
	GR14A3102: Management Science	**99**	

c	GR14A3060: Scripting Languages	96	
	GR14A4144: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	
	GR14A3063: Web Technologies Lab	99	
	GR14A3067: Data Warehousing and Data Mining	96	
	GR14A4077: Software Testing Methodologies	100	
	GR14A3102: Management Science	99	
	GR14A3101: Industry Oriented Mini Project	100	
	GR14A4144:Project Work	100	

Direct Assessment

PO	Contributing Courses	Attainment %	Average Attainment
e	GR14A1009: Computer Programming	81	93.6%
	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	
	GR14A2066: Advanced Data Structures Through C++ Lab	99	
	GR14A2011: Probability and Statistics	93	
	GR14A3056: Design and Analysis of Algorithms	95	
	GR14A3057: Software Engineering	96	
	GR14A1023: Engineering Graphics	92	
	GR14A3067: Data Warehousing and Data Mining	96	
	GR14A3055: 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	
	GR14A3065: Object Oriented Analysis and design	91	
	GR14A3100:Advanced English Communication Skills Lab	100	
	GR14A3102: 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	
	GR14A3063: Web Technologies Lab	99	

Direct Assessment

PO	Contributing Courses	Attainment %	Average Attainment
	GR14A1023: Engineering Graphics	92	
	GR14A1024: Business Communication and soft skills Lab	100	

i	GR14A2070: Object Oriented Programming through java	88	93.5%
	GR14A2076: Computer Organization	84	
	GR14A2069: Operating Systems	94	
	GR14A3057: Software Engineering	96	
	GR14A3059: Web Technologies	94	
	GR14A3067: Data Warehousing and Data Mining	96	
	GR14A3103:Unix and Shell Programming	91	
	GR14A4142: 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	
	GR14A4084: Scripting Languages Lab	99	
	GR14A3057: Software Engineering	96	
	GR14A3059: Web Technologies	94	
	GR14A3058: Information Security	81	
	GR14A3065: 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	
	GR14A3056: Design and Analysis of Algorithms	95	
	GR14A2073: Operating Systems Lab	99	
	GR14A3059: Web Technologies	94	
	GR14A3100: Advanced English Communication Skills Lab	100	
	GR14A3063: Web Technologies Lab	99	
	GR14A3101: Industry Oriented Mini Project	100	
	GR14A4144: 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

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	Mini and Major project evaluation	Once in four years	Once in four years	Examination Cell
comprehensive viva	Internal Evaluation	Once in a semester	Once in a semester	All Subjects
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

a) The expected level of attainment for each of the program outcomes:

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
Attainments

2.3.2 c. The expected level of attainment for each of the program outcomes

Step-by-step process for assessing 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 collects 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.

Course code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C101	H	L	M	L	-	-	-	L	M	-	-	-
C102	M	L	M	L	-	-	-	L	M	-	-	-
C103	H	-	-	-	-	-	L	L	M	-	-	-
C104	-	-	-	-	-	-	L	M	M	H	-	H
C105	H	L	L	-	-	-	-	L	L	-	-	-
C106	H	-	-	-	-	L	-	L	M	L	-	M
C107	H	-	-	-	M	-	-	M	M	-	-	L
C108	H	-	-	-	-	-	L	L	M	-	-	-
C109	M	-	-	-	H	-	-	L	M	-	L	L
C110	H	L	M	L	-	-	-	L	M	-	-	-
C111	H	L	M	L	-	-	-	L	M	-	-	-
C112	H	-	-	-	-	-	L	L	M	-	-	-
C113	H	-	-	-	-	M	-	L	M	L	-	M
C114	H	-	-	-	M	-	-	M	M	-	-	L
C115	M	L	L	L	-	-	-	L	L	-	-	M
C116	-	-	-	-	-	-	L	M	M	H	H	L
C117	H	-	-	-	M	-	-	M	M	-	-	L
C118	H	-	-	-	-	-	L	L	M	-	-	-
C201	M	L	M	L	-	-	-	L	M	-	-	-
C202	M	L	M	L	-	-	-	M	M	-	-	-
C203	M	L	-	L	-	-	-	L	M	-	-	-
C204	M	L	L	L	-	-	-	L	L	-	-	L
C205	H	L	M	L	-	-	-	L	L	-	-	L
C206	H	L	M	L	-	-	-	L	M	-	-	L
C207	H	L	M	L	-	-	-	L	M	-	-	M
C208	H	L	M	L	-	-	-	L	M	-	-	M
C209	H	M	L	L	-	-	-	L	M	-	-	M
C210	H	-	-	-	-	M	-	L	M	L	-	M
C211	H	L	M	L	-	-	-	L	M	L	-	M
C212	H	-	-	-	-	M	-	L	M	L	-	M

C213	H	-	-	-	-	M	-	L	M	L	-	M
C214	H	L	M	L	-	-	-	L	M	M	-	L
C215	H	-	-	-	-	M	-	L	M	L	-	M
C216	H	-	-	-	-	M	-	L	M	L	-	M
C217	H	-	-	-	-	L	-	L	-	-	L	-
C218	H	L	M	L	-	-	-	L	M	M	-	M
C301	H	-	-	-	-	-	L	L	M	-	-	-
C302		L	M	L	-	-	-	L	L	-	-	L
C303	H	L	M	L	-	-	-	L	L	-	-	L
C304	H	L	M	L	-	-	-	L	M	L	-	M
C305	H	L	M	L	-	-	-	L	L	-	-	L
C306	H	-	-	-	-	M	-	L	M	L	-	M
C307	H	-	-	-	-	L	-	L	-	-	L	-
C308	H	-	-	-	-	-	L	L	M	-	-	-
C309	H	-	-	-	-	M	-	L	M	L	-	M
C310	H	L	M	L	-	-	-	L	M	-	-	-
C311	H	L	M	L	-	-	-	L	M	-	-	L
C312	H	M	L	L	L	L	-	L	M	-	M	M
C313	-	-	-	-	-	-	L	M	M	H	-	H
C314	H	L	M	L	-	-	-	L	M	-	-	-
C315	H	L	M	L	-	-	-	H	M	L	-	M
C316	H	M	L	L	-	-	L	M	M	-	-	H
C317	H	L	M	L	-	-	-	L	M	L	-	M
C401	H	L	M	L	H	-	-	M	L	-	-	M
C402	H	-	-	-	-	M	-	H	M	L	-	M
C403	H	L	M	L	-	-	-	M	M	-	-	H
C404	H	L	M	L	M	-	-	M	L	-	-	H
C405	H	M	L	L	-	-	L	H	M	-	-	H
C406	H	L	M	L	M	-	-	H	M	-	-	M
C407	H	L	M	L	-	-	-	H	M	-	-	H
C408	H	L	M	L	M	-	-	M	M	-	-	H
C409	H	L	M	L	H	-	-	M	M	-	-	H
C410	H	-	L	L	M	-	M	M	M	H	-	M
C411	H	-	L	L	M	-	M	M	M	H	-	M
C412	H	M	L	L	L	L	-	L	M	-	M	M
C413	H	L	M	L	-	-	-	H	M	-	-	H
C414	H	L	M	L	M	-	-	M	M	-	-	H
C415	H	L	M	L	H	-	-	M	M	-	-	H

2.3.2. d. Summaries of the results of the evaluation processes and an analysis illustrating the extent to which each of the programme outcomes are attained

Direct Assessment			
PO	**Contributing Courses**	**Attainment %** **%**	**Average attainment**
	GR14A1001-Linear Algebra and Single Variable Calculus	86	
	GR14A1002-Advanced Calculus	91	
	GR14A1007-Engineering Physics	97	

A	GR14A1009-Computer Programming	95	90.4
	GR14A1005-English	85	
	GR14A1019-Fundamentals of Electronics Engineering	87	
	GR14A1025-Engineering Workshop	95	
	GR14A1007-Engineering Physics lab	91	
	GR14A1027-Computer Programming lab	87	
	GR14A1001-Linear Algebra and Single Variable Calculus	90	

Direct Assessment

PO	**Contributing Courses**	**Attainment %** **%**	**Average attainment**
B	GR14A1003-Fourier Series and Transform Calculus	100	98.5
	GR14A1004-Numerical Methods	98	
	GR14A1008-Engineering Chemistry	99	
	GR14A1010-Data Structures	99	
	GR14A1023-Engineering Graphics	97	
	GR14A1018-Basic Electrical Engineering	99	
	GR14A1024-Business Communication and Soft Skills	98	

Direct Assessment

PO	**Contributing Courses**	**Attainment %** **%**	**Average attainment**
c	GR14A2002-Value Education and Ethics	95	95
	GR14A2001-Environmental Science	97	

Direct Assessment

PO	**Contributing Courses**	**Attainment %** **%**	**Average**
D	GR14A2076-Computer Organization	100	98
	GR14A2069-Operating Systems	99	
	GR14A2070-Object Oriented Programming through Java	96 96	
	GR14A3052-Computer Networks	100	
	GR14A2104-Managerial Economics and Financial Analysis	96	
	GR14A2072-Object Oriented Programming through Java Lab	100	

	GR14A2078-Operating Systems & Computer Networks Lab	100	

Direct Assessment			
PO	**Contributing Courses**	**Attainment % %**	**Average attainment**
e	GR14D5004-Distributed Databases	92	90.3
	GR14A3069-Computer Graphics	87	
	GR14A3070-Embedded Systems	92	

Direct Assessment			
PO	**Contributing Courses**	**Attainment % %**	**Average attainment**
f	GR14A3102-Management Science	97	97

Direct Assessment			
PO	**Contributing Courses**	**Attainment % %**	**Average attainment**
G	GR14A3057-Software Engineering	98	99.25
	GR14A3058-Information Security	99	
	GR14A3059-Web Technologies	100	
	GR14A2055-Micro Controllers	100	

Direct Assessment			
PO	**Contributing Courses**	**Attainment % %**	**Average attainment**
h	GR14A3056-Design and Analysis of Algorithms	93	95.33
	GR14A3063-Web Technologies Lab	95	
	GR14A3100-Advanced English Communication Skills Lab	98	

Direct Assessment			
PO	**Contributing Courses**	**Attainment % %**	**Average attainment**
i	GR14A3060-Scripting Languages	96	97
	GR14A4093-Wireless Networks and Mobile Computing	98	

Direct Assessment			
PO	**Contributing Courses**	**Attainment % %**	**Average attainment**
j	GR14A4077- Software Testing Methodologies	94	94.75
	GR14A4094-Semantic Web and Social Networks	97	

Direct Assessment			
PO	**Contributing Courses**	**Attainment %**	**Average attainment**
	GR14A4095-Information Retrieval Systems	91	
	GR14A4096-Storage Area Networks	98	
	GR14A4097-Multimedia and Rich Internet Development	99	

k	GR14A4098-Network Programming	97	89
	GR14A4084-Scripting Languages Lab	99	
	GR14A4099-Middleware Technologies Lab	99	
	VLSI Design	98	
	GR14A4102-Adhoc Sensor Networks	100	
	GR14A4104-Human Computer Interaction	100	

Direct Assessment			
PO	**Contributing Courses**	**Attainment %**	**Average attainment**
l	GR14A5012-Operations Research	98	98
	GR14A4105-Mobile Application Development Lab	97	
	Seminar	100	
	Comprehensive Viva	100	

2.3.2 e. How the results are documented and maintained.

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
Lab Exams	Internal and External experimental evaluation, Viva	Once in a semester	Once in a semester	Lab record, Examination Cell
Seminars	General and Technical	Once in a semester	Once in a semester	Course Register
Projects	Mini and Major project evaluation	Once in four years	Once in four years	Examination Cell
Comprehensive viva	Internal / External 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

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)

Truely inspite of 2014 we have introduced the outcome based education system in GRIET.Students, having experienced the learning environment as per new defined PEOs and POs are to graduate from the Institute. We have defined POs based on the graduate attributes mapping to curriculum and used the feedback received from the stakeholders through surveys. We have a system to review the results of the evaluation of our outcome based education system at the end of each academic year.

Based on the attainment of POs, PAC prepares the action plan to improve the courses of the programme thus influencing the attainment of Programme Outcomes.

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)

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. 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 Programme Assessment Committee (PAC), BOS and 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.

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.)

This process considers exit students survey, professional society survey, alumni survey, employer survey, feedback and rubrics.

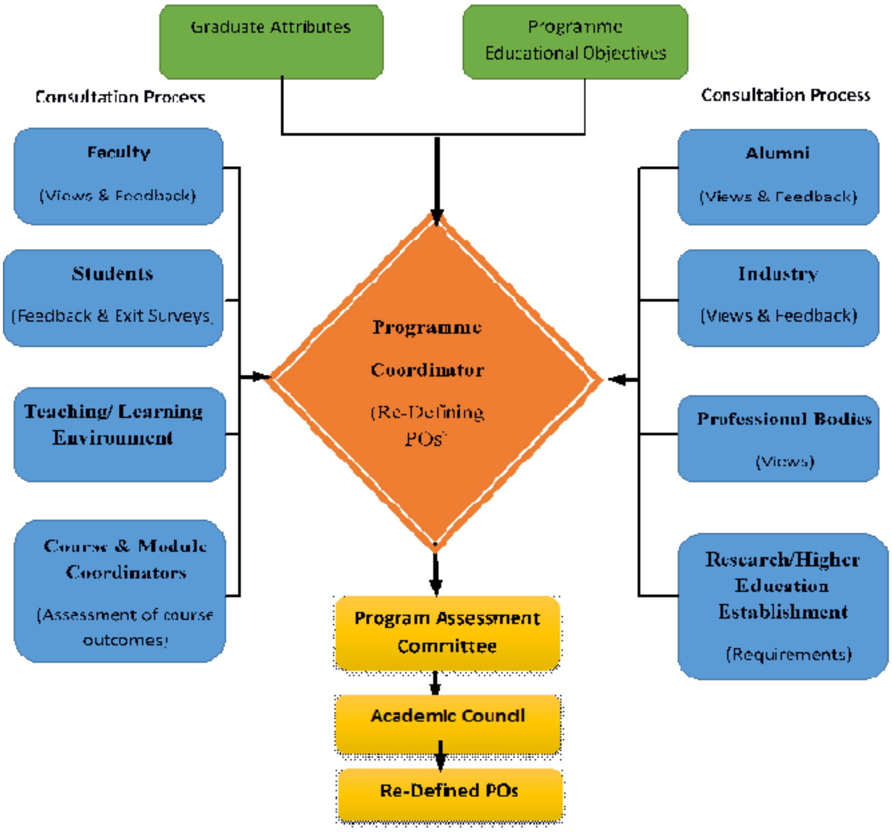

Graduate Attributes
Programme Educational Objectives
Consultation Process
Consultation Process
Faculty (Views & Feedback)
Students (Feedback & Exit Surveys)
Teaching/ Learning Environment
Course & Module Coordinators (Assessment of course outcomes)
Programme Coordinator (Re-Defining POs)
Alumni (Views & Feedback)
Industry (Views & Feedback)
Professional Bodies (Views)
Research/Higher Education Establishment (Requirements)
Program Assessment Committee
Academic Council
Re-Defined POs

Figure :5 Process for Redefining POs

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)

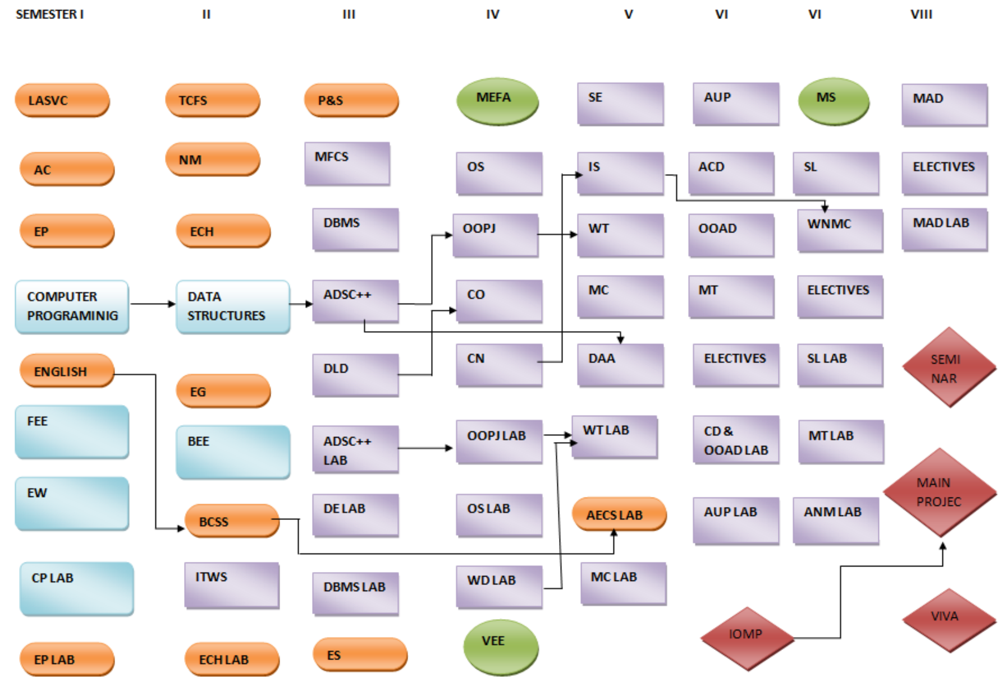
Institute Marks : 5.00

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	3.00
GR14A1019	Fundamentals of Electronics Engineering	3.00	1.00	0.00	4.00	4.00
GR14A1025	Engineering Workshop	0.00	0.00	2.00	2.00	2.00
GR14A1029	Engineering Physics lab	0.00	0.00	2.00	2.00	2.00
GR14A1027	Computer Programming 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	3.00
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	4.00
GR14A1024	Business Communication and Soft Skills	0.00	0.00	2.00	2.00	2.00
GR14A1026	IT Workshop	0.00	0.00	2.00	2.00	2.00
GR14A1030	Engineering Chemistry lab	0.00	0.00	2.00	2.00	2.00
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	4.00
GR14A2063	Database Management Systems	3.00	1.00	0.00	4.00	4.00
GR14A2064	Advanced Datastructures through C++	3.00	1.00	0.00	4.00	4.00
GR14A2065	Digital Logic Design	3.00	1.00	0.00	4.00	4.00

GR14A2066	Advanced Datastructures through C++ Lab2.00	0.00	0.00	2.00	2.00	2.00
GR14A2053	Digital Electronics Lab	0.00	0.00	2.00	2.00	2.00
GR14A2075	Database Management Systems Lab	0.00	0.00	2.00	2.00	2.00
GR14A2001	Environmental Science	0.00	0.00	0.00	0.00	0.00
GR14A2104	Managerial Economics and Financial Analysis	2.00	1.00	0.00	3.00	3.00
GR14A2069	Operating Systems	3.00	1.00	0.00	4.00	4.00
GR14A2070	Object Oriented Programming through Java	3.00	1.00	0.00	4.00	4.00
GR14A2076	Computer Organization	3.00	1.00	0.00	4.00	4.00
GR14A2077	Computer Networks	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
GR14A2078	Operating systems and Computer Networks Lab	0.00	0.00	2.00	2.00	2.00
GR14A2079	Web Designing Lab	0.00	0.00	2.00	2.00	2.00
GR14A2002	Value Education and Ethics	0.00	0.00	0.00	0.00	0.00
GR14A3057	Software Engineering	2.00	1.00	0.00	3.00	3.00
GR14A3058	Information Security	3.00	1.00	0.00	4.00	4.00
GR14A3059	Web Technologies	3.00	1.00	0.00	4.00	4.00
GR14A2055	Microcontrollers	3.00	1.00	0.00	4.00	4.00
GR14A3056	Design and Anaysis of Algorithms	3.00	1.00	0.00	4.00	4.00
GR14A3063	Web Technologies Lab	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
GR14A2059	Microcontrollers Lab	0.00	0.00	2.00	2.00	2.00
GR14A3050	Unix and Shell Programming	3.00	1.00	0.00	4.00	4.00
GR14A3064	Automata and Compiler Design	3.00	1.00	0.00	4.00	4.00
GR14A3065	Object Oriented Analysis and Design	3.00	1.00	0.00	4.00	4.00
GR14A3066	Middleware Technologies	3.00	1.00	0.00	4.00	4.00
GR14A3067	Data Warehousing and Data Mining	2.00	1.00	0.00	3.00	3.00
GR14A3071	Compiler Design and Unified Modeling Language Lab	0.00	0.00	2.00	2.00	2.00
GR14A3072	Advanced Unix Programming Lab	0.00	0.00	2.00	2.00	2.00
GR14A3101	Industry Oriented Mini Project	0.00	0.00	2.00	2.00	2.00
GR14A3102	Management Science	2.00	1.00	0.00	3.00	3.00
GR14A3060	Scripting Languages	3.00	1.00	0.00	4.00	4.00
GR14A4093	Wireless Networks and Mobile Computing	3.00	1.00	0.00	4.00	4.00
GR14A4077	Software Testing Methodologies	3.00	1.00	0.00	4.00	4.00
GR14A4088	Multimedia and Rich Internet Development	3.00	1.00	0.00	4.00	4.00
GR14A4084	Scripting Languages Lab	0.00	0.00	2.00	2.00	2.00
GR14A4099	Middleware Technologies Lab	0.00	0.00	2.00	2.00	2.00
GR14A4100	Animations Lab	0.00	0.00	2.00	2.00	2.00
GR14A4082	Mobile Application Development	2.00	1.00	0.00	3.00	3.00
GR14A4102	Adhoc Sensor Networks	2.00	1.00	0.00	3.00	3.00
GR14A4090	Design Patterns	2.00	1.00	0.00	3.00	3.00
GR14A4105	Mobile Application Development Lab	0.00	0.00	2.00	2.00	2.00
GR14A4142	Comprehensive Viva	0.00	0.00	2.00	2.00	2.00
GR14A4143	Seminar	0.00	0.00	2.00	2.00	2.00
GR14A4144	Major Project	0.00	0.00	10.00	10.00	10.00
Total		101.00	39.00	60.00	200.00	200.00

3.1.2 Give the Prerequisite flow chart of courses (5) Institute Marks : 5.00

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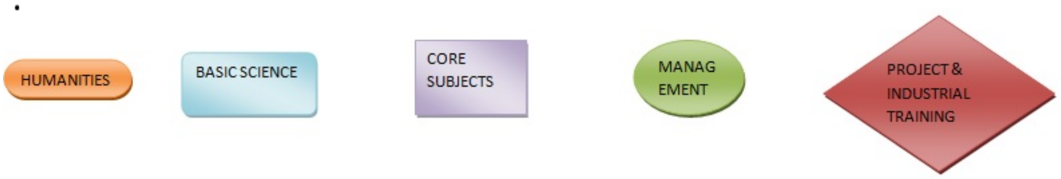

HUMANITIES
BASIC SCIENCE
CORE SUBJECTS
MANAG EMENT
PROJECT & INDUSTRIAL TRAINING

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)

Program Criteria for **Information Technology**

Lead Society: INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)

COOPERATING SOCIETY FOR COMPUTER ENGINEERING PROGRAMS: CSAB

Applicability

An accreditable program in Information Technology will prepare graduates with knowledge, problem solving ability, and hands-on skills to enter careers in the design, development, testing, technical sales, or maintenance of software systems. Level and scope of career preparation will depend on the degree level and specific program orientation. Graduates of associate degree programs typically have strengths in specifying, installing, developing, testing, documenting, operating, selling, or maintaining basic software systems, whereas Bachelor degree graduates typically have strengths in the analysis, applied design, development, implementation, or oversight of more advanced technologies and processes.

The structure of the curriculum provides both breadth and depth across the range of engineering topics necessary to analyze and design solutions to complex problems.

The curriculum includes probability and statistics, including applications appropriate to the program, mathematics through differential and integral calculus, sciences (defined as Environmental, chemical, or physical science) and engineering topics including computing methodologies, data management, information retrieval systems necessary to analyze and design hardware and software components. Java, Web Technologies, Scripting Languages, Mobile Application Development to develop different kind of software applications.

The program has defined five cross disciplinary areas:

- Mathematics
- Science
- Computing
- Humanities
- Professional core

Courses in Mathematics Stream:

Course Code	Course Code
Linear Algebra and Single Variable	

Calculus	GR14A1001
Advanced Calculus	GR14A1002
Transform Calculus and Fourier Series	GR14A1003
Numerical Methods	GR14A1004
Probability and Statistics	GR14A2011

Courses in Science Stream:

Course Code	Course Code
Engineering Physics	GR14A1007
Engineering Physics lab	GR14A1029
Engineering Chemistry	GR14A1008
Engineering Chemistry lab	GR14A1030

Courses in Computer Stream:

Course Code	Course Code
Computer Programming	GR14A1009
Computer Programming lab	GR14A1027
Data Structures	GR14A1010
Advanced Data Structures through C++	GR14A2064
Advanced Data Structures through C++ Lab	GR14A2066
Database Management Systems	GR14A2063
Database Management Systems Lab	GR14A2075
Digital Logic Design	GR14A2065
Digital Electronics Lab	GR14A2053
Operating Systems	GR14A2069
Operating systems and Computer Networks Lab	GR14A2078
Object Oriented Programming through Java	GR14A2070
Object Oriented Programming through Java Lab	GR14A2072
Operating systems and Computer Networks Lab	GR14A2078
Web Designing Lab	GR14A2079
Web Technologies Lab	GR14A3063
Compiler Design and Unified Modeling Language Lab	GR14A3071
Advanced Unix Programming Lab	GR14A3072
Scripting Languages Lab	GR14A4084
Middleware Technologies Lab	GR14A4099
Animations Lab	GR14A4100
Mobile Application Development Lab	GR14A4105

Courses in Humanities Stream:

Course Code	Course Code
English	GR14A1005
Business Communication and Soft Skills	GR14A1024
Environmental Science	GR14A2001
Managerial Economics and Financial Analysis	GR14A2104
Value Education and Ethics	GR14A2002
Advanced English Communication Skills Lab	GR14A3100
Management Science	GR14A3102

Courses in Professional Core Stream:

Course Code	Course Code
IT Workshop	GR14A1026
Mathematical Foundation of Computer Science	GR14A2062
Operating System	GR14A2069
Computer Organization	GR14A2076
Computer Networks	GR14A2077
Software Engineering	GR14A3057
Information Security	GR14A3058
Web Technologies	GR14A3059
Design and Analysis of Algorithms	GR14A3056

Microcontrollers	GR14A2055
Automata and Compiler Design	GR14A3064
Object Oriented Analysis and Design	GR14A3065
Distributed Databases and Systems	GR14A3068
Datawarehousing and Datamining	GR14A3067
Computer Graphics	GR14A3069
Embedded Systems	GR14A3070
Wireless Networks and Mobile Computing	GR14A4093
Software Testing Methodologies	GR14A4077
Artificial Intelligence and Neural Networks	GR14A3061
Human Computer Interaction	GR14A4104
Semantic Web and Social Networks	GR14A4094
Information Retrieval systems	GR14A4095
Cloud Computing	GR14A4079
Network Programming	GR14A4098
Mobile Application Development	GR14A4082
Software Project Management	GR14A4101
Adhoc Sensor Networks	GR14A4102
VLSI Design	GR14A3043
Digital Image Processing	GR14A4069
Design Patterns	GR14A4090
Storage Area Networks	GR14A4096
Comprehensive Viva	GR14A4142
Seminar	GR14A4143
Major Project	GR14A4144

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	15	41.00	30.00	a	4
Science	11.5	30.00	23.00	g	1
Computing	8	19.00	16.00	b,d	2,4
Humanities	7.5	21.00	15.00	e,f,h	3
Professional core	58	153.00	116.00	c,i,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

Following are the core engineering courses and their relevance to design experience

Database Management Systems

This course is a hand on introduction to database systems, namely their internal architecture, data structures, mathematical concepts and use. Expose the students, the concepts of data modeling and database design principles. Students will be able to emphasis 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 aware the concepts of storage devices, data administration, and database administration, 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.

Data Warehousing & 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 aim of the course is to introduce 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. The course is fully design and implementation oriented.

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.

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-cantered, 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

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 of 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.

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.

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.

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.

Data Structures through C++

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. Apart from this the student answers the tutorial papers which are designed in a pattern of guided enquiry learning. With this exercise the student raises interest in the subject as well as improves his learning methodologies.

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 thorough 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.

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.

Computer Networks

This course provides 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 analyze the possible attacks on a network to interrupt the transmission and mislead the communication between different entities. Students will be able to analyze 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.

Wireless Networks & Mobile Computing

Students will get to know the various multiple access techniques available in mobile communications. They will analyze the differences between the wired and wireless networks along with the techniques available to establish a communication line between two parties. They should design a project implementing the multiple access techniques over wireless medium between two mobile nodes, distinguishing the forward and reverse channels over the medium ensuring the effective full-duplex communication. Students can be assessed based on their project work, assessments and course work. Students will get to know the latest mobile technologies available for communication like Bluetooth, infrared, various network architectures like GSM, CDMA etc. The study will be exposed to various wireless parameters like signal strength, coverage area**,** Mobile IP**.**

Following are the core engineering courses and their relevance to Program Outcomes

Core Courses	Program Outcomes											
	a	b	c	d	e	f	g	h	i	j	k	l
IT Workshop	X		X	X	X			X		X		
Mathematical Foundation of Computer Science	X	X	X					X	X		X	x
Operating System	X	X	X	X	X	X	X	X			X	X
Computer Organization	X			X			X					X
Computer Networks	X	X	X	X	X		X	X	X	X	X	X
Software Engineering	X				X						X	
Information Security	X	X	X		X			X			X	X
Web Technologies	X		X		X						X	
Design and Analysis of Algorithms	X											X
Microcontrollers	X		X		X			X			X	
Automata and Compiler Design	X		X		X			X			X	
Object Oriented Analysis and Design	X	X										X
Distributed Databases and Systems	X	X	X		X			X			X	X
Datawarehousing and Datamining	X	X	X	X								X
Computer Graphics	X				X						X	X
Embedded Systems	X	X		X	X					X		X
Wireless Networks and Mobile Computing	X	X	X	X	X					X	X	
Software Testing Methodologies	X	X	X		X					X		X
Artificial Intelligence and Neural Networks	X	X	X	X							X	
Human Computer Interaction	X			X					X			X
Semantic Web and Social Networks	X	X	X	X		X	X				X	
Information Retrieval systems	X			X			X					X
Cloud Computing	X	X	X	X	X		X	X	X	X	X	X
Network Programming	X				X						X	
Mobile Application Development	X	X	X		X			X			X	X
Software Project Management	X	X	X	X				X	X			X
Adhoc Sensor Networks	X				X						X	X
VLSI Design	X	X		X	X					X		X
Digital Image Processing	X	X	X				X	X		X	X	
Design Patterns	X	X	X		X					X		X
Storage Area Networks	X	X	X	X			X				X	
Comprehensive Viva	X				X		X	X			X	X
Seminar	X	X		X	X					X		X
Major Project	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)

Student 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 is having collaborations with the reputed industries and professional bodies so as to bridge the gap between learning and people who are actually practicing technologies

- An expert from industry is considered to be a member of Board of studies who takes active role in curriculum design.
- The institute has MOU’s with Intergraph, Measure India Corporation, Engineering Staff College of India, and is a member of Institution of Engineers (India)
- Students are to prepare to get internship with noted and related industry for their Industry Oriented projects to gain hands on experience of a live industry which carries credit scores.
- Faculty participates in faculty development programmes conducted by various organizations like IITH, IIITH, Microsoft, IBM etc.
- Students are provided and given internship facility with industry and research organization such as L&T, Ultratech, Infotech enterprises etc.,
- The department conducts several workshops on Latest Tools and Technologies, etc., for B.Tech students and invites experts from Industry to share knowledge and experience.
- Entering into agreement with consultancies for providing resources and inputs to UG students for industry orientation programs, for faculty and joint development of innovative products.
- Department organizes several workshops with industry experts for the benefit of the students. Example: Microsoft Azzure, IBM Cognos, Being Zero etc.,

Participation details: Workshops, Seminars, Symposia and FDPs

Event Name	**Collaboration With**	**Duration**	**Resource Persons**	**Target Audience**	**Benefit**
World’s first ever Robothon (Robotics Hackathon)	ROBOTIC CLUB	18th and 19th February 2016	P S V Kishan	Students	Different types of Robotics participated.
1-Week FDP on “Learning Business Intelligence using IBM COGNOS” by IBM	IBM	28th December 2015 to 2nd January 2016.	IBM Team	Faculty	Learning Business Intelligence using IBM COGNOS
1-week FDP on “Fundamentals of Big Data using InfoSphere BigInsights” by IBM	IBM	6th January 2016 to 11th January 2016.	IBM Team	Faculty	Basic concepts of Big Data using InfoSphere BigInsights
1-week FDP on “Essentials of Big Data Programming using InfoSphere BigInsights” by IBM	IBM	15th to 20th February 2016.	IBM Team	Faculty	Essentials of Big Data Programming using InfoSphere BigInsights
workshop on “Simulations of Raspberry Pi with wireless sensor networks” on TEQIP – II	TEQIP	2nd and 3rd March 2015		Faculty	Raspberry pi installation, working procedure of the device hands on experience.
Workshop on IBNC CISCO	CISCO	11th and 12th March 2015	CISCO Team	Students	Learning Networking concepts.
Workshop on “Data Structures” under TEQIP-II	TEQIP	2nd and 3rd March 2015.	Being Zero Team	Students/Faculty	The students were brushed up with all the basic concepts of C language that were required for that session.
Workshop on “Explore the Knowledge-Optimum Utilization of Advanced Open Office” under TEQIP – II	TEQIP	16th to 18th March 2015	Mr. Pradeep Nama Mr. K. Phani Kumar Mr. Abhishek Nama Mr. K. Venu Gopal SyncroServe IT Solutions	Faculty	Non-Teaching Staff and gave expert talk on Office Products namely Word, Powerpoint, Excel and VBA.
2-day workshop on Microsoft Azure	MICROSOFT	29th to 30th July 2015	Mr. Jagadish sasala Trainer from Microsoft company, Getwings	Students	Microsoft Azure computing platform and were taught to develop small startup applications.
Workshop on “Data Structures and Algorithms behind Auto Suggest”	IBM	28th August 2015	Being Zero Team	Students/Faculty	The aim of the session was to code a program for Auto-suggest.
A Workshop on “Knowledge Discovery and Big Data Analytics “	IBM	16th October 2015	By Mr.P.Mohan for IT & Business Analytics, HBS, GITAM, Hyderabad.	Students	The workshop was useful to students to develop and deploy their skills to achieve a thorough knowledge in data science and engineering
“Blood Donation	NSS	9 Jan, 11th &	RED CROSS	Students/Faculty	All students and staff of GRIET

Camp”		24th Mar 2015			Donated Blood.
“Telangana HarithaHaram”	NSS	19th Sep 2015	GHMC	Students/Faculty	To Become Green Campus
Workshop on Microsoft	MICROSOFT	17th-19th Jan 2014	Ashutosh Mehar (SDET 2, Microsoft IT) Vishwanath Uppala (SDET 2, Microsoft IT)	Students	In this three day interaction students created small applications also. It was very interactive, useful and practical oriented interaction program
Workshop on Net Sim(TEQIP)	TEQIP	17th & 18th Feb2014	Mr. Thangarasu. P of Tetcos Pvt Ltd Bangalore Mr. Ramabrahmam. P of Tetcos Pvt Ltd Bangalore	Students/Faculty	The aim of thisTraining Program is to make the students and faculty to have a good research focus on Wireless Network Simulations using Net Sim Simulator.
Workshop on “Ethics in Governance”	IEEE	6th-8th May 2014	IEEE Team	Students	Lecture about ethics in the human life.
Workshop on Cyber Security	TEQIP	10th-20th July 2014	IIT Bombay	Students/Faculty	The workshop will provide training o teaching pedalogy to make extensive use of Technology on Information security.
Workshop on IBM Rational Rose	IBM	16th-19th July 2014	IBM Team	Faculty	Uses of Rational rose Software.
Workshop on Computer Networks	TEQIP	30th-5th July 2014	IIT Bombay	Students/Faculty	Latest concepts of Networks.
Workshop on “Cloud Management” under TEQIP	TEQIP	1st August 2014	IBM	Students/Faculty	Lecture about Cloud Concepts.
Workshop on ”Robotics”	TEQIP	16th & 17th Oct 2014	ROBOTIC CLUB	Students	The aim of the Workshop is to give training about robotics
Workshop on “Web Designing”	TEQIP	17th Oct 2014	IIT	Students	Main aim was design the Web Pages.
Guest Lecture on Network Simulator NS2(TEQIP)	TEQIP	8th & 9th Jan 2014	Mr. Santosh Gore Director Sai Info. Pune Ms. Sujata Patil Sai Info Pune	Students/Faculty	The aim of this Training Program is to make the students and faculty to have a good research focus on Wireless Network Simulations using Net Sim Simulator.
Chandrayan-I	IEEE	13th March,2014	Dr.S.M.Ahmed, scientist and the Principal University of Hyderabad	Students	The subject of the talk is about various topics dealing with the rise of India as superpower in the field of space exploration and about the effect of the success of Chandrayaan-1 on Mars Orbiter Mission.
“Data Science of Big Data Analysis”	IEEE	23rd July 2014	IBM Team	Students	Guest lecture mainly they are discussed about the Data Representation, understanding the customer behavior, data collection and the patterns of data.
Guest lecture on “Wireless Networks”	TEQIP	21st July 2014	IIT Bombay	Students	Lecture about the wireless sensor networks.
Plantation Drive at GRIET	NSS	15th Aug 2014	GRIET	Students/Faculty	The campus become greenery.
Apollo Health Camp at GRIET	NSS	21st Aug 2014	Apollo Hospitals	Students/Faculty	All the students and faculty participated in the health Camp.
IEEE Congress(Section Students Congress-2014)	IEEE	23rd Aug 2014	Dr Y.Vijaya Lata	Students	Student Congress Meeting
Eco Friendly Ganesha Making Event	NSS	27th Aug 2014	GRIET	Students/Faculty	Ganesh Chaturdi Special Event.
IEEE Colloquim on Computing	IEEE	11th Oct 2014	IEEE Team	Students	Students Meet regarding IEEE programs.
Seminar on Cancer awareness	IEEE	25th Feb 2014	Dr. Praveen Reddy, Oncologist Continental hospitals Dr Sharda Gynaecologist	Students	They Gave lecture about the cancer precautions, and treatments.
			Mr.Madhav Negi,		Uses are, very basic engineering

“Billo Bhai B.Tech” By Madhav Negi	IEEE	10th April 2014	A senior IEEE member and Senior manager (Sales support) at Computer Services Organisation	Students	skill to learn the basics has taken a lag behind and emphasizing the necessity of a curious mind and inquisitive thinking.
Accrediation Awareness Program	TEQIP	23rd July 2014	Dr J.N.Murthy Principal GRIET	Faculty	Interaction with students about the accrediation.
Oracle Webinar	TEQIP	24th July 2014	IIT Bombay	Students/Faculty	Notes for JDK 8 and JDK 8 Update Releases.
Seminar on “Information Security Webinar(TEQIP)”	TEQIP	24th July 2014	IIT Bombay	Students/Faculty	Explained about Security Algorithms.
Oracle Workforce Development Initiation Program	ORACLE	17th July 2014	Oracle Team	Faculty	Useful of Oracle Products.
Speak session by Cyient CEO	Cyient	1st Aug 2014	Dr.BVR Mohan Reddy, Executive Chairman, Cyient Ltd	Students	He emphasized on Values, Attitude and Learning and how these factors helped in building an enterprise realm like Cyient
C++ Webinar under QEEE	QEEE	1st Aug 2014	IIT Bombay	Faculty	Data Structure Concept.
Guest Talk by IBM Team	IBM	6th Aug 2014	IBM Team	Students	Useful for career opportunities.
Guest Talk by TCS Team	TCS	13th Aug 2014	TCS Team	Students	Useful for career opportunities.
Guest Talk on “Exposure of Higher Studies in USA”	Abhayaas	12th Sep 2014	Dr. Bernice J. Houle, Associate Dean, School of Computer Science and Information Systems, Pace University New York	Students	The Institute people gave lecture about the coaching,training and education system in USA. .
Guest Talk on “Mysterious Origins of MAN”	ISKON	15th Sep 2014	Nitai Nimai Das Hare Krishna Youth Team	Students	They gave lecture about the human life, big bang theory, social ethics and values of a human life.
QEEE Webinar on Enterprise in IT Industry	QEEE	18th Sep 2014	IIT Bombay	Students	Lecture About :How to Survive in IT Industry”.
Guest Talk on “Analytics & Data Mining-SAS”	IBM	30th Oct 2014	IBM Team	Students	Guest lecture mainly they are discussed about the Data Representation, understanding the customer behavior, data collection and the patterns of data.
Guest Talk by “Career Guidance by Abhayaas”	IEEE	10th Nov 2014	Abhayaas	Students	Useful for career opportunities.
Guest talk on GOCRAZIE & SPEW(Society for Protection & Empowerment of Women)	IEEE	11th Nov 2014	IEEE WIE Team	Students	Society for Protection & Empowerment of Women
Industrial visit to DRDL- REPORT	IEEE	31st Jan 2014	Dr. Nuruddin Ahmed (Deputy HR, DRDL)	Students	The aim and purpose of DRDL, which was followed by a visit to the Missile Display where models of the missiles with actual scale had been displayed
Metro Rail Visit	IEEE	19th Jan 2014	Dr. Y VijayaLata	Students	Field trip to know the construction of the Metro Rail.
Career Guidance-I	VALMIKI GROUP	26th July, 2013	Rakesh Sharma Branch Manager VALMIKI GROUP	Students	The Valmiki Foundation intends to expand its activity further to reduce illiteracy among the under privileged sections of the society.
Career Guidence-II	VALMIKI GROUP	7th August, 2013	Rakesh Sharma Branch Manager VALMIKI GROUP	Students	The Valmiki Foundation aims to impart free education through its own educational institutions and adopted schools.
Workshop on Mobile Computing	TEQIP	16th July to20th July 2014.	-	Students /Faculty	Learn the new concepts in Mobile computing.

Advanced Computing Methodologies	TEQIP	2nd & 3rd August, 2013	Ching Chang Hung	Students /Faculty	International Conference
Mozilla Firefox OS	TEQIP	25th August, 2013	Srikar Ananthula, Project Engineer at Wipro Technologies, Mozilla Representative (REMO) & Founder of Mozilla Club Hyderabad,	Students	Introduced Mozilla firefox OS and working procedure.
About GRE & TOEFL	Manhattan Review	21st Sep, 2013	VIJAY CHUNDURU Bussiness Development Manager V.ANIL KUMAR Sr.Bussiness Development Executive	Students	Career opportunities
Exposure of Higher studies in USA	KIC UnivAsst	25th sep 2013	Jody Lehr, Assistant Director Graduate and International Outreach Bausch & Lomb Center Rochester Institute of Technology	Students	Career opportunities
File management & indexing	TEQIP	30th Sep 2013	Dr.K.Supreethi, Assoc Professor, Dept of CSE, JNTUH	Students	The term computer file management refers to the manipulation of documents and data in files on a computer.

3.5 Curriculum Development (15)

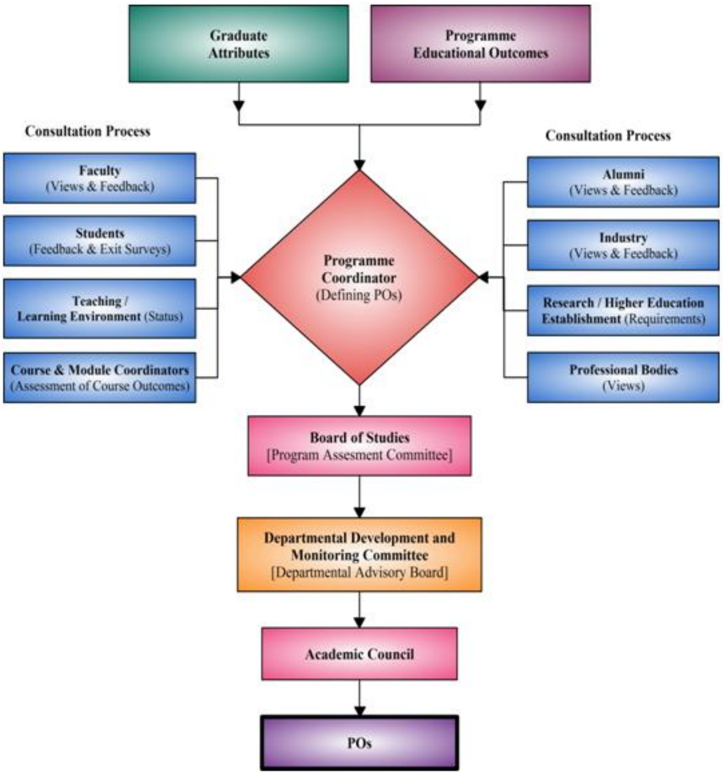
Total Marks : 15.00

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

Institute Marks : 5.00

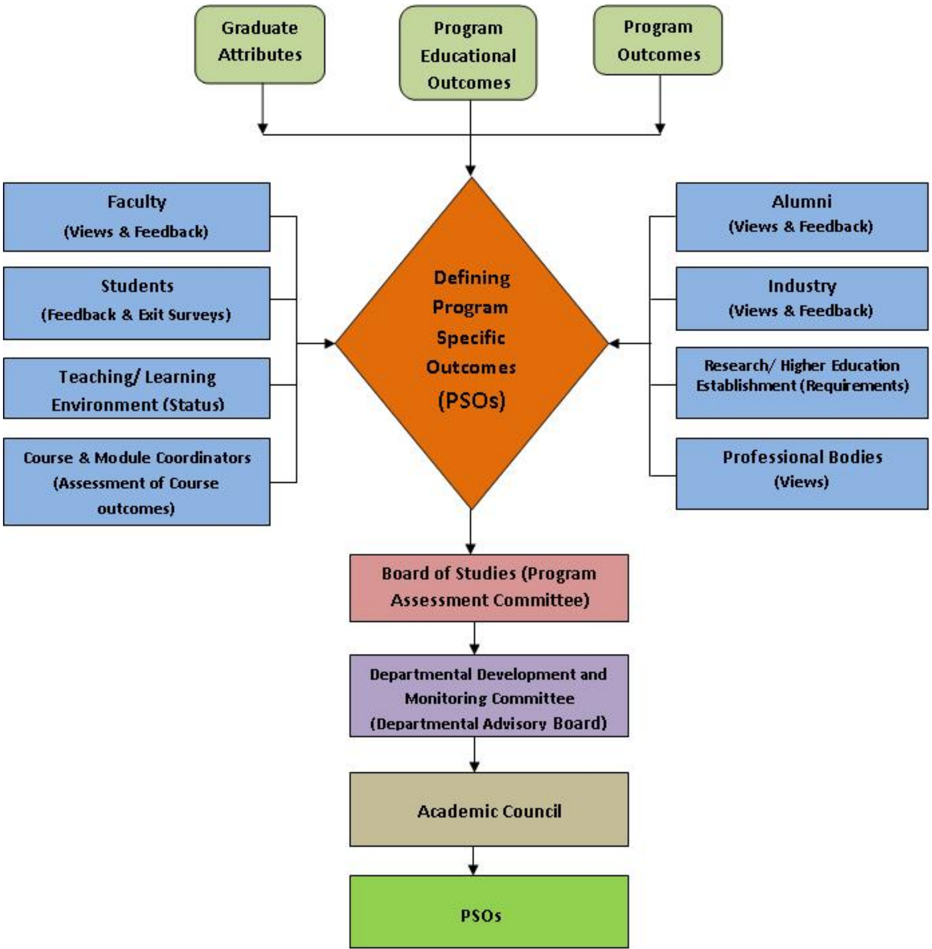
(Describe the process that periodically documents and demonstrates how the programme curriculum is evolved considering the PEOs and the POs)

The POs (a-l) are as 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.


Graduate Attributes
Programme Educational Outcomes
Consultation Process
Faculty (Views & Feedback)
Students (Feedback & Exit Surveys)
Teaching / Learning Environment (Status)
Course & Module Coordinators (Assessment of Course Outcomes)
Programme Coordinator (Defining POs)
Consultation Process
Alumni (Views & Feedback)
Industry (Views & Feedback)
Research / Higher Education Establishment (Requirements)
Professional Bodies (Views)
Board of Studies [Program Assesment Committee]
Departmental Development and Monitoring Committee [Departmental Advisory Board]
Academic Council
POs

State the process used to identify extent of compliance of the curriculum for attaining the Program Specific Outcomes

1. Analyze and Simulate diverse problems in the field of Information Technology.
2. Design and Analyze a system with applications in Network Security.
3. Built, Test and Evaluate a Web Applications with real time constraints.
4. Design and implement a basic Android Application with the knowledge of Java and Mobile Application and Development for real time applications.


Graduate Attributes
Program Educational Outcomes
Program Outcomes
Faculty (Views & Feedback)
Students (Feedback & Exit Surveys)
Teaching/ Learning Environment (Status)
Course & Module Coordinators (Assessment of Course outcomes)
Defining Program Specific Outcomes (PSOs)
Alumni (Views & Feedback)
Industry (Views & Feedback)
Research/ Higher Education Establishment (Requirements)
Professional Bodies (Views)
Board of Studies (Program Assessment Committee)
Departmental Development and Monitoring Committee (Departmental Advisory Board)
Academic Council
PSOs

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)

To identify the curricular gaps for attainment of COs/POs we have followed these methods:-

1. Course feedback collected from the students is analyzed to measure the gap for attainment of COs and POs.
2. Faculty surveys are considered to identify curriculum gaps for attainment of CO's and PO's. Faculty inputs are valuable because they understand student comprehension and learning abilities better.
3. Based on the COs and POs and using result analysis and surveys, the curricular gaps are ascertained.
4. 'Student Exit surveys' are collected to identify curriculum gaps and the requisite skills for their future endeavors in their career paths.
5. Surveys are conducted with industry and the employers of our students, regarding their expectations from our graduates, which are then matched with our COs and POs.
6. Panel discussions are organized with focus groups such as IE, IWWA, CREDAI, Institution of Valuers, and other professional bodies to identify the curricular gaps.
7. Feedback is collected from the alumni who has joined in the professional careers or pursuing higher studies or has become entrepreneurs.
8. The required achievement level of Graduates Attributes are observed to identify gaps in attainment of COs and POs.

The feedback and surveys being utilized in the process are aimed at analyzing and discerning the extent to which the outcomes are addressed. This includes analysis for missing out on outcomes, by students in case of change in electives; the extent of support by pedagogy and assessments in the development of the students; the attainment of required skills and qualities by students for professional growth. Inputs and suggestions on improvements in courses after result analysis from course coordinators, Guest lecture, web content, video lectures and additional power point presentations of the course are shared with the students for further strengthening the course outcomes.

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
IT_Syllabus_GR14_GRIET
IT_Syllabus_GR11_GRIET

The Course Syllabi of Information Technology 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 requirements for tha award of the degree are given.

The syllabi format includes:

- Department, course number, and title of course
- Details about elective course
- Contact hours (lecture, tutorial, seminar, project , Lab)
- Course Assessment methods (continuous and semester-end assessment)
- Course Outcomes
- Topics to be covered
- Text books, and/or reference material

4 Students' Performance (75) Total Marks : 67.10

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	60	120	120	120	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)	60	119	118	105	120	119	119
Number of admitted students in 2nd year in the same batch via lateral entry (N2)	0	0	0	0	5	8	8
Total number of admitted students in the programme N = (N1 + N2)	60	119	118	105	125	127	127

4.1 Success Rate (20) Total Marks : 17.60

Institute Marks : 17.60

Provide data for the past seven batches of students

Year of entry (in reverse	Number of Students admitted in 1st year + admitted via lateral entry in	Number of students who have successfully completed

chronological order)	2nd year (N1 + N2)	1st year	2nd year	3rd year	4th year
2015-2016	60	0	0	0	0
2014-2015	119	77	0	0	0
2013-2014	118	74	80	0	0
2012-2013	105	64	75	78	0
2011-2012 (LYG)	125	74	91	96	115
2010-2011 (LYGm1)	127	67	76	93	114
2009-2010 (LYGm2)	127	65	84	121	104

Success rate = 20 × 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	125.00	127.00	127.00
Number of students who have graduated in the stipulated period	115.00	114.00	104.00
Success index (SI)	0.92	0.90	0.82

Average SI	0.88
Success rate	17.60

4.2 Academic Performance (20)

Total Marks : 14.50

Institute Marks : 14.50

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 **Approximating the API by the following mid-point analysis**	**2011-2012**	**2010-2011**	**2009-2010**
9 < Number of students with CGPA < 10	2.00	2.00	1.00
8 < Number of students with CGPA < 9	25.00	14.00	18.00
7 <= 8	44.00	50.00	49.00
6 <= 7	35.00	29.00	40.00
5 <= 6	5.00	10.00	8.00
Total	111.00	105.00	116.00
Approximating API By Mid-CGPA	0.00	0.00	0.00
Mean of CGPA/Percentage of all the students API	7.36	7.20	7.19
Assessment	14.72	14.40	14.38

Average assessment points 14.50

4.3 Placement and Higher Studies (20)

Total Marks : 20.00

Institute Marks : 20.00

Item	LYG 2011-2012	LYGm1 2010-2011	LYGm2 2009-2010
Number of admitted students corresponding to LYG including lateral entry (N)	125.00	127.00	127.00
Number of students who obtained jobs as per the record of placement office (x1)	66.00	47.00	55.00
Number of students who found employment otherwise at the end of the final year (x2)	1.00	1.00	1.00
Number of students who opted for higher studies with valid qualifying scores/ranks (y)	58.00	76.00	69.00
x=x1+x2	67.00	48.00	56.00
Assessment points	20.00	20.00	20.00

Average assessment points 20.00

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).

S No.	Event	Society	Date	Achievement / Benefit
1	Membership Drive 2013-14	IEEE	23-12-2013 to 26-12-2013	Membership Drive is an annual flagship programme where the ExeCom Members of IEEE GRIET SB educate the students of GRIET about the benefits and importance of IEEE

				Membership and to retain the previous members.
2	ExeCom 2013-14 Formation	IEEE	17.12.2013	The new team of office bearers was formed to carry on the legacy of IEEE GRIET SB.
3	National symposium on software 2.0 emerging competencies	CSI	30/04/2013	Workshop conducted for academic improvement
4	Seminar on “Transformation of Data: from Relation data to Big data”	IEEE	01/03/2013	The seminar aimed at introducing the students to the increasing importance of “Data” in today’s technological world and how this continuously multiplying data can be dealt with.
5	Workshop on “Android Application Development”	IEEE	27/02/2013 to 28/02/2013	The workshop focused on the basic theoretical concepts of android application development tools and practical implementation of these concepts to design a simple application
6	Seminar on “Research and Education Opportunities in Data Sciences”	IEEE	28/01/2013	Emphasized the importance of Data Sciences to the students
7	Industrial Visit To Center for Electronic Test Engineering (CETE), ECIL, Hyderabad	IEEE	02/01/2013	Exposed to the importance of testing all the electric machinery used in both research and industry in order to prevent any hazardous accidents.
8	ExeCom 2013-14 Formation	IEEE	17.12.2013	The new team of office bearers was formed to carry on the legacy of IEEE GRIET SB.
9	Membership Drive 2013-14	IEEE	23-12-2013 to26-12-2013	Membership Drive is an annual flagship programme where the ExeCom Members of IEEE. GRIET SB educate the students of GRIET about the benefits and importance of IEEE Membership and to retain the previous members.
10	Visit to DRDO	IEEE	31.12.2014	The Industrial Visit to DRDL (Hyd.) on 31st January, 2014. A total of 35 participants have attended this visit headed by Dr Y.Vijayalata, the Branch Counsellor of IEEE GRIET SB. The visit proved quite knowledgeable, enlightening us about the achievements of India in the Defense Sector
11	Student Body Meeting I	IEEE	18.02.2014	Since their introduction, the SBMs have always provided a platform for the student members of IEEE GRIET SB to get closer to the SB, to network with students from other branches and also to mould themselves into a complete individual.
12	Web Technologies Cluster I	IEEE	25.02.2014	Clusters are a culture initiated at IEEE GRIET, where the student members get to pace up with the trending technologies. During the web technology clusters, HTML and other web designing languages were taught to the members.
13	Talk on Mars Orbiter Mission by Dr. S M Ahmed	IEEE	13.03.2014	To provide an overview of the MOM to the student fraternity, IEEE GRIET SB conducted a section level Dr.S.M.Ahmed. In the capacity of core science team member of Chandrayaan-I mission, the speaker had first hand experience in developing an indigenous science payload. The discussion involved the preparedness, challenges and possibilities of attaining the targeted goals by MOM.
14	Literary Cluster	IEEE	15.03.2014	A platform to express our views and make them matter. The literary cluster was conducted under the guidance of Mrs. Sujitha Rao.
15	Talk "Billoo Bhai, B.Tech" by Dr. Madhav Negi	IEEE	10.04.2014	GRIET IEEE SB conducted a talk by Mr.Madhav Negi, titled "Billoo Bhai, B.Tech" on 10th April,2014. He is a Senior Member of the IEEE Hyderabad Section and is currently the Sr. ManagerSalesSupport at Computer Sciences Corporation. He is an eminent speaker who spoke about how one can become a well- rounded technical leader.
16	Student Body Meeting II	IEEE	11.04.2014	SBM II was a networking session where the student members were segregated into groups to accomplish a given task. The event was a huge hit.
17	Live Chat	IEEE	13.05.2014	Live chat was a platform by IEEE GRIET SB, where the student members could interact with the Executive Committee and pose queries and suggest ideas.The event was conducted through a social media platform.
18	Junior ExeCom Recruitments2014	IEEE	17.07.2014	The first year students were recruited as the Junior ExeCom members in order to comprehend the working of the SB and its objectives. Ten candidates were selected who were the probables for the ExeCom of the upcoming year.
19	Student Body Meeting III	IEEE	05.08.2014	SBM III was a networking session where the student members were segregated into groups to accomplish a given task. The event was presided by the principal of GRIET, Dr. Jandhyala N Murthy.
20	Robotics Cluster I	IEEE	11.08.2014	Clusters are a culture initiated at IEEE GRIET, where the student members get to pace up with the trending technologies. During the roboics clusters,the basics of Arduino UNO and bread board applications were taught to the members
21	Introduction session	GRIET	14/08/2014	

22	Talk on Ham Radio by Dr Miroslav Skoric	IEEE	15.09.2014	RADIO by Prof.Miroslav Skoric organized by the IEEE GRIET SB in collaboration with IETE Student Chapter of GRIET at the GRIET Campus,Hyderabad. Another esteemed guest Mr.Jose Jacobs who is the Assistant Director of National Institute of Amateur Radio attended this talk
23	Colloquium14	IEEE	11.10.2014	IEEE GRIET SB in association with IEEE Hyderabad Section and IEEE Computer Society, conducted a Section level "COLLOQUIUM" with theme as computing. The "Colloquium" was held on the 11th of October,2014 at Gokaraju Rangaraju Institute of Engineering & Technology, Hyderabad. This colloquiums aim was to enlighten students on various emerging trends in the computing world.
24	ExeCom 2014-15 Formation	IEEE	10.12.2014	The new team of office bearers was formed to carry on the legacy of IEEE GRIET SB.
25	Membership Drive 2014-15	IEEE	21-12-14	Membership Drive is an annual flagship programme where the ExeCom Members of IEEE GRIET SB educate the students of GRIET about the benefits and importance of IEEE Membership and to retain the previous members.
26	Visit to IIIT-H "R&D Showcase"	IEEE	25.01.2015	The R&D Showcase at IIIT Hyderabad served a spectacle and a feast to eyes of the visitors from IEEE GRIET SB 2014-15 with a display of multi-hued technical presentations.
27	Talk on "Internet of Things" by Dr. Sumit Kumar	IEEE	31.01.2015	The technical talk on "Internet of Things" by Dr. Sumit Kumar comprised of the introduction, applications and pre-requisites to work on IOT. The talk featured the tools and softwares involved, the project scenarios and the impact of IOT on the world with a demo
28	Android Workshop	IEEE	05-02-2015	Android Workshop was held on 5th and 6th February by the JKC and Google in collaboration with IEEE GRIET SB. The workshop served its purpose well by equipping the attendees with sufficient knowledge and technology for Android App Development.
29	Student Body Meeting I	IEEE	11.02.2015	SBM I was a networking session where the student members were segregated into groups to accomplish a given task. The event ended on a high note and adhered to its objective.
30	Web Technologies Clusters	IEEE	04-03-2015-16-03-2015	Clusters are a culture initiated at IEEE GRIET, where the student members get to pace up with the trending technologies. During the web technology clusters, HTML and other web designing languages were taught to the members
31	Robotics Cluster	IEEE	09-04-2015-12-03-2015	Clusters are a culture initiated at IEEE GRIET, where the student members get to pace up with the trending technologies. During the robics clusters,the assembly and execution of basic robots based on Arduino UNO and bread board applications were taught to the members.
32	Skill Connect Program	IEEE	March-April 20	IEEE GRIET SB in collaboration with IEEE Hyderabad Section launched a professional student career training program called "Skill Connect Program". Several student members had taken part in the training sessions and reaped benefits.
33	PES and CS ExeCom Selections	IEEE	09.03.2015	The new society chapters PES and CS were being launched under the banner of IEEE GRIET SB, for which the Executive Committee was recruited by Dr Y Vijayalata, Branch Counselor
34	Talk Power and Energy Awareness	IEEE	09.03.2015	Power and Energy Society awareness talk was conducted by IEEE GRIET SB for EEE students of GRIET on 9th March, 2015 by Dr P Balasubrahmaniam, Chairperson, PES Chapter, Hyderabad Section.
35	Talk on Entrepreneurship by Mr Anil Nair	IEEE	13.03.2015	Emphasizing the need for knowledge on Entrepreneurship to promote the idea of start ups in the student members, IEEE GRIET SB in collaboration with IEEE Young Professionals conducted a talk on the same, by Mr Anil Nair.
36	WIE Self-defense program	IEEE	17-03-2015 &18-03-2015	IEEE -WIE - GRIET in collaboration with WOMEN DEVELOPMENT CELL GRIET and S.P.E.W (Society for Protection and Empowerment of Women) conducted a workshop on self defense on 17th and 18th of march,2015 in the college campus. Summing up the two days ,about 100 girls attended the workshop .
37	Cognitio15	IEEE	Round I:18-03-2015 Round II&III:31-03-2015	Cognitio is an event that serves as a perfect blend of eminence and excellence. The event is chiefly a contest comprising of three rounds that tests the aptitude, dexterity and reflexes as they tread along a matrix of challenges with technical questions effectively fabricated within them. The winners of the event are awarded with certificates of appreciation and some prizes.
38	Inauguration of Power and	IEEE	24.04.2015	The Power and Energy Society was successfully initiated on 24th April, 2015, at the IEEE GRIET Student Chapter. The opening ceremony was graced by

	Energy Society			Dr. K Balasubramanian, Chairman, PE Society, IEEE Hyderabad Section and Dr. J Praveen, Branch Advisor, PE Society, Chapter.
39	Junior ExeCom Recruitments2015	IEEE	23.07.2015	The first year students were recruited as the Junior ExeCom members in order to comprehend the working of the SB and its objectives. Thirteen candidates were selected who were the probables for the ExeCom of the upcoming year
40	Workshop on Predictive Analysis with Rapid Miner	IEEE	22.08.2015	**IEEE Hyderabad Section and IEEE Computational Intelligence Society Chapter conducted a workshop** on "Predictive Analysis with Rapid Miner" in association with IEEE GRIET SB. The workshop dealt with the basic concepts and applications of using the rapid miner to analyze and predict data.The workshop was addressed by Prof.Dr.Naresh K. Mallenahalli.
41	Inauguration of Computer Society	IEEE	12.09.2015	The Computer Society was successfully initiated on 12th September, 2015, at the IEEE GRIET Student Chapter. The opening ceremony was graced by Mr.Sudhakar Kolluru,Chairman, IEEE CS Chapter, Hyderabad section and Mr.Vinit Kumar Gunjan,Treasurer, IEEE CS Chapter, Hyderabad section.
42	Pragnya 15	IEEE	8-10-2015 to 10-10-2015	PRAGNYA15 a national level technical symposium of GRIET was conducted on a stretch of three days whose leitmotif is to impart technical knowledge and maintain the pace of current technologies with students.
43	ExeCom 2015-16 Formation	IEEE	05.11.2015	To sustain the professional endowment af IEEE GRIET SB a new team of the Exe-Com was formed.
44	Membership Drive16	IEEE	13-11-15 14-11-2015	Membership Drive is an annual program conducted by IEEE GRIET SB in order to dessiminate the students about the importance of IEEE and member benifits
45	WIE STAR Program	IEEE	16.12.2015	Lack of practical knowledge on the subject is the main drawback of the present education system. To help students overcome this crisis, WIE AG IEEE GRIET SB took up an initiative of demonstrating simple science experiments to the students of ZPHS, Nizampet for students of 9th Grade by the Exe-Com members
46	Student Body Meeting I	IEEE	29.01.2016	Carrying down the culture of conducting SBM to the new student members from the time of establishment of the SB, this year also IEEE GRIET conducted the first SBM on29th of January, 2016 from 1:30pm to 4:00pm. Although the main objective in conducing the SBM is to inculcate networking and required technical skills to the student members, though a competition was held among the member teams it was to rage in the enthusiasm in them.
47	WIE Talk on Stress Management and Self-Motivation By Dr. Geetha Charla	IEEE	30.01.2016	A talk on "Stress Management and Self-Motivation" was held by IEEE GRIET AG presided by Dr.Geetha Challa whose main objective was to eliminate the awareness to the students of current generation.stress issues and to impart self
48	Web Technologies Cluster	IEEE	09.01.2016	The first Web designing cluster was conducted to the student members in two sessions i.e. in the morning and afternoon sessions, on 9th of January, 2016. The main objective of the session is to expand the technical knowledge of the students members. The session was taken over by the Exe-Com members
49	Robotics Cluster	IEEE	11.01.2016	The first Robotics cluster was conducted to the student members in two sessions i.e. in the morning and afternoon sessions, on 11th January, 2016. The main objective of the session is to expand the technical knowledge of the students members. The session was taken over by the Exe-Com members
50	Services PES-Field trip to Sanjay Technical	IEEE	10.02.2016	Field trip is one such activity conducted by PES Chapter of IEEE GRIET to Sanjay Technical Solutions, Jeedimetla on 10th February, 2016 from 11:00 a.m. to 2:00p.m where students are imparted with practical knowledge.
51	CS-Talk on Internet of Things by Dr. C R Sarma	IEEE	12.02.2016	A technical talk on " Internet of Things" (IoT) was conducted under CS chapter on taken over by the speaker C. R Sarma to provide technical exposure to the student members and to imaprt knowledge to the stuents whcich is useful in turn in their educationl career
52	Cognitio16	IEEE	Round I24/02/2016	Cognitio IEEE GRIETs annual flagship event, conducted its event in the college campus on 24th of January, 2016 with its most intriguing and mind triggering pool of challenges and assortment of conflicting contests. A perfect opuurtunity to the students to throw their non technical skills into the limelight.
53	WIE Talk on Attraction Vs	IEEE	27.02.2016	Setting goals is the first step in turning the invisible into the visible! In order to achieve these goals, it is necessary to understand what influences the progress of

	Distraction By Dr. Swetha			achieving it, to bring forth this and make things simpler, IEEE GRIET SB -WIE AG has conducted a talk on "ATTRACTION V/S DISTRACTION" by Dr. Swetha on 27th February, 2016 from 10:00 a.m. to 12.00 noon
54	Android workshop by Mr.Sanjeev Kumar	GRIET	29/03/2016	A workshop on Andriod concepts.
55	MELA	GRIET	30/03/2016	MELA

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 a 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 Paper Presentation	Development of technical knowledge
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 No s	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.

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 computing (IJAC)	Quarterly ISSN: 0975-7686	2009	Prof. P.S.Raju	Gokaraju Rangaraju Institute of 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.)

Institute Level Entrepreneurial Activities:

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) Robotics Hackathon Competition (iv)Advanced HTML Coding course	All students projects are brought to the level of manufacturing. Developed a project for BUS-I Solutions.
Product Designs	(i) GCAP, GPOP, Web Designing Cluster	Developed the design for the college and maintained by us only
	(i) Hackers Summit 2015(by IIIT, Hyderabad) -	Students exhibited their product and won

Product Exhibition	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)Organized a seminar on importance of entrepreneurship on 27-8-2014 and Assistant Director MSME was chief guest (ii) Conducted " idea tree" on 19-2-2015 (iii) 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.	Motivated the students Thirty faculty participated in this program Encouraging students to become entrepreneurs
Product Designs	(i) GRIET established incubation centre with Micro Small Medium Enterprise(MSME) (ii) 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	Selected 2 ideas to be presented for Financial assistance to MSME
CAYm2 (2013-14)		
Entrepreneurship Initiatives	(i) Organized a guest lecture by eminent and entrepreneur Mr. Srikanth of sunfield energy pvt.Ltd on 23.10.2013 (ii) An interactive session with CEO of Fortune Automobiles Mr. Nirav Modi on 22.11.2013	Explained entrepreneur opportunities to students Motivation to students
Product Exhibition	Conducted competition on exhibiting innovative products on 22.01.2014	Students participated with their ideas received the prizes and appreciation certificates

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.)

Name of the Programme	**Year**	**Place**	**Name of the students/ Branch**	**Achievement**
PRAGNYA'2015	2015	GRIET	Apurva Sirivolu,IT	First prize
PROMETHEAN'15	2015	BVRIT	A.S.Sai Krishna Lahiri-IT	Participation
PRAGNYA'2015	2015	GRIET	Y Goutham Kumar-IT	Organized
PRAGNYA'2015	2015	GRIET	Ravali-IT	Organized
PRAGNYA'2015	2015	GRIET	Apurva-IT	Participation
PRAGNYA'2015	2015	GRIET	Y Mounica-IT	Participation
PRAGNYA'2015	2015	GRIET	L Prashanth-IT	Participation
PRAGNYA'2015	2015	GRIET	A SAHITHI-IT	Participation
PRAGNYA'2015	2015	GRIET	A.K.Koutilya-IT	Participation
PRAGNYA'2015	2015	GRIET	N.Kalyan-IT	Participation
PRAGNYA'2015	2015	GRIET	Preethi-IT	Participation
PRAGNYA'2015	2015	GRIET	V Rishika-IT	Participation
PRAGNYA'2015	2015	GRIET	K.Mani kumar Reddy-IT	Second Prize
PRAGNYA'2015	2015	GRIET	P Shravya-IT	First Prize
PRAGNYA'2015	2015	GRIET	Avani reddy-IT	First prize
PRAGNYA'2015	2015	GRIET	Avani reddy-IT	Volunteer
IBNC	2015	i-Medita	Ch Dravid Rahul-IT	Zonal Winner
Excellence	2015	GRIET	P Sharavya-IT	First Position
SUDHEE-2k15	2015	CBIT	N Sri Hashi-IT	Participation
SUDHEE-2k15	2015	CBIT	G Avani reddy-IT	Participation
SUDHEE-2k15	2015	CBIT	P Shravya-IT	Participation
SUDHEE-2k15	2015	CBIT	S Lakshmi Priya-IT	Participation
SUDHEE-2k15	2015	CBIT	Manasa-IT	Participation
SUDHEE-2k15	2015	CBIT	K Vanaja-IT	Participation
SUDHEE-2k15	2015	CBIT	Ch Bhavani-IT	Participation
SUDHEE-2k15	2015	CBIT	Rathod Narayana-IT	Participation
SUDHEE-2k15	2015	CBIT	B Asha Kiran-IT	Participation
SUDHEE-2k15	2015	CBIT	K Mani Kumar Reddy-IT	Participation
SUDHEE-2k15	2015	CBIT	A S Sai Krishna Lahiri-IT	Participation
IEEE INDIA Strategic Initiative	2015	IEEE Hyderabad Section	Himaja Kanchi-IT	Participation
IEEE INDIA Strategic Initiative	2015	IEEE Hyderabad Section	EVA SONI-IT	Participation
IEEE SSC'2014	2015	IEEE Hyderabad Section	EVA SONI-IT	Participation
IEEE Computational Intelligence Society	2015	IEEE Hyderabad Section	Mohammed Muzzamiln Ahmed-IT	Participation
IEEE Computational Intelligence				

Society	2015	IEEE Hyderabad Section	A S Sai Krishna Lahiri	Participation
IEEE Computational Intelligence Society	2015	IEEE Hyderabad Section	M Pranav Prateek	Participation
IEEE Computational Intelligence Society	2015	IEEE Hyderabad Section	B Asha Kiran	Participation
A SYC'2015	2015	IEEE Hyderabad Section	Eva Soni	Participation
A SYC'2015	2015	IEEE Hyderabad Section	Eva Soni	Participation
Excellence	2015	GRIET	K Sindhuja Reddy-IT	First Position
Teach web	2015	Mozilla community	B.HARIKA	Participation
JNTU-EXCITE summer project	2015	JNTU_EXCITE	K.Mounika	Participation
JNTU-EXCITE summer project	2015	JNTU_EXCITE	G.Lakshmi Narasimha Kiran	Participation
IEEE INDIA Council	2015	IEEE hyderabad	Pragathi Kulkarni	Participation
Enigma2k15	2015	GRIET	K.Manikumar	Participation
Enigma2k15	2015	GRIET	A.Sai Krishna	Participation
Enigma2k15	2015	GRIET	A.Sai Mohan	Participation
Koolkutir	2015	GRIET	Eva Soni	Participation
IBNC India	2015	IIT-Delhi	CH.Dravid Rahul	Participation
Data structures and algorithams	2015	GRIET	V.Rishika	Participation
Data structures and algorithams	2015	GRIET	G.Manasa	Participation
Data structures and algorithams	2015	GRIET	V.Preethi	Participation
Data structures and algorithams	2015	GRIET	K.Himaja	Participation
Data structures and algorithams	2015	GRIET	K.Mounica	Participation
Data structures and algorithams	2015	GRIET	N.Sri Hashi	Participation
Data structures and algorithams	2015	GRIET	G.Manasa	Participation
Data structures and algorithams	2015	GRIET	K.Vanaja	Participation
Data structures and algorithams	2015	GRIET	Chekuri Bavani	Participation
Data structures and algorithams	2015	GRIET	CH.Sri Lakshmi Devi	Participation
Data structures and algorithams	2015	GRIET	K.Sai Mohan	Participation
Data structures and algorithams	2015	GRIET	V.Rishika	Participation
Data structures and algorithams	2015	GRIET	Preethi Vuppala	Participation
Data structures and algorithams	2015	GRIET	G.Kiran	Participation
Data structures and algorithams	2015	GRIET	Roja	Participation
Data structures and algorithams	2015	GRIET	Divya	Participation
Data structures and algorithams	2015	GRIET	B.Asha kiran	Participation
Data structures and algorithams	2015	GRIET	S.Apoorva	Participation
Data structures and algorithams	2015	GRIET	T.Sravan	Participation
Data structures and algorithams	2015	GRIET	K.Manikummar	Participation
Data structures and algorithams	2015	GRIET	A.Sai Krishna	Participation
Data structures and algorithams	2015	GRIET	Y.Mounica	Participation
Data structures and algorithams	2015	GRIET	MD.Muzammil Ahmed	Participation
Data structures and algorithams	2015	GRIET	L.Prashanth	Participation
Data structures and algorithams	2015	GRIET	M.Priyanka	Participation
Data structures and algorithams	2015	GRIET	S.S.V.S.Harsha	Participation
Data structures and algorithams	2015	GRIET	Krishna Teja.A	Participation
Data structures and algorithams	2015	GRIET	Eva Soni	Participation
IBNC India	2015	I-medita	Ankath Sahithi	Participation
IBNC India	2015	I-medita	Gadeela Ravali	Participation
IBNC India	2015	I-medita	Loka Prashanthi	Participation
IBNC India	2015	I-medita	V.Mounica	Participation
IBNC India	2015	I-medita	S.Apoorva	Participation
IBNC India	2015	I-medita	G.Likitha	Participation
IBNC India	2015	I-medita	M.Pravallika	Participation
IBNC India	2015	I-medita	K.Premchand	Participation
IBNC India	2015	I-medita	Y.Gowtham kumar Reddy	Participation
IBNC India	2015	I-medita	Malla Mounica	Participation
IBNC India	2015	I-medita	P.Sravya	Participation
IBNC India	2015	I-medita	Vedant Agarwal	Participation
IBNC India	2015	I-medita	Ch.David Rahul	Participation
IBNC India	2015	I-medita	Kuna Lakshmi	Participation
IBNC India	2015	I-medita	Preethi Vuppala	Participation
IBNC India	2015	I-medita	Mounika Katepallu	Participation
IBNC India	2015	I-medita	K.Sri Venkatesh	Participation
IBNC India	2015	I-medita	Gaddam Avani Reddy	Participation
IBNC India	2015	I-medita	K.Hansika	Participation
IBNC India	2015	I-medita	Sai prashanthi Kodidela	Participation
IBNC India	2015	I-medita	Abishek Jain	Participation
IBNC India	2015	I-medita	Rashmipawar	Participation
IBNC India	2015	I-medita	T.Sravan Kumar	Participation
IBNC India	2015	I-medita	M.Pranav Pratheek	Participation
IBNC India	2015	I-medita	Sriram Sreeja	Participation
IBNC India	2015	I-medita	Ch.Sri Sai Sruthi	Participation
IBNC India	2015	I-medita	Boga Sreeja	Participation
IBNC India	2015	I-medita	Maringanti Udhaya sree	Participation
IBNC India	2015	I-medita	V.Sharanya	Participation
IBNC India	2015	I-medita	P.Priyanka	Participation
IBNC India	2015	I-medita	Y. Navya Teja	Participation
IBNC India	2015	I-medita	Divya Reddy	Participation
IBNC India	2015	I-medita	A.K.Kautilya	Participation
IBNC India	2015	I-medita	Neeli Vinitha	Participation

IBNC India	2015	I-medita	Lakshmi narasimha Kiran	Participation
IBNC India	2015	I-medita	Surlka Lakshmi Priya	Participation
IBNC India	2015	I-medita	C.Praneeth Reddy	Participation
IBNC India	2015	I-medita	S.Asra Tabassum	Participation
Simulation of Rasberry pi	2015	GRIET	Vantari Rishika	Participation
Simulation of Rasberry pi	2015	GRIET	Kasarla Manikumar Reddy	Participation
Simulation of Rasberry pi	2015	GRIET	A.S.Sai Krishna Lahari	Participation
Simulation of Rasberry pi	2015	GRIET	K.Sai Sathya Setu Mohan	Participation
Convergence2k15	2015	VNR VJIET	M.Rithika	Participation
Convergence2k15	2015	VNR VJIET	N.Kalyan	Participation
Convergence2k15	2015	VNR VJIET	Dravid Rahul	Participation
Convergence2k15	2015	VNR VJIET	Kautilya	Participation
Convergence2k15	2015	VNR VJIET	Praneeth	Participation
Convergence2k15	2015	VNR VJIET	Vedhanth	Participation
Architectural design using UML	2015	JNTUH	Sangapu Venkata Appaji	Participation
Pragnya	2015	GRIET	Hansika.K	Participation
Annualday 2015	2015	GRIET	L.Prasanth	Participation
Annualday 2015	2015	GRIET	Y.Gowtham	Participation
Rendo paper presentation	2105	GRIET	K.Himaja	Participation
Rendo paper presentation	2015	GRIET	B.Asha Kiran	Participation
volunteer	2015	GRIET	B.Asha Kiran	Participation
Hunt the code	2015	GRIET	K.Saisatya Satu mohan	Participation
Hunt the code	2015	GRIET	A.sai krishna	Participation
Hunt the code	2015	GRIET	M.Pranav	Participation
Techno fun	2015	GRIET	Vedhanth	Participation
GRIET PARLIAMENT	2015	*Griet*	B.Asha kiran	Participation
GRIET PARLIAMENT	2015	*Griet*	Ch.Sri lakshmi devi	Participation
SUDHEE	2015	CBIT	M.Pranav	Merit
SUDHEE	2015	CBIT	Pranav	Participation
SUDHEE	2015	CBIT	N Sri Hashi	Participation
Wegilant SINE IIT Bombay	2014	GRIET	CH Dravid Rahul	Participation
PRAGNYA	2014	GRIET	B Asha Kiran	Participation
PRAGNYA	2014	GRIET	A.S.Sai Krishna Lahiri	Participation
PRAGNYA	2014	GRIET	Kiran Gelli	Appreciation
PRAGNYA	2014	GRIET	A Sai Krishna	Appreciation
PRAGNYA	2014	GRIET	Md Muzammil Ahmed	Appreciation
Wegilant SINE IIT Bombay	2014	GRIET	K. Prem Chand	Participation
PRAGNYA	2014	GRIET	Maruthi Priyanka	Appreciation
PRAGNYA	2014	GRIET	SSVS Harsha	Appreciation
PRAGNYA	2014	GRIET	Krishna Teja	Appreciation
PRAGNYA	2014	GRIET	Aashish Bharadwaj	Appreciation
PRAGNYA	2014	GRIET	Bhupatiraju Harika	First Position
PRAGNYA	2014	GRIET	M Priyanka	Participation
PRAGNYA	2014	GRIET	K.Prashanthi	Participation
PRAGNYA	2014	GRIET	S.Asra	Participation
PRAGNYA	2014	GRIET	S Asra Tabassum	First Position
PRAGNYA	2014	GRIET	Eva Soni	Appreciation
NRC INDIA	2014	GRIET	Kasarla Manikumar Reddy	Participation
Wegilant SINE IIT Bombay	2014	GRIET	CH Dravid Rahul	Participation
PRAGNYA	2014	GRIET	B Asha Kiran	Participation
PRAGNYA	2014	GRIET	A.S.Sai Krishna Lahiri	Participation
PRAGNYA	2014	GRIET	Kiran Gelli	Appreciation
PRAGNYA	2014	GRIET	A Sai Krishna	Appreciation
PRAGNYA	2014	GRIET	Md Muzammil Ahmed	Appreciation
Wegilant SINE IIT Bombay	2014	GRIET	K. Prem Chand	Participation
PRAGNYA	2014	GRIET	Maruthi Priyanka	Appreciation
PRAGNYA	2014	GRIET	SSVS Harsha	Appreciation
PRAGNYA	2014	GRIET	Krishna Teja	Appreciation
PRAGNYA	2014	GRIET	Aashish Bharadwaj	Appreciation
PRAGNYA	2014	GRIET	Bhupatiraju Harika	First Position
PRAGNYA	2014	GRIET	M Priyanka	Participation
PRAGNYA	2014	GRIET	K.Prashanthi	Participation
PRAGNYA	2014	GRIET	S.Asra	Participation
PRAGNYA	2014	GRIET	S Asra Tabassum	First Position
PRAGNYA	2014	GRIET	Eva Soni	Appreciation
NRC INDIA	2014	GRIET	Kasarla Manikumar Reddy	Participation
Wegilant SINE IIT Bombay	2014	GRIET	CH Dravid Rahul	Participation
PRAGNYA	2014	GRIET	B Asha Kiran	Participation
PRAGNYA	2014	GRIET	A.S.Sai Krishna Lahiri	Participation
PRAGNYA	2014	GRIET	Kiran Gelli	Appreciation
PRAGNYA	2014	GRIET	A Sai Krishna	Appreciation
PRAGNYA	2014	GRIET	Md Muzammil Ahmed	Appreciation
Wegilant SINE IIT Bombay	2014	GRIET	K. Prem Chand	Participation
PRAGNYA	2014	GRIET	Maruthi Priyanka	Appreciation
PRAGNYA	2014	GRIET	SSVS Harsha	Appreciation
PRAGNYA	2014	GRIET	Krishna Teja	Appreciation
PRAGNYA	2014	GRIET	Aashish Bharadwaj	Appreciation
PRAGNYA	2014	GRIET	Bhupatiraju Harika	First Position

PRAGNYA	2014	GRIET	M Priyanka	Participation
PRAGNYA	2014	GRIET	K.Prashanthi	Participation
PRAGNYA	2014	GRIET	S.Asra	Participation
PRAGNYA	2014	GRIET	S Asra Tabassum	First Position
PRAGNYA	2014	GRIET	Eva Soni	Appreciation
NRC INDIA	2014	GRIET	Kasarla Manikumar Reddy	Participation
NRC INDIA	2014	GRIET	A.S.Sai Krishna Lahiri	Participation
NRC INDIA	2014	GRIET	Daniel Pravin Dola	Participation
NRC INDIA	2014	GRIET	A.K.Kautilya	Zonal Winner
NRC INDIA	2014	GRIET	A.K.Kautilya	Participation
NRC INDIA	2014	GRIET	C.Praneeth Reddy	Participation
Wegilant SINE IIT Bombay	2014	GRIET	N. Kalyan	Participation
NRC INDIA	2014	GRIET	Vedant Agarwal	Zonal Winner
NRC INDIA	2014	GRIET	K Sri Venkatesh	Participation
NRC INDIA	2014	GRIET	Kadukuntla Sindhuja Reddy	Participation
NRC INDIA	2014	GRIET	K Sai Satya Setu Mohan	Participation
NRC INDIA	2014	GRIET	S Sreeja	Participation
Wegilant SINE IIT Bombay	2014	GRIET	M Udayasree	Participation
NRC INDIA	2014	GRIET	C.Praneeth Reddy	Zonal Winner
Wegilant SINE IIT Bombay	2014	GRIET	S Lakshmi Priya	Participation
NRC INDIA	2014	GRIET	E Vineetha	Participation
NRC INDIA	2014	GRIET	Vedant Agarwal	Participation
IEEE	2014	GRIET	M.Pranav Pratheek	Participation
IEEE	2014	GRIET	A S Sai Krishna Lahiri	Participation
IEEE	2014	GRIET	Rashmi Pawar	Participation
IEEE	2014	GRIET	SSVS Harsha	Participation
IEEE	2014	GRIET	B Asha Kiran	Participation
IEEE	2014	GRIET	Manasa	Participation
IEEE	2014	GRIET	K Vanaja	Participation
IEEE	2014	GRIET	V Rishika	Participation
IEEE	2014	GRIET	V Preethi	Participation
IEEE	2014	GRIET	K Satya Setu Mohan	Participation
IEEE	2014	GRIET	N Srihashi	Participation
IEEE	2014	GRIET	Chekuri Bhavani	Participation
IEEE	2014	GRIET	CH Sri Lakshmi Devi	Participation
Charaiveti	2014	GITAM	G Shruthi	First Position
GRIET	2014	GRIET	K Mani Kumar Reddy	Excellence
Kalyan IT Training	2014	GRIET	Sai Krishna	Certification
Mozilla Community	2014	GRIET	Sruthi Guduru	Participation
ORACLE	2014	GRIET	Yogita Siriki	Certified Expert
ORACLE	2014	GRIET	Soujanya Gone	Certified Expert
X-Kernel	2014	GRIET	Muzammil Ahmed	Participation
X-Kernel	2014	GRIET	Muzammil Ahmed	Participation
X-Kernel	2014	GRIET	Keerthi Yadav	Participation
X-Kernel	2014	GRIET	Shaik Asra Tabassum	Appreciation
X-Kernel	2014	GRIET	G Sruthi	Participation
X-Kernel	2014	GRIET	Harika	Participation
X-Kernel	2014	GRIET	Harika	Participation
X-Kernel	2014	GRIET	U Preethi	Participation
X-Kernel	2014	GRIET	Kiran	Participation
X-Kernel	2014	GRIET	N Srihashi	Participation
X-Kernel	2014	GRIET	N Srihashi	Participation
X-Kernel	2014	GRIET	Manisha	Participation
X-Kernel	2014	GRIET	Hima Bindhu	Participation
X-Kernel	2014	GRIET	Lakshmi Narasimha Kiran G	Appreciation
X-Kernel	2014	GRIET	G Kiran	First Position
X-Kernel	2014	GRIET	B Asha Kiran	Participation
X-Kernel	2014	GRIET	Rashmi Pawar	Participation
X-Kernel	2014	GRIET	Rashmi Pawar	Participation
X-Kernel	2014	GRIET	B Aashish Bharadwaj	Appreciation
X-Kernel	2014	GRIET	Prashanth	Participation
X-Kernel	2014	GRIET	Eva Kiran Soni	Appreciation
X-Kernel	2014	GRIET	G Mounika	Participation
X-Kernel	2014	GRIET	T Naveena	Participation
X-Kernel	2014	GRIET	N Sindhuja	Participation
GRIET	2014	GRIET	CH Sri Lakshmi Devi	Organisation
Freedom Fest	2014	GRIET	Manisha Bejawar	Participation
Freedom Fest	2014	GRIET	KVS Hima Bindu	Participation
Freedom Fest	2014	GRIET	N Keerthi Yadav	Participation
Microsoft	2014	GRIET	G Mounika	Participation
Microsoft	2014	GRIET	T Naveena	Participation
Microsoft	2014	GRIET	N Sindhuja	Participation
Network Bulls	2014	IIT Delhi	Pratyusha Kolasani	Appreciation
TCS	2014	TCS	Mahatma Reddy Kikkuri	Appreciation
CEL	2013	GRIET	P Yoshitha Uma Priya	First Position
CEL	2013	GRIET	P Yoshitha Uma Priya	Organizer Certificate
				Organizer

CEL	2013	GRIET	V Sahithya	Certificate
CEL	2013	GRIET	P Sushma	Organizer Certificate
PRAGNYA	2013	GRIET	Chetana Sai Navya	Appreciaton
PRAGNYA	2013	GRIET	T Naveena	Participation
PRAGNYA	2013	GRIET	G Mounika	Participation
PRAGNYA	2013	GRIET	G Mounika	Appreciation
ORBIT	2013	Dilshukhnagar Study Centre	M Sai Bharath	Certification
IEEE	2013	GRIET	Chetana Sai Navya G	Participation
Examination	2013	GRIET	N Sindhuja	First Position
ORACLE	2013	GRIET	Mounika Garla	Certification
ORACLE	2013	GRIET	Sindhuja Nagella	Certification
IEEE	2013	GRIET	Abhishek Jain	Participation
IEEE	2013	GRIET	G Sruthi	Participation
SSSIT	2013	Kukatpally Centre	Kamavarapu Lahari	A Grade
ORACLE	2013	GRIET	Naveena Tammishetti	Certification
ORACLE	2013	GRIET	Varun M	Certification
ORACLE	2013	GRIET	Pradeep Kumar Lingampally	Certification
ORACLE	2013	GRIET	Varun Kondaveeti	Certification
ORACLE	2013	GRIET	Nishitha Nemani	Certification
ORACLE	2013	GRIET	Krishna Manoj Varanasi	Certification
ORACLE	2013	GRIET	Sravya Routhu	Certification
ORACLE	2013	GRIET	Mohammed Reshma	Certification
ORACLE	2013	GRIET	Sai Bharath Masna	Certification
Examination	2013	GRIET	G Mounika	First Position
RUEDO	2013	GRIET	Shruti	Appreciation
PRAGNYA	2013	GRIET	K Mani Kumar Reddy	Second Position

Student Publications:

1. **Padmalaya Nayak**, D. Anurag, "A Fuzzy Logic based Routing Protocol for WSN to extend the Network Lifetime" Accepted in IEEE SENSOR JOURNAL, Impact Factor (1.987) for publication, 2015 Upcoming Issue.

2. **Padmalaya Nayak**, Bhabani V, B. Lavanya, "Impact of Black-hole and Sink-hole Attack on Routing Protocols for WSN" International Journal of Computer Applications (0975-8887), Vol. 116, No. 4, pp. 42-46, April 2015.

3. **Padmalaya Nayak**, B. Labanya, V Bhavani, "Analysis of DSR protocol for MANET under black-hole and sink-hole attacks using NetSim Simulator" International Journal of Electronics Communication and Computer Technology (IJECCT) (ISSN:2249-7838), Vol. 5 Issue ICICC (May 2015), pp. 10-14.

4. **Padmalaya Nayak**, Palavishree, "Comparison of Routing protocols using NetSim Simulator: LEACH Vs LEACH-C" International Journal of Computer Applications (0975-8887), Vol. 106, No. 11 , pp. 1-6, Nov. 2014.

5. A.Rupesh, **PadmalayaNayak**, "Load Balancing theory in Peer to Peer for Content Distribution Network", IJRECS, Vol.-1, pp. 1-3, ISSN-2321-5484, 2014.

6. **Padmalaya Nayak**, G. Ramamurthy, "Constrained based Path selection QoS Routing Algorithms – MCP and MCOP Problems", BioInfo. Journal of Information Systems and Communications (JOISAC), (Peer reviewed), ISSN: 0976-8742, Vol. 4, Issue-1, pp. 384-390, Impact Factor Value: 4.57, April 2013.

7. **Padmalaya Nayak**, D. Anurag, G. Sai Krishna, "Performance Evaluation of LEACH and LEACH-C protocol for WSN in a mobile environment", International Journal of Advanced Research in Computer Science, ISSN: 0976-5697, pp. 149-153, Vol.-5, No. 4, April 2014.

8. **Padmalaya Nayak**, Saraswati Bhakare, Nazia Tabassum, "Comparative study of DSR, AODV routing protocol for WPAN using NetSim Simulator", International Journal of Advanced Research in Computer Science, ISSN: 0976-5697, pp. 254-257, Vol.-5, No. 4, May 2014.

9. Swadesh Kumar Singh PAPN Varma, **K. Mahesh, Vamsi Krishna, M. Harshal, Azharuddin, D. Ramesh and Srikesh**(2009), "Evaluation of friction at 200^0 C and experimental study on the extent of deformation in flow forming of EDD steel using deep drawing setup" International conference of The journal La Metallurgia Italiana on hot foreming of steels and material properties Grado, Italy, 13-16 september.

10. **Rahul.Shashikant.Sanghvi, M.Azharuddin, Sai Kiran.J.G and K.Srikesh, K. Mahesh,** Amit Kumar Gupta and Swadesh Kumar Singh (2009), "Study the Effect of Temperature on Material Properties of EDD Steel Using Artificial Neural Network (ANN)" International Conference on Advances in Mechanical Engineering, August 3-5, S.V. National Institute of Technology, Surat – 395 007, Gujarat, India, pp 1069-1072.

11. Malikarjuna Rao G, **Krishna Chaitanya** "Methodological Approach for Machine based Expression and Gender Classification", IEEE-International Advance Computing Conference, IEEE Delhi section IEE Computer society Chapter Delhi section, 2009, E-34, 34-39.

12. **Padmalaya Nayak,** D. Anurag "Performance enhancement of LEACH Protocol for WSN with Mobile Base station" in Proc. of National Conference on Innovation, Advancements and Computing, Gitam University, 28th - 29th March 2014.

13. "**Optimal Distribution of mobile network towers: an approach through Geo Spatial Data Mining**" Y. JeevanNagendra Kumar, Dr. T. V. Rajinikanth, Mohana Krishna.

5 Faculty Contributions (175) **Total Marks : 132.89**

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 4th year) are considered to calculate the STR.)

For CAYm2 2013-2014

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**	Ra co w an
						1st Year	UG	PG			Fu Ag
Dr.T.V.Rajinikanth	PhD	Osmania University	2008	Professor	01/11/2007	0.00	100.00	0.00	4	Copyrights	sta ag pri se
Dr. PadmalayaNayak	PhD	NIT Tiruchirappalli	2010	Professor	01/07/2009	0.00	100.00	0.00	2	Copyrights	sta ag pri se
D.V.RamaRaju	ME/ M Tech	JNTUH	2011	Associate Professor	16/04/2001	0.00	100.00	0.00	0	None	sta ag pri se
K.Prasanna Lakshmi	ME/ M Tech	Osmania University	2002	Associate Professor	31/05/2007	0.00	100.00	0.00	1	Copyrights	sta ag pri se
Y.J.Nagendra Kumar	ME/ M Tech	Andhra University	2005	Associate Professor	22/08/2005	0.00	100.00	0.00	1	Design	sta ag pri se
P.Gopala Krishna	ME/ M Tech	Andhra University	2006	Associate Professor	10/07/2007	0.00	100.00	0.00	0	Design	sta ag pri se
G.Vijendra Reddy	ME/ M Tech	JNTUA	2006	Associate Professor	31/07/2006	0.00	100.00	0.00	0	Design	sta ag pri se
V.Padma	ME/ M Tech	JNTUH	2008	Associate Professor	02/07/2007	0.00	100.00	0.00	0	Design	sta ag pri se
T.VeenaTrivedi	ME/ M Tech	Rajiv Gandhi Technical University	2004	Associate Professor	02/07/2009	0.00	100.00	0.00	1	Copyrights	sta ag pri se
S.Palaniappan	ME/ M Tech	Satyabama University	2004	Associate Professor	01/09/2008	0.00	100.00	0.00	0	Design	sta ag pri se
V.V.N.A. Bhargavi	ME/ M Tech	Andhra university	2008	Assistant Professor	02/06/2011	0.00	100.00	0.00	1	Design	sta ag pri se
T.Anitha	ME/ M Tech	JNTUH	2010	Assistant Professor	05/07/2007	0.00	100.00	0.00	0	Design	sta ag pri se
G.Satyanarayana	ME/ M Tech	JNTUH	2010	Assistant Professor	10/10/2006	0.00	100.00	0.00	0	None	N
K.Archana	ME/ M Tech	JNTUH	2011	Assistant Professor	07/07/2007	0.00	100.00	0.00	0	Design	sta ag pri se
S.V.Appaji	ME/ M Tech	Andhra University	2008	Assistant Professor	07/07/2010	0.00	100.00	0.00	0	Design	sta ag pri se
K.Sandeep	ME/ M Tech	JNTUH	2011	Assistant Professor	26/07/2011	0.00	100.00	0.00	0	None	N
K.LakshmiSushma	ME/ M Tech	KL University	2011	Assistant Professor	02/07/2012	0.00	100.00	0.00	0	None	N
L.Sukanya	ME/ M Tech	JNTUH	2011	Assistant Professor	01/12/2012	0.00	100.00	0.00	0	None	N
A. Kapil	ME/ M Tech	JNTUH	2009	Assistant Professor	03/07/2012	0.00	0.00	0.00	0	None	N
V.Sailaja	ME/ M Tech	JNTUH	2011	Assistant Professor	28/06/2013	0.00	100.00	0.00	0	None	N
Asma	ME/ M Tech	JNTUH	2008	Assistant Professor	13/05/2011	0.00	0.00	0.00	0	None	N
				Assistant							

P.K. Abhilash	ME/ M Tech	JNTUH	2013	Professor	13/01/2011	0.00	100.00	0.00	0	None	No
K. Anusha Nagina	ME/ M Tech	JNTUH	2013	Assistant Professor	30/11/2013	0.00	100.00	100.00	0	None	No
A.Pavithra	ME/ M Tech	JNTUH	2013	Assistant Professor	22/02/2010	0.00	100.00	0.00	0	None	No
T.N.P.Madhuri	ME/ M Tech	JNTUH	2013	Assistant Professor	01/11/2010	0.00	100.00	0.00	0	None	No
G.NarasimhaRaju	ME/ M Tech	JNTUH	2010	Assistant Professor	14/05/2010	0.00	100.00	0.00	0	None	No
S.Renuka	ME/ M Tech	JNTUH	2013	Assistant Professor	30/11/2013	0.00	100.00	0.00	0	None	No
Dr.Y. VijayaLata	PhD	JNTUH	2008	Professor	01/11/2007	0.00	100.00	0.00	4	Copyrights	na ag
T.Nazia	ME/ M Tech	JNTUH	2013	Assistant Professor	30/11/2013	0.00	0.00	100.00	0	None	No
K.Spandana	ME/ M Tech	JNTUK	2012	Assistant Professor	22/11/2013	0.00	0.00	100.00	0	None	No
J.Sirisha Devi	ME/ M Tech	GITAM University	2010	Assistant Professor	14/06/2012	0.00	0.10	0.00	2	Copyrights	No
Sk.AltafHussainBasha	PhD	Acharya Nagarjuna University	2013	Professor	28/06/2008	0.00	100.00	0.00	4	Copyrights	na ag

For CAYm1 2014-2015

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&I cons with
						1st Year	UG	PG			Fund Age
Dr. PadmalayaNayak	PhD	NIT Tiruchirappalli	2010	Professor	01/07/2009	0.00	100.00	0.00	3	Copyrights	natio agen
Dr.Y. VijayaLata	PhD	JNTUH	2008	Professor	01/11/2007	0.00	100.00	0.00	4	Copyrights	Non
K.Prasanna Lakshmi	ME/ M Tech	Osmania University	2002	Associate Professor	31/05/2007	0.00	100.00	0.00	1	Copyrights	Non
Y.J.Nagendra Kumar	ME/ M Tech	Andhra University	2005	Associate Professor	21/08/2005	0.00	100.00	0.00	1	Design	spon trust
P.Gopala Krishna	ME/ M Tech	Andhra University	2006	Associate Professor	10/07/2007	0.00	100.00	0.00	0	Design	Non
G.Vijendra Reddy	ME/ M Tech	JNTUA	2006	Associate Professor	31/07/2006	0.00	100.00	0.00	0	Design	Non
V.Padma	ME/ M Tech	JNTUH	2008	Associate Professor	02/07/2007	0.00	100.00	0.00	0	Design	Non
T.VeenaTrivedi	ME/ M Tech	RajivGandhiTechnicalUniversity,Bhopal	2004	Associate Professor	02/07/2009	0.00	100.00	0.00	1	Copyrights	Non
T.Anitha	ME/ M Tech	JNTUH	2010	Assistant Professor	05/07/2007	0.00	100.00	0.00	0	Design	Non
K.Archana	ME/ M Tech	JNTUH	2011	Assistant Professor	07/07/2008	0.00	100.00	0.00	0	Design	Non
S.V.Appaji	ME/ M Tech	Andhra university	2008	Assistant Professor	07/07/2010	0.00	100.00	0.00	0	Design	Non
K.Sandeep	ME/ M Tech	JNTUH	2011	Assistant Professor	26/07/2011	0.00	100.00	0.00	0	None	Non
V.Sailaja	ME/ M Tech	JNTUH	2011	Assistant Professor	06/11/2012	0.00	100.00	0.00	0	None	Non
K.LakshmiSushma	ME/ M Tech	KLUniversity	2011	Assistant Professor	02/07/2012	0.00	100.00	0.00	0	None	Non
L.Sukanya	ME/ M Tech	JNTUH	2011	Assistant Professor	01/12/2012	0.00	100.00	0.00	0	None	Non
G.Satyanarayana	ME/ M Tech	JNTUH	2006	Assistant Professor	23/10/2006	0.00	100.00	0.00	0	None	Non
P.K.Abhilash	ME/ M Tech	JNTUK	2009	Assistant Professor	27/12/2010	0.00	100.00	0.00	0	None	Non
K.AnushaNagina	ME/ M Tech	JNTUH	2013	Assistant Professor	30/11/2013	0.00	100.00	0.00	0	None	Non
A.Pavithra	ME/ M Tech	JNTUH	2013	Assistant Professor	22/02/2010	0.00	100.00	0.00	0	None	Non
T.N.P.Madhuri	ME/ M Tech	JNTUH	2008	Assistant Professor	01/11/2010	0.00	100.00	0.00	0	None	Non
G.NarasimhaRaju	ME/ M Tech	JNTUH	2010	Assistant Professor	14/05/2010	0.00	100.00	0.00	0	None	Non
S. Renuka	ME/ M Tech	JNTUH	2013	Assistant Professor	30/11/2013	0.00	100.00	0.00	0	None	Non
Y.Prashanti	ME/ M Tech	JNTUH	2010	Assistant Professor	16/07/2014	0.00	100.00	0.00	0	None	Non
Dr. Sk.AltafHussainBasha	PhD	Acharya Nagarjuna University	2013	Professor	28/06/2008	0.00	100.00	0.00	0	None	Non
A. Kapil Kumar	ME/ M Tech	JNTUH	2009	Assistant Professor	03/07/2012	0.00	0.00	100.00	0	None	Non

Asma	ME/ M Tech	JNTUH	2008	Assistant Professor	13/05/2011	0.00 0.00 100.00	0	None	Non
T Nazia	ME/ M Tech	JNTUH	2013	Assistant Professor	30/11/2013	0.00 0.00 100.00	0	None	Non
B.Sirisha	ME/ M Tech	JNTUH	2014	Assistant Professor	30/10/2014	0.00 100.00 0.00	0	None	Non
D. Dakshyani Himabindu	ME/ M Tech	JNTUH	2014	Assistant Professor	15/12/2014	0.00 100.00 0.00	0	None	Non
P. Bharathi	ME/ M Tech	JNTUH	2014	Assistant Professor	10/12/2014	0.00 100.00 0.00	0	None	Non
N.V. Ganapathi Raju	ME/ M Tech	Andhra University	2010	Associate Professor	29/06/2002	0.00 100.00 0.00	1	None	Non
Y. Sri Lalitha	ME/ M Tech	JNTUH	2002	Associate Professor	30/04/2001	0.00 100.00 0.00	2	None	Non

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	F c v
						1st Year	UG	PG			F A
Dr.Y.VijayaLata	PhD	JNTUH	2008	Professor	01/11/2007	0.00	100.00	0.00	4	None	N
Dr. PadmalayaNayak	PhD	NIT Tiruchirappalli	2010	Professor	01/07/2009	0.00	100.00	0.00	2	Copyrights	s a p s
Dr.AltafhussainBasha	PhD	Acharya Nagarjuna University	2013	Professor	28/06/2008	0.00	100.00	0.00	0	None	s a p s
Y.J.Nagendra Kumar	ME/ M Tech	Andhra University	2005	Associate Professor	21/08/2005	0.00	100.00	0.00	0	Design	s a p s
P.Gopala Krishna	ME/ M Tech	Andhra University	2006	Associate Professor	10/07/2007	0.00	100.00	0.00	0	Design	N
G.Vijendra Reddy	ME/ M Tech	JNTUA	2006	Associate Professor	31/07/2007	0.00	100.00	0.00	0	Design	N
V.Padma	ME/ M Tech	JTNUH	2008	Associate Professor	02/07/2007	0.00	100.00	0.00	0	Design	N
T.VeenaTrivedi	ME/ M Tech	RajivGandhiTechnicalUniversity,Bhopal	2004	Associate Professor	02/07/2009	0.00	100.00	0.00	1	Copyrights	N
N.V. Ganapathiaju	ME/ M Tech	Andhra University	2010	Associate Professor	29/06/2002	0.00	100.00	0.00	9	Copyrights	s a p s
Y.Srilalitha	ME/ M Tech	JNTUH	2002	Associate Professor	30/04/2001	0.00	100.00	0.00	9	Copyrights	N
T.Anitha	ME/ M Tech	JNTUH	2010	Assistant Professor	05/07/2007	0.00	100.00	0.00	0	None	N
G.Satyanarayana	ME/ M Tech	JNTUH	2006	Assistant Professor	23/10/2006	0.00	100.00	0.00	0	None	N
K.Archana	ME/ M Tech	JNTUH	2011	Assistant Professor	07/07/2008	0.00	100.00	0.00	0	Design	N
S.V.Appaji	ME/ M Tech	Andhra university	2008	Assistant Professor	07/07/2010	0.00	100.00	0.00	0	Design	N
K.Sandeep	ME/ M Tech	JNTUH	2011	Assistant Professor	26/07/2011	0.00	100.00	0.00	0	None	N
K.LakshmiSushma	ME/ M Tech	KLUniversity	2011	Assistant Professor	02/07/2012	0.00	100.00	0.00	0	None	N
L.Sukanya	ME/ M Tech	JNTUH	2011	Assistant Professor	01/12/2012	0.00	100.00	0.00	0	None	N
A. Kapil Kumar	ME/ M Tech	JNTUH	2010	Assistant Professor	17/04/2012	0.00	0.00	100.00	0	None	N
V.Sailaja	ME/ M Tech	JNTUH	2011	Assistant Professor	28/06/2013	0.00	100.00	0.00	0	None	N
Asma	ME/ M Tech	JNTUH	2013	Assistant Professor	04/06/2013	0.00	0.00	100.00	0	None	N
P.K. Abhilash	ME/ M Tech	JNTUH	2013	Assistant Professor	27/12/2010	0.00	100.00	0.00	0	None	N
K.Anusha Nagina	ME/ M Tech	JNTUH	2013	Assistant Professor	30/11/2013	0.00	100.00	0.00	0	None	N
A.Pavithra	ME/ M Tech	JNTUH	2013	Assistant Professor	22/02/2010	0.00	100.00	0.00	0	None	N
T.N.P.Madhuri	ME/ M Tech	JNTUH	2013	Assistant Professor	01/11/2010	0.00	100.00	0.00	0	None	N
				Assistant							

G.NarasimhaRaju	ME/ M Tech	JNTUH	2010	Professor	14/05/2010	0.00 100.00 0.00	0	None	N
S.Renuka	ME/ M Tech	JNTUH	2013	Assistant Professor	30/11/2013	0.00 100.00 0.00	0	None	N
Y.Prashanti	ME/ M Tech	JNTUH	2011	Assistant Professor	11/06/2014	0.00 100.00 0.00	0	None	N
B.Sirisha	ME/ M Tech	JNTUH	2014	Assistant Professor	23/07/2015	0.00 100.00 0.00	0	None	N
D.DakshyaniHimaBindhu	ME/ M Tech	JNTUH	2014	Assistant Professor	15/12/2014	0.00 100.00 0.00	0	None	N
P.Bharathi	ME/ M Tech	JNTUH	2014	Assistant Professor	15/12/2014	0.00 100.00 0.00	0	None	N
K. Prasanna Lakshmi	ME/ M Tech	Osmania University	2002	Associate Professor	31/05/2007	0.00 100.00 0.00	0	None	N
T Nazia	ME/ M Tech	JNTUH	2013	Assistant Professor	30/11/2013	0.00 0.00 100.00	0	None	N

5.1 Student-Teacher Ratio (STR) (20) — Total Marks : 20.00

Institute Marks : 20.00

Assessment = 20 × 15/STR; subject to maximum assessment of 20
STR = (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	101	124	126	27	351	13.00	20.00
2014-2015	118	98	122	29	338	11.66	20.00
2015-2016	118	115	98	29	331	11.41	20.00

Average assessment 20.00

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	360	351	29	24	29
2014-2015	360	338	29	24	29
2015-2016	360	331	29	24	29

5.2 Faculty Cadre Ratio (20) — Total Marks : 20.00

Institute Marks : 20.00

Assessment = 20 × CRI
where, CRI = Cadre ratio index
= 2.25 × (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	4	8	29.00	1.00	20.00
2014-2015	3	8	29.00	1.00	20.00
2015-2016	3	8	29.00	1.00	20.00

Average assessment 20.00

5.3 Faculty Qualifications (30) — Total Marks : 19.59

Institute Marks : 19.59

Assessment = 3 × FQI
where, FQI = Faculty qualification index
= (10x + 6y + 2z0)/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

	X	Y	Z	N	FQI	Assessment
2013-2014	4	28	0	29.00	6.62	19.86
2014-2015	3	29	0	29.00	6.48	19.45
2015-2016	3	29	0	29.00	6.48	19.45

Average assessment 19.59

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)

Name	Exp	Qualification	Dept	Publications	FDP	Specialized Subject
Core Engineering Area						
Dr.Y.Vijayalata	20	Ph.D	IT	16	7	C and DS, Automata and Compiler Design, MFCS, Data Mining, IPPR
Dr.PadmalayaNayak	14	Ph.D	IT	22	8	Adhoc sensor Networks, Wireless & Mobile computing, Computer Networks
Dr. Altaf Hussain Basha	10	Ph.D	IT	24	14	Data Mining, Computer Networks, DBMS, C and DS
K.Prasanna Lakshmi	13	M.Tech(Ph.D)	IT	8	9	CPDS ,Operating Systems, Web Technologies, Advanced UNIX programming, Network Programming
Y.J.Nagendra Kumar	13	M.Tech(Ph.D)	IT	6	19	CPDS,Advanced Data Structures, JAVA,MultiMedia and Rich Application Development, Web Technologies
P.Gopala Krishna	12	M.Tech(Ph.D)	IT	4	19	CPDS, Computer Organization, Digital Logic Design, Software Testing Methodologies
G.Vijendra Reddy	7	M.Tech(Ph.D)	IT	-	6	Mathematical Foudations, DataBase Management Systems, Operation Research, Object Oriented Analysis & Design
V,Padma	5	M.Tech	IT	-	4	UNIX programming, Embedded Systems, Operating systems
VeenaTrivedi	20	M.Tech(Ph.D)	IT	2	8	Distributed Databases, Distributed computing, compiler Design
N.V.GanapathiRaju	16	M.Tech(Ph.D)	IT	8	4	Scripting Languages, Computer Programming, OOPS through C++,Java Programming, Web Technologies, Middleware Technologies, Mobile Application development, Computer Networks, Software Engineering, OOSE UML
Y.Srilalitha	21	M.Tech(Ph.D)	IT	9	1	Big data, Algorithms Analysis, Data Structures, Unix Programming, Information Retrieval Systems, Java Programming
T.Anitha	8	M.Tech	IT	1	6	Advanced Data Structures, Design & Analysis of Algorithms, Computer Networks, Design patterns
G.Satyanarayana	6	M.Tech	IT	-	3	IT Workshop, DE lab
K.Archana	4	M.Tech	IT	-	6	Software Engineering, object oriented analysis and Design, computer graphics
S.V.Appaji	4	M.Tech (Ph.D)	IT	1	12	object oriented analysis and Design, Digital logic design, Network security
K.Sandeepkumar	3	M.Tech	IT	-	7	CPDS
Lakshmi Sushma	3	M.Tech	IT	-	3	CPDS
L.Sukanya	2	M.Tech	IT	-	2	OOPS through JAVA,SPM,SL,COPL
A.Kapil Kumar	3	M.Tech	IT	-	4	C and Data Structures
V.Shailaja	3	M.Tech	IT	-	2	Micro Controllers,OS
Mrs.Asma	3	M.Tech	IT	-		C and Data Structures
P.K.Abhilash	3	M.Tech	IT	-	5	Software Engineering, Object

						oriented analysis and Design, Software Project Management
K.AnushaNagina	3	M.Tech	IT	-	7	Image Processing,OOPJ,
A.Pavithra	3	M.Tech	IT	-	3	Computer networks, IT workshop
T.N.P.Madhuri	2	M.Tech	IT	-	12	Operating Systems
G.NarasimhaRaju	3	M.Tech	IT	-	2	IT Workshop
S.Renuka	4	M.Tech	IT	-	4	ADSC++,Web Designing,AUPlab,WT,SQAT
Y.Prashanti	5	M.Tech	IT	-	2	OS,AUP
T.Nazia	2	M.Tech	IT	-	2	IT Workshop
B.Shirisha	2	M.Tech	IT	-	1	OOPJ
D.DakshyaniHimaBindhu	3	M.Tech	IT	-	2	MAD
P.Bharathi	2	M.Tech	IT	-	2	WT
Pallavi Shree	2	M.Tech	IT	-	-	IT workshop
Allied Engineering Area						
K. Meenakshi	11	M.Tech	ECE	-	3	DC
A.Vinay Kumar	5	M.Tech	EEE	3	3	BEE
T.Deepthi	3	M.E	Mechanical	2	3	
Sciences Area						
Dr .N. Sunil Kumar	15	Ph.D	Bio Technology	1	4	Environmental Studies
G.S.N.Murthy	16	MSc, M.Tech	Basic Sciences	-	-	Engineering Chemistry
B.ShanthiSri	3	MSc	Basic Sciences	-	-	Engineering Physics
Mathematics Area						
V.N.Rama Devi	12	M.Sc, MBA (Ph.D)	Basic Science		2	Probability & Statistics
Dr. B.R.K.Reddy	16	Ph.D	Basic Science	3		M-I, M-II, M-III

Dr Y Vijayalata
D 519

Dr. Y. Vijaya lata

An academician with more than 20 years of teaching and researchexperience, obtained Doctoral degree in Computer Science and Engineering from Jawaharlal Nehru Technological University Hyderabad(JNTUH), Kukatpally, Hyderabad, India, in 2012. She received M.Tech. degree in Computer Science from Birla Institute of Technology, Ranchi, India, in the year 2001. Currently, she is working as a Professor and Head in the department of Information Technology, since August 2013 to till date at Gokaraju Rangaraju Institute of Engineering and Technology, Hyderabad. Prior, she served as Professor in the department of Computer Science and Engineering at GRIET from November 2007 onwards. She has published/presented more than 20 papers in National/International Conferences and Journals. One of her paper was adopted as a book chapter. She is also author of a text book “Formal Languages and Automata Theory”, for under graduate students. Currently she is guiding 3 Ph.D. students in the area of Pattern Recognition and Cloud Computing. One of her student have been awarded Ph.D. in the year 2015 and the candidate is perusing Post-Doctoral under her guidance. She is a senior member of IEEE and active volunteer at IEEE Hyderabad Section.She is a Branch Counsellor for IEEE GRIET Student Branch. Currently, she is a member for IEEE EAB 2016, sub-committee member IEEE WIE-AG(R10) and Vice-Chair, WIE-AG, IEEE India Council. She is a recipient of “Outstanding Branch Counselor Award 2013” at IEEE R10(Asia-Pacific). The institute received many IEEE awards under her dynamic leadership.

Dr. Padmalaya Nayak

She obtained her Doctoral degree in Computer Science and Engineering (CSE) from National Institute of Engineering Technology (NIT), Tiruchirappalli, India, in 2010. She received her M.E degree with gold medal in Computer Science and Engineering (CSE) from University of Madras in 2002. She also received her engineering degree in Electronics and Telecommunication Engineering (ECE) from Institution of Electronics and Telecommunication Engineers (IETE), New Delhi in 1997. Currently, she is working as a Professor in Dept. of IT, Gokaraju Rangaraju Institute of

Dr Padmalya Nayak
ID 713

Engineering Technology, under JNTU, Hyderabad. Previously she was working as Assistant Professor under Anna University, Chennai. She is having 15 years of teaching and research experience for graduate and post graduate students. She is the member of IEEE and life member of IETE Professional body. She has presented many research papers in International conferences in India as well as abroad. She has published more than 30 International Conference/Journal papers in the area of Ad hoc and Sensor Networks and two book chapters to her credit. She is guiding 7 Ph.D. students in the area of Wireless Communication. Her current research interest includes Ad hoc and Sensor networks, Mobile communication, and Network Security etc.

Dr Sk.AltafHussainBasha

Presently working as Professor in Department of IT atGokaraju Rangaraju Institute of Engineering & Technology (GRIET), Hyderabad. He has completed PhD (Computer Science and Engineering) from Acharya Nagarjuna University in .the year 2013. His obtained his M.Tech (Computer Science and Engineering) from JNTU,Hyderabad in the year 2008, and obtained his M.Sc (CSC) from Acharya NagarjunaUniversity in the year 1999. His graduated in B.Sc(Computer Science) from Acharya NagarjunaUniversity, Guntur in the year 1977. He has total 16+ years' experience in Teaching field and one year Industry Field. He is working since 2008 in Gokaraju Rangaraju Institute of Engineering & Technology (GRIET), Hyderabad. His Worked as Lecturer and also Head of the Department in Hindu College, Guntur for 8 years, and also worked as Software Engineer in Hyderabad for one year. He has completed one Minor Research Project (UGC-MRP).His Published 26 Research papers in International/National Conference Proceedings and/or Reputed International Journal presented in his research area.

His got 16 Google Scholar citations of research Papers. He has participated and organized International Conference with help of DST/TCS in GRIET and also Co-Coordinator for Workshops/Seminars/Staff Development Program with Sponsored Agencies such asAICTE, DST. His Research areas of Interest include Machine Learning, Information Retrieval, Data Mining and Web Mining. He is active member in FSF AP Chapter, IEI Hyderabad, IEEE Hyderabad and CSI.

Ms K Prasanna Lakshmi
ID 525

K. Prasanna Lakshmi

Obtained her Ph.D in Computer Science from JNTUH in 2016. She is working as Associate Professor in GRIET since 2007. She is Coordinator for Free Software Movement (FSM), Career Counselling and Guidance, Finishing School. She is an active member in all International Conferences conducted so far. She has about 8 Research Papers in International Conferences and International Journals. She is an active participant of many FDP Programs to enhance her knowledge. She also coordinated TEQIP funded workshop on a research area called Spatial Data Mining. With her technical knowledge she guided many students in developing the useful Web applications, Android applications and data mining related products. She has taught different subjects like C and Data Structures, Operating Systems, Data Mining, Web Technologies, Service Oriented Architecture, Advanced UNIX Programming, UNIX and Shell Programming, Network Programming which helps the students to enhance their logical thinking, understanding of Basic principles, finding solutions to engineering problems. As BOS member was able to introduce new subjects, topics in UG / PG Courses.She has always encouraged students to work on research projects, industrial projects as well as for industrial training.

Sri Y J Nagendra Kumar
ID 390

Y. J. Nagendra Kumar

Obtained his M.Tech Computer Science Technology from Andhra University in 2005. He is pursuing Ph.D from Acharya Nagarjuna University. He is working as Associate Professor in GRIET since 2005. He is In charge for Robotic Club, Web Sites, Career Counselling and Guidance, Finishing School. He is a member of Strategic Planning Committee, Technology Cell, Industry Institution Interaction Cell, Project Review Committee, International Conferences, IJAC (International Journal of Advanced Computing). Under consultancy works he has worked for Delta Paper mills and T R Ananth raman Education Research Foundation. He has about 6 Research Papers in International / National Conferences and Journals also attended many FDP Programs to enhance his knowledge. With his technical knowledge he guided the students in developing the useful Web applications and data mining related products. He has taught different subjects like C and Data Structures, Data Structures through C++, Object Oriented Programming through Java, Data Base Management Systems, Web Technologies, Multimedia Application Development, Social Networks and Semantic Web which helps the students to enhance their logical thinking, understanding of Basic principles, finding solutions to engineering problems. As B O S member was able to introduce new subjects, topics in UG / PG Courses. Students are encouraged to work on research projects, industrial projects as well as for industrial training.

P. Gopala Krishna

Obtained his M.Tech Computer Science Technology from Andhra University in 2006. He is pursuing Ph.D from Andhra University. He is working as Associate Professor in GRIET since 2007. He is Chairman of Board of Studies of Department of Information Technology. He is the Student Branch Coordinator for ISTE ,Chairman of Public Relations for the College and Placement Coordinator for Department of IT. He is a member of Project Review Committee, International Conferences, JDECS (Journal of Data Engineering and Computer Science). He is the coordinator for data acquisition and collating for various government agencies and

Sri P Gopal Krishna ID 558	certifications for the whole college like NIRF, AISHE etc., He has about 4 Research Papers in International / National Conferences and Journals also attended many FDP Programs to enhance his knowledge. With his technical knowledge he guided the students in developing the useful Web applications and data mining related products. He has taught different subjects like C and Data Structures, Digital Logic Design, Software Engineering, Software Testing Methodologies, E-Commerce, Software Requirements and Estimation, Software Quality Assurance and Testing which helps the students to enhance their logical thinking, understanding of Basic principles, finding solutions to engineering problems. As chairman of B O S was able to introduce new subjects, topics in UG / PG Courses. Students are encouraged to work on research projects, industrial projects as well as for industrial training.
Sri G Vijendar Reddy ID 463	**G. Vijendar Reddy** Obtained his M.Tech Computer Science Technology from Jawaharlal Nehru Technological University Ananthapur in 2006. He is pursuing Ph.D from Jawaharlal Nehru Technological University Kakinada. He is working as Associate Professor in GRIET since 2006. He is In charge for Department Pragnya Coordinator, Co-curricular and Extra Curricular activities. He is a member of Project Review Committee, International Conferences, IJAC (International Journal of Advanced Computing). He has about 6 Research Papers in International / National Conferences and Journals also attended many FDP Programs to enhance his knowledge. With his technical knowledge he guided the students in developing the useful Web applications and data mining related products. He has taught different subjects like Data Base Management Systems, MFCS, OOAD, Design Patterns, Operational Research, Software Architecture and Software Project Management which helps the students to enhance their Knowledge, understanding of Basic principles. As BOS member was able to introduce new subjects, topics in UG / PG Courses. Students are encouraged to work on research projects, industrial projects as well as for industrial training.
Ms V Padma ID 542	**V. Padma** Obtained her M.Tech Computer Science Technology from JNTU Hyderabad in 2008. She is working as Assistant Professor in GRIET since 2007. She is In-charge for Career Counselling and Guidance. She is a member of Board Of Studies. She has attended many FDP Programs to enhance her knowledge. With her technical knowledge she guided the students in developing the useful Embedded Systems products, Computer Networks and Data Mining related projects. She has taught different subjects like Operating Systems, UNIX, Data Base Management Systems, Microprocessors, Microcontrollers, Embedded Systems, Computer Networks, Advance Computer Networks, Network Management Systems, Software Architecture and Design Patterns which helps the students to enhance their logical thinking, understanding of Basic principles, finding solutions to engineering problems. As B O S member was able to introduce new subjects, topics in UG / PG Courses. Students are encouraged to work on research projects, industrial projects as well as for industrial training.
Ms Veena Trivedi ID 712	**Veena Trivedi** Associate professor in department of IT has around 20 years of teaching experience and is pursuing Ph.D. from Rajiv Gandhi Technical University, Bhopal(M.P.). She has published many research papers in National and International conferences and Journals with good impact factor. Her research area is XML Data Mining. She has attended many faculty development programs in Data mining and emerging trends. Her current subjects include Information Security, Distributed Databases ,Compiler Design and Data mining where she is following a practical approach to make students understand the utility of the subject and the application of the concepts in day to day life. She is also BOS member for her department which gives her the flexibility to modify and introduce new course contents as per the current requirements. She is also associated with M.Tech course where she is the class coordinator where she is taking utmost efforts and motivating them to make students work on the main project with publishing a research paper in an good journals. She has developed various lab manuals, and conducts and attend several faculty development programs, workshops, seminars and conferences. Core competence of this faculty is vital for attainment of Program Educational Objectives, through Program Outcomes via Course Outcomes.
	N.V. Ganapathi Raju Obtained his M.Tech Computer Science Technology from Andhra University in 2008. He is pursuing Ph.D from JNTUK, Kakinada and submitted my thesis for Evaluation. He is working as Associate Professor in GRIET since 2002. He is In-charge for Telangana Academy for Skill and Knowledge (TASK), GRIET College Website, Two year entrepreneurship program known as Technology Entrepreneurship Program (TEP) by Indian School of Business (ISB) Hyderabad for GRIET. He is also GRIET college coordinator for Spoken Tutorials of IIT Bombay. He has about 8 Research Papers in International/Conferences and Journals also attended many FDP Programs to enhance his knowledge. He has written two text books on Software Engineering and Java Programming for Hi-Tech publishers, Hyderabad in 2003 and 2004 respectively. He has successfully completed UGC minor project between 2014-16 with MRP-4590/14(SERO/UGC) Dated March 2014. He has given many guest lectures at C-DAC Hyderabad, JNTUH, Hyderabad for PTPG students and various other private engineering colleges in and around Hyderabad. He also worked as project member in CALTS, Hyderabad for two years state government project. He worked as an Additional Controller of Examinations for B.Tech program in GRIET Autonomous for two years. He passed many Oracle certifications examinations. With his technical knowledge he guided the students in developing the useful Web

applications and data mining related products. He has taught different subjects like OOPS through C++ and Java Programming, Data Structures through C++, Web Technologies, Mobile Application Development, Computer Networks, Scripting Languages, Middleware Technologies, Software Engineering, and UML, which helps the students to enhance their logical thinking, understanding of Basic principles, finding solutions to engineering problems. Students are encouraged to work on research projects, industrial projects as well as for industrial training.

Y. Sri Lalitha

Graduated Masters in Computer Science Engineering, in the year 2001 from Jawaharlal Nehru Technological University, Hyderabad. She has submitted Ph.D Thesis in the Area of Text Mining to Acharya Nagarjuna University, Guntur. She has joined GRIET in April 2001 as Assistant Professor and designated as Associate Professor in 2006. In her tenure till date she held different roles at GRIET. She is In-charge of introducing Big Data Analytics and Business Intelligence into B. Tech and M. Tech Curriculum in collaboration with IBM. Conducted Three Faculty Development Programmes on these two Courses in collaboration with IBM sponsored by Teqip II. She was in-charge of Library Information System and developed quite a few applications for Library Management. In-charge of Performance Improvement in Teaching/Learning Process and could design the documents for enhanced Teaching under TEQIP-I, As a chairman of E-Resource Committee, she could pool valuable teaching material of GRIET faculty from all departments. She was Editor of Reflections Annual Magazine. She was a Coordinator of Post Graduate Project Reviews. Conducted Annual College Events like xKernal, Pulse, Spices and so on. She was Organizing Committee Member for International Conference of Advanced Computing Technologies , ICACT, 2008, and was an Organizing Member of a DST Sponsored five day Staff Development Programme, "Algorithms and Data Mining" at GRIET, also an Organizing Member of "Advanced Algorithms and Data Mining Techniques" a five day workshop conducted at GRIET. She has about 9 Research Papers in International / National Conferences and Journals also attended many FDP Programs to enhance her knowledge. With her technical knowledge she guided the students in developing the useful applications in Text Mining Area. She has taught courses related to algorithms and programming such as Data Structures using C/C++/Java, Object Oriented Programming through Java, Linux Programming, Design and Analysis of algorithms, Information Retrieval Systems, Automata Theory, Complier Design, Data Base Management Systems, Big Data Analytics which helps the students to enhance their logical thinking, understanding of Basic principles, finding solutions to engineering problems. As B O S member was able to introduce new subjects, topics in PG Courses. Students are encouraged to work on research projects, industrial projects as well as for industrial training.

Ms T.Anitha
ID 552

T.Anitha

Obtained her M.Tech computers science and Engineering. She has 12 years of teaching experience. She conducted faculty development programs in the domain of data structures and object oriented programming. She is well versed with the latest technologies related to Computer Science and Engineering. Her contribution to students makes them understand the subject and do industry oriented projects. Organized International Conferences, Conducted Workshops, and Guest Lecturers, which are bases for inculcating knowledge in students. She also conducts Remedial classes for the betterment of the weaker students. She Prepared Course manual for Object oriented programming through java.

Sri G Satyanarayana
ID 480

G. Satyanarayana

Obtained his M.Tech Software Engineering from Jawaharlal Nehru Technological University Hyderabad in 2012.He is working as assistant professor in GRIET since 2006.He is incharge for ITWS,CUSTODIAN, HE attended workshops, National, International Conferences. He has taught different subjects like ITWS DELAB ,EMBEDDED SYSTEMS LAB,WEB TECHNOLOGIES LAB. He encouraged and motivated the students in all aspects. He worked in construction and teaching fields.

Ms K Archana
ID 642

K. Archana

Obtained his M.Tech Software Engineering from JNTUH University in 2011.She is working as Assistant Professor in GRIET since 2007. She is Career Counselling and Guidance, Finishing School. She is members of Board of studies She attended FDP Programs to enhance his knowledge. With her technical knowledge she guided the students in developing the useful Android applications and Embedded system related products. She has taught different subjects like Computer Graphics and Software Engineering, Data Base Management systems, Object Oriented Analysis and Design , Data Base Management Systems, which helps the students to enhance their logical thinking, understanding of Basic principles, finding solutions to engineering problems. As B O S member she was able to introduce new subjects, topics in UG Courses. With her guidance Students are encouraged to work on research projects and industrial projects.

S.V. Appaji

Obtained his M.Tech Computer Science Technology from Andhra University in 2008. He is pursuing Ph.D from JNTU Hyderabad. He is working as Assistant

Mr S V Appaji ID 808	Professor in GRIET since 2010. He is in charge for various labs. He is a Project Review Committee, International Conferences. He has about 6 Research Papers in International / National Conferences and Journals also attended many FDP Programs to enhance his knowledge. With his technical knowledge he guided the students in developing the useful security applications. He has taught different subjects like Digital Logic Design, Computer Organization, Unified Modeling Language, Cryptograpy and Network Security and various subjects which helps the students to enhance their logical thinking, understanding of Basic principles, and developing the programming skills, finding solutions to engineering problems.
Sri K Sandeep ID 914	**K.Sandeep** Obtained his M.Tech Software Engineering from JNTU Hyderabad in 2011. He is working as Assistant Professor in GRIET since 2012. He has attended many FDP Programs to enhance his knowledge. With his technical knowledge he guided the students in developing the useful Web applications. He has taught different subjects like C and Network Security, Scripting Languages, Mobile Application Development which helps the students to enhance their logical thinking, understanding of Basic principles, finding solutions to engineering problems. Students are encouraged to work on research projects, industrial projects as well as for industrial training.
	Obtained her M. Tech Computer Science Engineering from K L University in 2011. She is working as Assistant Professor in GRIET since 2012. She has 1 Research Paper in Journals and also attended many FDP Programs to enhance her knowledge. With her technical knowledge she guided the students in developing mini projects and main projects. She has taught different subjects like C and Data Structures, Data Warehousing and Data Mining, Software Quality Assurance and Testing, Object Oriented Modeling Data which helps the students to enhance their thinking, understanding of Basic principles, finding solutions to engineering problems.
	Obtained her M.Tech Computer Science Technology from Jawaharlal Nehru Technological University in 2011. Sh is pursuing Ph.D from Gitam University. She is working as Assistant Professor in GRIET since 2012. She is In charge for Online Feedback System. She has 1 Research Papers in International / National Conferences and Journals also attended many FDP Programs to enhance her knowledge. With her technical knowledge she guided the students in developing the useful Web applications and data mining related products. She has taught different subjects like C and Data Structures, Object Oriented Programming through Java, OCJP Certification Training, OCWCD Training, Web Technologies, Multimedia Application Development, Distributed Computing, Scripting Languages, and Component oriented Programming Languages which helps the students to enhance their logical thinking, understanding of Basic principles, finding solutions to engineering problems. As B O S member was able to introduce new subjects, topics in UG / PG Courses. Students are encouraged to work on research projects, industrial projects as well as for industrial training.
	Obtained his M.Tech Software Engineering from JNTUH in 2012. He is working as Assistant Professor in GRIET since 2013. He is Incharge for AAC for computer programming for first year B.Tech, Coordinator of IIT moocs for computer programming for first year, and Computer programming lab Incharge. He is Oracle certified Java Programmer. He has about 3 Research Papers in International / National Conferences and Journals also attended many FDP Programs to enhance his knowledge. With his technical knowledge he guided the students in developing the useful C graphics applications . He has taught different subjects like Computer programming and Data Structures.
	Obtained her M.Tech Software Engineering from JNTU University in 2011. She is working as Assistant Professor in GRIET since 2013. She has attended many FDP Programs to enhance her knowledge. With her technical knowledge she guided the students in developing the useful Web applications and micro controller related projects. She has taught different subjects like C Programming, Web Technologies, Operating System, Software Process and Project Management, Computer Graphics, Very Large Scale Industries which helps the students to enhance their logical thinking, understanding of Basic principles, finding solutions to engineering problems.. Students are encouraged to work on research projects, industrial projects as well as for industrial training.
	Obtained her M.Tech Software Engineering from JNTU University Hyderabad in 2010. She is working as Assistant Professor in GRIET since 2013. She has attended many FDP Programs to enhance her knowledge. She has taught different subjects like C Programming, IT Workshop which helps the students to enhance their logical thinking, understanding of Basic principles, finding solutions to engineering problems.. Students are encouraged to work on research projects, industrial projects as well as for industrial training.

	Obtained his M.Tech Computer Science Technology from GRIET in 2014. He is working as Assistant Professor in GRIET since 2010. He is In charge for Robotic Club, Gaming club, Department exam incharge . He is a member of Industry Institution Interaction Cell, Project Coordinator, International Conferences. He has also attended many FDP Programs to enhance his knowledge. With his technical knowledge he guided the subjects like students in developing the useful Projects. He has taught different OOAD, Data Base Management systems, Software Engineering and Oracle Certification programs which helps the students to enhance their logical thinking, understanding of Basic principles, finding solutions to engineering problems.
	Obtained her M.Tech Software Engineering from JNTUH in 2013.She is working as Assistant Professor in GRIET since 2013.She has attended many FDP Programs to enhance her knowledge. With her technical knowledge she guided the students in developing the useful Web applications and Embedded System Applications. She has taught different subjects& Labs like Software Engineering , Software Testing Management , Software Process & Project Management , Operating Systems , Object Oriented Programming through Java Lab, Micro Controllers Lab, Web Designing Lab, Web Technologies Lab , Computer Networks & Data Mining Lab which helps the students to improve their logical thinking, practical Knowledge on programming, developing websites , understanding of Basic principles, finding solutions to engineering problems .She also guided students how to develop industry oriented projects by handling Industry Oriented Mini Project.
	obtained her M.Tech in Software Engineering from JNT University in 2013. She has been working as Assistant Professor in GRIET in Department of IT since 2013. Her area of specialization includes Computer Networks and Internet Of Things. She is trained in CCNA and CCNP. Employing her skills efficiently, she has the credit of training B.Tech I Year 2015-2016 Batch students for MTA Networking Fundamental Certification. She performed her duty as a Proctor for the first batch of MTA certification for 250 student very well. She is In-charge and Group-head for for BTech I year ITWorkshop Lab. She has to her recognition one publication in International Journal and two International Conference Proceedings. She actively participates in FDP programs and workshops to enhance her skills and knowledge. She believes in imparting practical knowledge than theoretical. She has trained students in IT Workshop Lab, Software Testing Methodology Lab, Web Technologies Lab, Computer Networks and Datamining Lab. Apart from regular subjects she has also taken CCNA and MTA Certification. She has done her research in different Network Simulators like NetSim, NS2, GNS3 and Cisco Packet Tracer. She is SET Qualified and dreams of pursuing a Ph.D in Internet of Things.
	Obtained her M.Tech Computer Science Technology from Jawaharlal Nehru Technological University Hyderabad in 2013. She is working as Assistant Professor in GRIET since 2010. She is Department In charge for NSS, Women's Development Cell, Green Campus, Rhythms Coordinator for the college. She guided the students in developing the useful Web applications. She has taught different subjects and Labs like Computer Networks, Service Oriented Architecture, Software Testing methodologies Computer Programming Lab, IT Workshop, Data Structures through C++ Lab, Object Oriented Programming through Java Lab, Web Designing Lab, UML & ST Lab, Java and Web Technologies Lab, Component Oriented Programming Language, Students are encouraged to work on research projects, industrial projects as well as for industrial training and also Department incharge for conducting workshops, Guest Lectures, Guest Talks. She also guided students how to develop industry oriented projects by handling Industry Oriented Mini Project.
	Obtained her M. Tech Computer Science and Engineering from JNTUH University in 2013. She is working as an Assistant Professor in GRIET since 2010. She is maintaining the Offline Feedback file, Library file of IT Department. She has also attended FDP programs to enhance her knowledge. She has taught different subjects like Software Engineering, Software Testing Methodologies, Cryptography and Network Security, Gender Sensitization, Operating System, Web Technologies Lab, Computer Networks lab, Database Management System Lab, Object Oriented Analysis Design Lab, Operating Systems Lab, Software Testing Methodologies Lab, Computer Networks & Data warehousing Data mining Lab, Multimedia Application Development Lab, C Programming & Data Structures Lab, IT Workshop, OOPS through Java Lab which helps the students to enhance their logical thinking, understanding of Basic principles, finding solutions to engineering problems. Students are encouraged to work on research projects, industrial projects as well as for industrial training.
	Obtained his M.Tech Software Engineering from JNTU University in 2014. He is working as Assistant Professor in GRIET since 2010.He has taught different subjects like Database Management System Lab, Object Oriented Analysis and Design Lab which helps the students to enhance their logical thinking, understanding of Basic principles.

	Obtained her M.Tech Computer Science Technology from Jawaharlal Nehru Technological University in 2013.She is working as an Assistant Professor in GRIET since 2013. She is In charge for Aspire Club, Reflections. She attended many FDP Programs to enhance her knowledge. She conducted workshops in the college. With her technical knowledge she guided the students in developing the useful Web applications and database products. She has taught different subjects likeData Structures through C++, Object Oriented Programming through Java, Web Technologies, Multimedia Application Development and web designing which helps the students to enhance their logical thinking, understanding of Basic principles, finding solutions to engineering problems. Students are encouraged to work on research projects, industrial projects as well as for industrial training.
	Obtained her M.Tech Computer Science Technology from JNTUH in 2011. She is working as Assistant Professor in GRIET since 2014. She has worked as the Assistant Professor in Dhanekula Institute of Engineering and Technology from 2012-14 and in GRIET from 2008-12. She has attended many FDP Programs to enhance his knowledge. With her technical knowledge she guided the students in developing the useful Android. She has taught different subjects like Compiler Design, Operating Systems, Computer Organization, Multimedia Application Development which helps the students to enhance their logical thinking, understanding of Basic principles, finding solutions to engineering problems. As B O S member was able to introduce new subjects, topics in UG / PG Courses. Students are encouraged to work on research projects, industrial projects as well as for industrial training.
	Obtained her M.Tech in Computer Science & Engineering from GRIET in 2014. She is working as Assistant Professor in GRIET since 2014. She has taught different subjects like Oops, Web Technologies, Unix, IT Workshop. This Helps Students To Enhance Programming Skills Logical Thinking, Finding Solutions In Engineering Problems.
	Obtained her M. Tech Information Technology from JNTUH University in 2014. She is working as Assistant Professor in GRIET since 2014. She is the Coordinator of IOT Maker space. She also attended FDP Programs to enhance her knowledge. She taught different subjects like Mobile Application Development and Software Testing Methodologies, which helps the students to enhance their logical thinking, understanding of Basic principles, finding solutions to engineering problems. Students are encouraged to work on research projects, industrial projects as well as for industrial training.
	Obtained her M.Tech Computer Science Technology from JNTUH University in 2014. She is working as an Assistant Professor in GRIET since 2014. She is maintaining the updations regarding the IT Department Website. She has also attended FDP programs to enhance her knowledge. She has taught different subjects like Scripting Languages, Gender Sensitization, Web Technologies Lab, ITWorkshop, Scripting Languages Lab, OOPS through Java Lab which helps the students to enhance their logical thinking, understanding of Basic principles, finding solutions to engineering problems. Students are encouraged to work on research projects, industrial projects as well as for industrial training.

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

Total Marks : 15.00

Institute Marks : 15.00

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

File Name
IT Department FDP File

	max. 5 per faculty

Name of the faculty	2013-2014	2014-2015	2015-2016
A.Pavithra	5.00	5.00	5.00
Asma	3.00	3.00	3.00
B.Sirisha	0.00	4.00	4.00
D.DakshyaniHimaBindhu	0.00	5.00	5.00
D.V.RamaRaju	5.00	0.00	0.00
Dr. PadmalayaNayak	5.00	5.00	5.00
Dr.AltafhussainBasha	5.00	5.00	5.00
Dr.T.V.Rajinikanth	5.00	0.00	0.00
Dr.Y. VijayaLata	5.00	5.00	5.00
G.NarasimhaRaju	5.00	5.00	5.00
G.Satyanarayana	5.00	5.00	5.00
G.Vijendra Reddy	5.00	5.00	5.00
J.Sirisha Devi	5.00	0.00	0.00
K.AnushaNagina	5.00	5.00	5.00
K.Archana	5.00	5.00	5.00
K.LakshmiSushma	5.00	5.00	5.00
K.Prasanna Lakshmi	5.00	5.00	5.00
K.Sandeep	5.00	5.00	5.00
K.Spandana	5.00	0.00	0.00
L.Sukanya	5.00	5.00	5.00
N.V. Ganapathiaju	5.00	5.00	5.00
P.Bharathi	0.00	5.00	5.00
P.Gopala Krishna	5.00	5.00	5.00
P.K. Abhilash	5.00	5.00	5.00
S. Renuka	5.00	5.00	5.00
S.Palaniappan	5.00	0.00	0.00
S.V.Appaji	5.00	5.00	5.00
T.Anitha	5.00	5.00	5.00
T.N.P.Madhuri	5.00	5.00	5.00
T.Nazia	5.00	5.00	5.00
T.VeenaTrivedi	5.00	5.00	5.00
V.Padma	5.00	5.00	5.00
V.Sailaja	5.00	5.00	5.00
V.V.N.A. Bhargavi	5.00	0.00	0.00
Y.J.Nagendra Kumar	5.00	5.00	5.00
Y.Prashanti	0.00	5.00	5.00
Y.Srilalitha	0.00	5.00	5.00
A. Kapil Kumar	5.00	5.00	5.00
Sum	163.00	157.00	157.00
N	29.00	29.00	29.00
Assessment = 3 × Sum/N	15.00	15.00	15.00

Average assessment 15.00

5.6 Faculty Retention (15)

Total Marks : 13.41

Institute Marks : 13.41

Assessment = 3 × 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 l year (x0)	0.00	0.00	1.00
Number of faculty members with 1 to 2 years experience (x1)	0.00	4.00	2.00
Number of faculty members with 2 to 3 years experience (x2)	4.00	3.00	4.00
Number of faculty members with 3 to 4 years experience (x3)	4.00	4.00	4.00
Number of faculty members with 4 to 5 years experience (x4)	2.00	1.00	2.00
Number of faculty members with more than 5 years experience (x5)	22.00	20.00	19.00
N	29.00	29.00	29.00

RPI = x1 + 2x2 + 3x3 + 4x4 + 5x5	138.00	126.00	125.00
Assessment	14.28	13.03	12.93

Average assessment 13.41

5.7 Faculty Research Publications (FRP) (20)

Total Marks : 9.43

Institute Marks : 9.43

(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 × (Sum of the research publication points scored by each faculty member)/N

File Name
IT Research Profiles

Name of the Faculty (contributing to FRP)	FRP points (max. 5 per faculty)		
	2013-2014	2014-2015	2015-2016
A.Pavithra	0.00	0.00	0.00
Asma	0.00	0.00	0.00
B.Sirisha	0.00	0.00	0.00
D.DakshyaniHimaBindhu	0.00	0.00	0.00
D.V.RamaRaju	0.00	0.00	0.00
Dr. PadmalayaNayak	5.00	5.00	5.00
Dr.AltafhussainBasha	5.00	5.00	5.00
Dr.T.V.Rajinikanth	5.00	0.00	0.00
Dr.Y. VijayaLata	5.00	5.00	0.00
G.NarasimhaRaju	0.00	0.00	0.00
G.Satyanarayana	0.00	0.00	0.00
G.Vijendra Reddy	5.00	5.00	5.00
J.Sirisha Devi	5.00	0.00	0.00
K.AnushaNagina	0.00	0.00	0.00
K.Archana	0.00	0.00	0.00
K.LakshmiSushma	0.00	0.00	5.00
K.Prasanna Lakshmi	5.00	5.00	5.00
K.Sandeep	0.00	0.00	0.00
K.Spandana	0.00	0.00	0.00
L.Sukanya	0.00	0.00	5.00
N.V. Ganapathiaju	5.00	5.00	5.00
P.Bharathi	0.00	0.00	0.00
P.Gopala Krishna	5.00	5.00	5.00
P.K. Abhilash	5.00	0.00	0.00
S. Renuka	0.00	0.00	0.00
S.Palaniappan	5.00	0.00	0.00
S.V.Appaji	5.00	5.00	5.00
T.Anitha	0.00	0.00	0.00
T.N.P.Madhuri	0.00	0.00	0.00
T.Nazia	0.00	0.00	0.00
T.VeenaTrivedi	5.00	5.00	5.00
V.Padma	5.00	5.00	5.00
V.Sailaja	0.00	0.00	0.00
V.V.N.A. Bhargavi	5.00	0.00	0.00
Y.J.Nagendra Kumar	5.00	5.00	5.00
Y.Prashanti	0.00	0.00	0.00
Y.Srilalitha	0.00	5.00	5.00
Sum	80.00	60.00	65.00
N	29.00	29.00	29.00
Assessment of FRP = 4 × Sum/N	11.03	8.28	8.97

Average assessment 9.43

5.8 Faculty Intellectual Property Rights (FIPR) (10)

Total Marks : 8.81

Institute Marks : 8.81

Assessment of FIPR = 2 × (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. Kapil	2.00	2.00	2.00
A.Pavithra	2.00	2.00	2.00
AnushaNagina	2.00	2.00	2.00
Asma	2.00	2.00	0.00
B.Sirisha	0.00	0.00	2.00
D.DakshyaniHimaBindhu	0.00	0.00	2.00
D.V.RamaRaju	3.00	0.00	0.00
Dr. PadmalayaNayak	5.00	5.00	5.00
Dr.AltafhussainBasha	5.00	5.00	5.00
Dr.T.V.Rajinikanth	5.00	5.00	5.00
Dr.Y. VijayaLata	5.00	5.00	5.00
G.NarasimhaRaju	0.00	0.00	0.00
G.Satyanarayana	2.00	2.00	2.00
G.Vijendra Reddy	3.00	3.00	3.00
J.Sirisha Devi	2.00	2.00	0.00
K.Anil Kumar	2.00	2.00	0.00
K.AnushaNagina	2.00	2.00	2.00
K.Archana	2.00	2.00	2.00
K.LakshmiSushma	2.00	2.00	5.00
K.Prasanna Lakshmi	5.00	5.00	5.00
K.Sandeep	2.00	2.00	2.00
K.Spandana	2.00	0.00	0.00
L.Sukanya	2.00	2.00	5.00
N.V. Ganapathiaju	0.00	0.00	5.00
P.Bharathi	0.00	2.00	2.00
P.Gopala Krishna	3.00	3.00	3.00
P.K. Abhilash	2.00	2.00	2.00
P.K.Abhilash	2.00	2.00	2.00
S. Renuka	2.00	2.00	2.00
S.B.Saraswathi	2.00	0.00	0.00
S.LakshmiPriya	2.00	0.00	0.00
S.Palaniappan	3.00	3.00	0.00
S.Renuka	2.00	2.00	2.00
S.V.Appaji	2.00	2.00	2.00
T.Anitha	2.00	2.00	2.00
T.N.P.Madhuri	2.00	2.00	2.00
T.Nazia	2.00	2.00	5.00
T.VeenaTrivedi	5.00	5.00	5.00
V.Padma	3.00	3.00	3.00
V.Sailaja	2.00	2.00	2.00
V.V.N.A. Bhargavi	2.00	5.00	0.00
Y.J.Nagendra Kumar	5.00	5.00	5.00
Y.Prashanti	2.00	2.00	2.00
Y.Srilalitha	5.00	5.00	5.00
Sum	107.00	103.00	107.00
N	24.00	24.00	24.00
Assessment of FIPR = 2 × Sum/N	8.92	8.58	8.92

Average assessment 8.81

5.9 Funded R&D Projects and Consultancy (FRDC) Work (20)

Total Marks : 3.49

Institute Marks : 3.49

(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 × (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.Pavithra	0.00	0.00	0.00
Asma	0.00	0.00	0.00
B.Sirisha	0.00	0.00	0.00
D.DakshyaniHimaBindhu	0.00	0.00	0.00
D.V.RamaRaju	4.00	0.00	0.00
Dr. PadmalayaNayak	4.00	0.00	4.00
Dr.AltafhussainBasha	0.00	0.00	4.00
Dr.T.V.Rajinikanth	4.00	0.00	0.00
Dr.Y. VijayaLata	0.00	0.00	0.00
G.NarasimhaRaju	0.00	0.00	0.00
G.Satyanarayana	0.00	0.00	0.00
G.Vijendra Reddy	4.00	0.00	0.00
J.Sirisha Devi	0.00	0.00	0.00
K.AnushaNagina	0.00	0.00	0.00
K.Archana	4.00	0.00	0.00
K.LakshmiSushma	0.00	0.00	0.00
K.Prasanna Lakshmi	4.00	0.00	0.00
K.Sandeep	0.00	0.00	0.00
K.Spandana	0.00	0.00	0.00
L.Sukanya	0.00	0.00	0.00
N.V. Ganapathiaju	0.00	0.00	4.00
P.Bharathi	0.00	0.00	0.00
P.Gopala Krishna	4.00	0.00	0.00
P.K. Abhilash	0.00	0.00	0.00
S. Renuka	0.00	0.00	0.00
S.Palaniappan	4.00	0.00	0.00
S.V.Appaji	4.00	0.00	0.00
T.Anitha	4.00	0.00	0.00
T.N.P.Madhuri	0.00	0.00	0.00
T.Nazia	0.00	0.00	0.00
T.VeenaTrivedi	4.00	0.00	0.00
V.Padma	4.00	0.00	0.00
V.Sailaja	0.00	0.00	0.00
V.V.N.A. Bhargavi	4.00	0.00	0.00
Y.J.Nagendra Kumar	4.00	4.00	4.00
Y.Prashanti	0.00	0.00	0.00
Y.Srilalitha	0.00	0.00	0.00
A. Kapil Kumar	0.00	0.00	0.00
Sum	56.00	4.00	16.00
N	29.00	29.00	29.00
Assessment of FRDC = 4 × Sum/N	7.72	0.55	2.21

Average assessment 3.49

5.10 Faculty Interaction with Outside World (10)

Total Marks : 8.16

Institute Marks : 8.16

(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 × (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.Pavithra	0.00	5.00	5.00
Asma	0.00	0.00	0.00
B.Sirisha	0.00	0.00	0.00
D.DakshyaniHimaBindhu	0.00	5.00	5.00
D.V.RamaRaju	5.00	0.00	0.00
Dr. PadmalayaNayak	5.00	5.00	5.00
Dr.AltafhussainBasha	5.00	5.00	5.00
Dr.T.V.Rajinikanth	5.00	0.00	0.00
Dr.Y. VijayaLata	5.00	5.00	5.00
G.NarasimhaRaju	0.00	0.00	5.00
G.Satyanarayana	0.00	0.00	0.00
G.Vijendra Reddy	5.00	5.00	5.00
J.Sirisha Devi	5.00	0.00	0.00
K.AnushaNagina	0.00	5.00	5.00
K.Archana	0.00	5.00	5.00
K.LakshmiSushma	5.00	5.00	5.00
K.Prasanna Lakshmi	5.00	5.00	5.00
K.Sandeep	0.00	5.00	5.00
K.Spandana	5.00	0.00	0.00
L.Sukanya	5.00	5.00	5.00
N.V. Ganapathiaju	5.00	5.00	5.00
P.Bharathi	0.00	0.00	5.00
P.Gopala Krishna	5.00	5.00	5.00
P.K. Abhilash	5.00	5.00	5.00
S. Renuka	0.00	5.00	5.00
S.Palaniappan	5.00	0.00	0.00
S.V.Appaji	5.00	5.00	5.00
T.Anitha	0.00	5.00	5.00
T.N.P.Madhuri	0.00	0.00	5.00
T.Nazia	0.00	5.00	5.00
T.VeenaTrivedi	5.00	5.00	5.00
V.Padma	5.00	5.00	5.00
V.Sailaja	0.00	0.00	5.00
V.V.N.A. Bhargavi	5.00	0.00	0.00
Y.J.Nagendra Kumar	5.00	5.00	5.00
Y.Prashanti	0.00	0.00	5.00
Y.Srilalitha	0.00	5.00	5.00
Sum	100.00	115.00	140.00
N	29.00	29.00	29.00
Assessment of FIP = 2 × Sum/N	6.90	7.93	9.66

Average assessment 8.16

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	4	Used as class rooms	Exclusive	72	Class rooms are equipped with good infrastructure and are well designed to give ideal teaching and learning environment.
Tutorial Rooms	2	Used as Tutorial rooms	Exclusive	36	Separate Tutorial rooms with a seating capacity of 36 students are available for special and remedial classes
Seminar Hall	1	Used for workshops, Events and Gathering	Exclusive	60	Equipped with corporate style infrastructure and facilities for conducting workshops, Guest lectures and departmental meetings
Faculty Rooms	2	Used for Faculty Rooms	Exclusive	15	Modern infrastructure , Wi-Fi
HOD Room	1	Used for HOD	Exclusive	5	PC, Laptop with Wi-Fi, scanner, printer, LCD
Conference Hall	1	For conducting conferences and technical events	Exclusive	150	Air-conditioned with modern systems

Laboratories	8	For conducting practical sessions	Exclusive	36	Modern equipment and licensed softwares with LAN and Wi-Fi

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.)

No. of Class Rooms	4
No. of Tutorial Rooms	2
No. of Seminar Halls	1
No. of Faculty Rooms	2
No. of HOD Rooms	1
No. of Conference Halls	1
No. of Laboratories	8

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

Room No	**Usage**	**Exclusive/ Shared**	**Room Equipped with**
1108	Class Rooms	Exclusive	Class rooms are equipped with good infrastructure and are well designed to give ideal teaching and learning environment.
1201			
1203			
1208			
1211	Tutorial rooms	Exclusive	Separate Tutorial rooms with a seating capacity of **36** students are available for special and remedial classes
1212			
1202	Seminar Halls	Exclusive	Equipped with corporate style infrastructure and facilities for conducting workshops, Guest lectures and departmental meetings
1209/ 1210	Faculty Rooms	Exclusive	Modern infrastructure , Wi-Fi
1209	HOD Room	Exclusive	PC, Laptop with Wi-Fi, scanner, printer, LCD
1404/ 1405	Conference Hall	Exclusive	Air-conditioned with modern systems
1109	Laboratories	Exclusive	Modern equipment and licensed softwares with LAN and Wi-Fi
1110			
1204			
1205			
1206			
1207			
4502			
4504			

6.1.2 Teaching aids---multimedia projectors, etc (5)

Institute Marks : 5.00

(Instruction: List the various teaching aids available)

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, handouts 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 conductive environment which is needed for technology enhance learning with all the modern teaching aids and amenities.

Room No	Room Size in sq.mt / strength	Acoustics	Conditions of chairs/benches	Air circulation / lighting / Exit / Ambience	Amenities / Facilities
1108	84sq.mt / 72	Good	Excellent	Excellent	State-of-art infrastructure, necessary gadgets
1201	84sq.mt / 72				
1203	84sq.mt / 72				
1208	84sq.mt / 72				

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 84 sq.mt each are utilized to have room for the teaching faculty.
- Each hall is portioned into 8 cubicles for accommodating 4 – 6 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 No	No. of Cabins	Room size in sq.mt
1209	6	84 sq.mt
1210	8	84 sq.mt

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, scanner and printer, apart from the use of laptops. 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 rooms are connected with LAN and Wi-Fi for Internet access.
- They also have constant supply of RO water through dispensers, and a kitchenette for the refreshment of the faculty.

Room No	White/ Black Board	Computer/ Internet Facilities	Cupboards	Amenities/facilities
1209	Yes	Wi-Fi and Laptops	Adequate in number	Desktop computer, scanner, printer, water purifier, refrigerator and kitchenette
1210	No			

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
1214	Yes	Yes

The following table is required for the subsequent criteria.

Laboratory description in the curriculum	Exclusive use /	Space, number of	Number of	Quality of	Laboratory

	shared	students	experiments	instruments	manuals
Computer Programming Lab	Exclusive	85 sq.mt , 60	14	Excellent	Available
IT Workshop Lab	Exclusive	80 sq.mt , 36	11	Excellent	Available
Advanced Data Structures through C++ Lab	Exclusive	84+84 sq.mt,72	12	Excellent	Available
Object Oriented Programming	Exclusive	84+84 sq.mt,72	13	Excellent	Available
Database Management System	Exclusive	84+84 sq.mt,72	12	Excellent	Available
Operating Systems & Computer Networks Lab	Exclusive	84+84 sq.mt,72	12	Excellent	Available
Web Designing Lab	Exclusive	84+84 sq.mt,72	19	Excellent	Available
Web Technologies Lab	Exclusive	84+84 sq.mt,72	12	Excellent	Available
Advanced UNIX Programming Lab	Exclusive	84+84 sq.mt,72	28	Excellent	Available
Middleware Technologies Lab	Exclusive	84+84 sq.mt,72	12	Excellent	Available
Compiler Design and Unified Modelling Language Lab	Exclusive	84+84 sq.mt,72	17	Excellent	Available
Scripting Languages Lab	Exclusive	84+84 sq.mt,72	12	Excellent	Available
Mobile Application Development Lab	Exclusive	84+84 sq.mt,72	8	Excellent	Available
Micro Controllers Lab	Exclusive	84+84 sq.mt,72	15	Excellent	Available
Digital Electronics Lab	Exclusive	84+84 sq.mt,72	15	Excellent	Available
Animations Lab	Exclusive	84+84 sq.mt,72	14	Excellent	Available

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.

Lab Description in the Curriculum	Exclusive / Shared	Space (Sq.mts), Number of Students	Number of Experiments	Quality of instruments	Lab manuals
Computer Programming Lab	Exclusive	85sq.mt , 60	14	Excellent	Available
IT Workshop Lab		80 sq.mt , 36	11		
Advanced Data Structures through C++ Lab		168 sq.mt, 72	12		
Digital Electronics Lab		85 sq.mt, 72	15		
Database Management Systems Lab		168 sq.mt, 72	12		
Object Oriented Programming through Java Lab		168 sq.mt, 72	13		
Operating Systems & Computer Networks Lab		168 sq.mt, 72	12		
Web Designing Lab		168 sq.mt, 72	19		
Web Technologies Lab		168 sq.mt, 72	12		
Micro Controllers Lab		85 sq.mt, 72	15		
Compiler Design and Unified Modeling Language Lab		168 sq.mt, 72	17		
Advanced Unix Programming Lab		168 sq.mt, 72	28		
Scripting Languages Lab		168 sq.mt, 72	12		
Middleware Technologies Lab		168 sq.mt, 72	12		
Animations Lab		168 sq.mt, 72	14		
Mobile Application Development Lab		168 sq.mt, 72	8		

Lab Description in the Curriculum	Programme Outcomes											
	a	b	c	d	e	f	g	h	i	j	k	l
Computer Programming Lab	X	X			X					X	X	X

Computer Programming Lab	X	X			X					X	X	X
IT Workshop Lab	X			X			X				X	
Advanced Data Structures through C++ Lab		X	X			X			X		X	X
Digital Electronics Lab		X	X	X	X			X	X			
Database Management Systems Lab		X			X				X		X	X
Object Oriented Programming through Java Lab	X	X		X	X			X			X	X
Operating Systems & Computer Networks Lab		X					X	X			X	
Web Designing Lab		X	X		X		X				X	
Web Technologies Lab		X					X		X	X		X
Micro Controllers Lab		X	X		X			X				X
Compiler Design and Unified Modeling Language Lab		X		X				X	X			X
Advanced Unix Programming Lab		X		X					X		X	
Scripting Languages Lab	X	X			X			X				X
Middleware Technologies Lab			X	X		X				X		
Animations Lab			X	X			X			X		
Mobile Application Development Lab		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 Desktop PCs are available in the labs with fully loaded licensed software to facilitate students to carry their course work.

Laboratory	**Room Number**	**No of Computers/ Laptops**	**Condition of Equipment**	**Hardware / Software**	**PEOs**
Computer Programming Lab	3001	60	Excellent	Linux, Windows Operating Systems, TurboC, GCC	1,2,3,4
IT Workshop Lab	3007	36	Excellent	MSDN, Linux & Windows Operating Systems, Components needed for assembling and de-assembling, Routers, Hubs, Switches	1,2,3,4
Advanced Data Structures through C++ Lab	1109 / 1110	72	Excellent	TurcoC++, DevC, gcc compiler using Linux OS	1,2,3,4
Digital Electronics Lab	4502	72	Excellent	Xilinx ISE 9.2I,Digilent adept suite	1,2,3
Database Management Systems Lab	1109 / 1110	72	Excellent	Oracle 10g Express Edition	2,3,4
Object Oriented Programming through Java Lab	1109 / 1110	72	Excellent	Java Development Kit 1.7	1,2,3
Operating Systems & Computer Networks Lab	1109 / 1110	72	Excellent	Gcc compiler with Ubuntu installed	1,2,3
Web Designing Lab	1109 / 1110	72	Excellent	Adobe Master Collection	1,2,3
Web Technologies Lab	1206 / 1207	72	Excellent	HTML,XML,BDK 1.1, tomcat	1,2,3
Micro Controllers Lab	4504	Micro Controller kits 89c51 -30 No, 72	Excellent	Arduino software	1,2,3
Compiler Design and Unified Modeling Language Lab	1206 / 1207	72	Excellent	LEX	1,2,3,4
Advanced Unix Programming Lab	1206 / 1207	72	Excellent	Gcc compiler with Ubuntu	1,2,3
Scripting Languages Lab	1204 / 1205	72	Excellent	Xampp,Python 2.7	2,3,4
Middleware Technologies Lab	1204 / 1205	72	Excellent	BDK, CORBA	1,2,3,4
Animations Lab	1204 / 1205	72	Excellent	Flash	2,3,4
Mobile Application Development Lab	1204 / 1205	72	Excellent	Java Wireless toolkit 2.5.2	1,2,3,4

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.

		Laboratories	

Year	College Timings	& 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
Computer Programming Lab	8:00 A.M to 6:00 P.M	Mini/Major Projects	V Tirupathi	A. Kapil Kumar
IT Workshop Lab	8:00 A.M to 6:00 P.M	Mini/Major Projects	V Tirupathi	T. Nazia
Advanced Data Structures through C++ Lab	8:00 A.M to 6:00 P.M	Mini/Major Projects	K.Susheel	T. Anitha
Digital Electronics Lab	8:00 A.M to 6:00 P.M	Mini/Major Projects	K.Susheel	G. Satyanarayana
Database Management Systems Lab	8:00 A.M to 6:00 P.M	Mini/Major Projects	K.Susheel	K.L. Sushma
Object Oriented Programming through Java Lab	8:00 A.M to 6:00 P.M	Mini/Major Projects	K.Susheel	A. Pavitra
Operating Systems & Computer Networks Lab	8:00 A.M to 6:00 P.M	Mini/Major Projects	K.Susheel	Y. Prashanthi
Web Designing Lab	8:00 A.M to 6:00 P.M	Mini/Major Projects	K.Susheel	S. Renuka
Web Technologies Lab	8:00 A.M to 6:00 P.M	Mini/Major Projects	C.Rajesh	L. Sukanya
Micro Controllers Lab	8:00 A.M to 6:00 P.M	Mini/Major Projects	C.Rajesh	V. Shailaja
Compiler Design and Unified Modeling Language Lab	8:00 A.M to 6:00 P.M	Mini/Major Projects	C.Rajesh	P. K. Abhilash
Advanced Unix Programming Lab	8:00 A.M to 6:00 P.M	Mini/Major Projects	C.Rajesh	K. Archana
Scripting Languages Lab	8:00 A.M to 6:00 P.M	Mini/Major Projects	S.Ramesh	P. Bharathi
Middleware Technologies Lab	8:00 A.M to 6:00 P.M	Mini/Major Projects	S.Ramesh	Veena Trivedi
Animations Lab	8:00 A.M to 6:00 P.M	Mini/Major Projects	S.Ramesh	K. Sandeep Reddy
Mobile Application Development Lab	8:00 A.M to 6:00 P.M	Mini/Major Projects	S.Ramesh	D. Dakshayani Himabindu

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 numbers of systems are available for the students to carry out the experiments.

Laboratory	Equipment	Maintenance	No of Students per Experiment	Size of the Laboratory (Sq. Mt)	Overall ambience
Computer Programming Lab	Computers	Maintained by Skilled lab technician & Skilled computer Hardware Professional	One	85	Qualified faculty, staff with good condition of lab equipment has created an ambience for learning
IT Workshop Lab	Components of Computer, Routers, switches, hubs	Maintained by Skilled lab technician & Skilled computer Hardware Professional	One	80	Qualified faculty, staff with good condition of lab equipment has created an ambience for learning
Advanced Data Structures through C++ Lab	Computers	Maintained by Skilled lab technician & Skilled computer Hardware Professional	One	168	Qualified faculty, staff with good condition of lab equipment has created an ambience for learning
Digital Electronics	Computers	Maintained by Skilled lab technician	One	85	Qualified faculty, staff with good condition of lab equipment

		Hardware Professional			learning
Database Management Systems Lab	Computers	Maintained by Skilled lab technician & Skilled computer Hardware Professional	One	168	Qualified faculty, staff with good condition of lab equipment has created an ambience for learning
Object Oriented Programming through Java Lab	Computers	Maintained by Skilled lab technician & Skilled computer Hardware Professional	One	168	Qualified faculty, staff with good condition of lab equipment has created an ambience for learning
Operating Systems & Computer Networks Lab	Computers	Maintained by Skilled lab technician & Skilled computer Hardware Professional	One	168	Qualified faculty, staff with good condition of lab equipment has created an ambience for learning
Web Designing Lab	Computers	Maintained by Skilled lab technician & Skilled computer Hardware Professional	One	168	Qualified faculty, staff with good condition of lab equipment has created an ambience for learning
Web Technologies Lab	Computers	Maintained by Skilled lab technician & Skilled computer Hardware Professional	One	168	Qualified faculty, staff with good condition of lab equipment has created an ambience for learning
Micro Controllers Lab	Computers	Maintained by Skilled lab technician & Skilled computer Hardware Professional	One	85	Qualified faculty, staff with good condition of lab equipment has created an ambience for learning
Compiler Design and Unified Modeling Language Lab	Computers	Maintained by Skilled lab technician & Skilled computer Hardware Professional	One	168	Qualified faculty, staff with good condition of lab equipment has created an ambience for learning
Advanced Unix Programming Lab	Computers	Maintained by Skilled lab technician & Skilled computer Hardware Professional	One	168	Qualified faculty, staff with good condition of lab equipment has created an ambience for learning
Scripting Languages Lab	Computers, Micro Controller Kits, Programmer, IC, Connectivity wires, Adapters, Serial data cables.	Maintained by Skilled lab technician & Skilled computer Hardware Professional	Two	168	Qualified faculty, staff with good condition of lab equipment has created an ambience for learning
Middleware Technologies Lab	Computers, Micro Controller Kits, Programmer, IC, Connectivity wires, Adapters, Serial data cables.	Maintained by Skilled lab technician & Skilled computer Hardware Professional	Two	168	Qualified faculty, staff with good condition of lab equipment has created an ambience for learning
Animations Lab	Computers	Maintained by Skilled lab technician & Skilled computer Hardware Professional	One	168	Qualified faculty, staff with good condition of lab equipment has created an ambience for learning
Mobile Application Development Lab	Computers	Maintained by Skilled lab technician & Skilled computer Hardware Professional	One	168	Qualified faculty, staff with good condition of lab equipment 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		**Other technical skills gained**	**Responsibility**
					At Joining	Now		
Mr. C. Rajesh	Lab Asst	3850-30765	Exclusive	11/07/2014	B.Sc	B.Sc	Desktop Support	Lab and System Administrator
Mr. Y.Sateesh	Lab Asst	3850-30765	Exclusive	13/09/2012	B.Sc	B.Sc	Desktop Support	Lab and System Administrator
Mr. Sushil Kawre	Lab Asst	3850-30765	Exclusive	22/08/2012	B.Sc	B.Sc	Desktop Support	Lab and System Administrator
Mr. V.Thirupathi	Lab Asst	3850-30765	Exclusive	24/06/2013	B.Sc	B.Sc	Desktop Support	Lab and System Administrator

Mr. M.Ramesh	Lab Asst	3850-30765	Exclusive	03/09/2015	B.Tech	M.Tech	Desktop Support	Lab and System Administrator
Ms. S.Padma	Lab Asst	3850-30765	Exclusive	10/10/2012	B.A.	B.A.	Desktop Support	Lab and System Administrator

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.

S.No	Laboratory	Qualified technical Staff	Designation
1	Computer Programming Lab	V Tirupathi	Lab Assistant
2	IT Workshop Lab	V Tirupathi	Lab Assistant
3	Advanced Data Structures through C++ Lab	K.Susheel	Lab Assistant
4	Digital Electronics Lab	K.Susheel	Lab Assistant
5	Database Management Systems Lab	K.Susheel	Lab Assistant
6	Object Oriented Programming through Java Lab	K.Susheel	Lab Assistant
7	Operating Systems & Computer Networks Lab	K.Susheel	Lab Assistant
8	Web Designing Lab	K.Susheel	Lab Assistant
9	Web Technologies Lab	C. Rajesh	Lab Assistant
10	Micro Controllers Lab	C. Rajesh	Lab Assistant
11	Compiler Design and Unified Modeling Language Lab	C. Rajesh	Lab Assistant
12	Advanced Unix Programming Lab	C. Rajesh	Lab Assistant
13	Scripting Languages Lab	S.Ramesh	Lab Assistant
14	Middleware Technologies Lab	S.Ramesh	Lab Assistant
15	Animations Lab	S.Ramesh	Lab Assistant
16	Mobile Application Development Lab	S.Ramesh	Lab Assistant

	C. Rajesh Obtained his B.Com computers in S.K.University Kurnool in 2006. He was trained Hardware and Networking from Jetking Hyderabad in 2010. He is maintaining labs with 60 systems. He is experienced in Microsoft Office, Troubleshooting and Hardware & Networking issues, Installation of the softwares in the Labs. He is Co-incharge for conducting Placement Exams, Online Exams like TCS, AMAZON, IBM within the college.
	Y. Sateesh Obtained his B.Sc Computers Nagarjuna University in 2006. He was trained in Multimedia (Photoshop, Dreamviewer, Adobe Flash, HTML),Graphic Design (Corel Draw). He is expert in designing the websites, Departmental Broachers, Course Books, Banners etc. He is having 4 years experience as a Graphic Web Designer in Private Companies.
	Sushil Kawre Obtained his B.Sc Pt. Ravi shankar University Raipur in 2009. He was trained Hardware and Networking from Jetking Hyderabad in 2011. He completed MCSA-2012 certification in 2015. He is maintaining labs with 60 systems. He is experienced in Microsoft Office, Troubleshooting and Hardware & Networking issues, Installation of the softwares in the Labs. He is Co-incharge for conducting Placement Exams, Online Exams like TCS, AMAZON, IBM within the college.
	S. Padma Obtained her B.A in Public Administration in Dr. B.R.Ambedkar University Hyderabad in 2006. She was trained in PGDCA, Microsoft Office, DTP, Tally 7.2. She keeps track of all the Department Files. She also does clerical jobs related to the department like Time Tables, Result Analysis, Scholar ships Data, Circulars and Notices, Class room Verfication.
	V. Tirupathi

	Obtained his B.Sc kakatiya univesity warangal in 2010. He was trained Hardware and Networking from Jetking Hyderabad in 2012. He was maintained labs with 80 systems. He is experienced in Microsoft Office, Troubleshooting and Hardware & Networking issues, Installation of the softwares in the Labs. He is Co-incharge for conducting Placement Exams, Online Exams like TCS, AMAZON, IBM within the college.
	M. Ramesh Obtained his B.Tech in Jawaharlal Nehru Technological University, Kakinada in 2011. He was maintained labs with 80 systems. He is experienced in Microsoft Office, Troubleshooting and Hardware & Networking issues, Installation of the softwares in the Labs. He is Co-incharge for conducting Placement Exams, Online Exams like TCS, AMAZON, IBM within the college.

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
- Eligible staff is promoted to the next cadre upon accumulation of seniority and experience in service e.g., eligible 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 : 70.91**

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
Dr. S. Rama Murthy	Ph.D	Professor	14/07/2000	Basic Sciences	100	0	0
Dr. B R K Reddy	Ph.D	Professor	06/01/1998	Basic Sciences	100	0	0
Dr. D. Indira	Ph.D	Professor	17/01/2004	Basic Sciences	100	0	0
Dr. P.B. Appa Rao	Ph.D	Professor	25/04/2009	Basic Sciences	100	0	0
Dr. B.Srinivasa Rao	Ph.D	Professor	29/05/2013	Basic Sciences	100	0	0
Dr. K.V.Subba Raju	Ph.D	Professor	28/04/2014	Basic Sciences	100	0	0
Dr. C.R.Venkateswara Rao	Ph.D	Professor	29/03/2015	Basic Sciences	100	0	0
Dr. G.Patrick	Ph.D	Professor	27/03/2015	Basic Sciences	100	0	0
Dr. G Srinivas Bapiraju	Ph.D	Professor	05/06/2015	Basic Sciences	100	0	0
Dr. K.V.S.Raju	Ph.D	Assoc. Professor	08/11/2005	Basic Sciences	100	0	0
M. Sridhar	M.Sc, M.Tech	Assoc. Professor	14/09/2006	Basic Sciences	100	0	0
Dr.V.N. Rama Devi	M.Sc., MBA Ph.D	Asst. Professor	07/07/2008	Basic Sciences	200	0	0
Dr. G.Swapna	Ph.D	Asst Professor	29/04/2015	Basic Sciences	100	0	0
Ms. Y. Gayathri	M.Com M.Phil	Asst.Professor	12/01/2003	Basic Sciences	100	0	0
K. Vagdevi	M.Sc., M.Tech	Asst. Professor	14/09/2005	Basic Sciences	100	0	0
M. Aravind Kumar	M.Phil (Ph.D)	Asst. Professor	30/06/2006	Basic Sciences	50	50	0
V. Lakshmi Prasanna	MA, M.Phil (Ph.D)	Asst. Professor	28/07/2008	Basic Sciences	75	25	0
Nirmalya Kumar Mohanty	M.Sc, M.Tech	Asst. Professor	19/07/2007	Basic Sciences	100	0	0
P. Sujeetha	MA	Asst. Professor	12/09/2007	Basic Sciences	75	25	0
S. Bhagath Kumar	M.Sc, M.Tech	Asst. Professor	10/01/2008	Basic Sciences	100	0	0
Ch. Phani Rama Krishna	M.Sc (Ph.D)	Asst. Professor	05/09/2008	Basic Sciences	0	100	0

K. Lakshmi Kanthi	MA (Ph.D)	Asst. Professor	07/02/2009	Basic Sciences	75	25	0
Ch.Vani	M.Sc	Asst. Professor	09/11/2009	Basic Sciences	100	0	0
Bh Saroja Rani	M.Sc	Asst. Professor	17/07/2010	Basic Sciences	100	0	0
K. Kalpana	M.Sc (Ph.D)	Asst. Professor	21/07/2010	Basic Sciences	100	0	0
M. Haritha Kiranmai	M.Sc	Asst. Professor	21/07/2010	Basic Sciences	100	0	0
Ms. N.Latha	MBA	Asst.Professor	26/07/2010	Basic Sciences	100	0	0
M. Krishna	M.Sc	Asst. Professor	17/10/2010	Basic Sciences	100	0	0
B. Shanti Sree	M.Sc	Asst. Professor	08/08/2011	Basic Sciences	100	0	0
M.V.Srikantha Reddy	M.Sc (ph.d)	Asst. Professor	23/09/2011	Basic Sciences	100	0	0
Ms. D.Roopa	MBA	Asst.Professor	20/10/2011	Basic Sciences	100	0	0
P. Lakshmi	M.Sc., M.Tech	Asst. Professor	01/07/2012	Basic Sciences	100	0	0
P.M. Rekha	M.Sc (Ph.D)	Asst. Professor	02/02/2012	Basic Sciences	75	25	0
B.Suresh	M.Sc (Ph.D)	Asst. Professor	09/02/2012	Basic Sciences	100	0	0
P.Naveen	M.Sc	Asst. Professor	16/06/2012	Basic Sciences	100	0	0
V.Sesha Sai Kumar Reddy	M.Sc	Asst. Professor	18/06/2012	Basic Sciences	100	0	0
J.Kishore Babu	M.Sc	Asst. Professor	13/09/2012	Basic Sciences	100	0	0
V. Sailaja	MBA	Asst. Professor	26/07/2012	Basic Sciences	100	0	0
Ms. G.Kalpana	M.Sc	Asst.Professor	07/01/2013	Basic Sciences	100	0	0
Ms.Arshia Fathima	M.Sc	Asst.Professor	17/06/2013	Basic Sciences	100	0	0
Ms. Sailaja Eswara	M.A, M.Phil	Asst Professor	16/10/2013	Basic Sciences	100	0	0
Ms.M.Madhavi	M.Sc	Asst.Professor	07/10/2013	Basic Sciences	100	0	0
Ms. M. Hema Sri	M.SC, M.TECH & M.Phil	Asst.Professor	07/01/2014	Basic Sciences	100	0	0
Ms. Niharika A	B.Tech, PGDM	Asst.Professor	12/01/2014	Basic Sciences	100	0	0
Ms. S.Rama	M.Sc	Asst Professor	09/02/2014	Basic Sciences	100	0	0
Mr. Yesu M	M.Sc	Asst Professor	27/08/2014	Basic Sciences	100	0	0
Mr. M.Srinivas	M.Sc	Asst Professor	22/09/2014	Basic Sciences	100	0	0
Mr. A Sri Hari	M.Sc	Asst Professor	30/04/2015	Basic Sciences	100	0	0
Mr. V.Vinay Kumar	M.Sc	Asst Professor	30/04/2016	Basic Sciences	100	0	0
Ms. G. Saimatha	M.Sc	Asst Professor	30/04/2015	Basic Sciences	100	0	0
Ms. M.Pushpa Latha	M.A	Asst.Professor	06/11/2015	Basic Sciences	100	00	0
Mr. J.R. Hari Ram	M.A	Asst.Professor	06/11/2015	Basic Sciences	100	0	0
Ms. Rimy Kulshreshtha	M.A	Asst.Professor	06/12/2015	Basic Sciences	100	0	0
Ms T Sabitha	M.A	Asst.Professor	06/12/2015	Basic Sciences	100	0	0
Ms G Bhuvaneshwari	M.A	Asst.Professor	06/12/2015	Basic Sciences	100	0	0
G. Surekha	M.Tech	Asst.Professor	25/06/2007	ECE	100	0	0
N.Madhusudhana Rao	M.Tech	Asst. Professor	10/07/2007	ECE	100	0	0
D.Chandrashekar	M.E	Asst.Professor	07/11/2007	EEE	100	0	0
G. Sandhya Rani	M.Tech	Asst.Professor	11/07/2007	EEE	100	0	0
V.Himabindu	M.Tech	Asst. Professor	28/06/2011	EEE	100	0	0
M.Lohitha	M.Tech	Asst. Professor	23/04/2015	EEE	100	0	0
K. Sudha	M.E	Asst.Professor	12/08/2014	EEE	50	50	0
V V S Madhuri	M.Tech	Asst. Professor	30/06/2011	EEE	50	50	0
G. Satyanarayana	M.Tech	Asst. Professor	23/10/2006	IT	50	50	0
D. Dakshayini	M.Tech	Asst. Professor	15/12/2014	IT	100	0	0

P. Bharathi	M.Tech	Asst. Professor	19/12/2014	IT	50	50	0
Dr.Y.Vijayalatha	Phd	Professor	04/11/2007	IT	50	50	0
K. Sunil Reddy	M.Tech	Asst. Professor	15/04/2014	ME	100	0	0
M.Mamatha Gandhi	M.Tech	Asst. Professor	25/04/2013	ME	100	0	0
K.P Sirisha	M.E	Asst. Professor	20/08/2014	ME	100	0	0
P.Praveen	M.Tech	Asst. Professor	30/04/2015	ME	100	0	0
STGY Sandhya	M.Tech	Asst. Professor	10/06/2013	CSE	100	0	0
K.CH Suneetha	M.Tech	Asst. Professor	10/06/2013	CSE	100	0	0
D. Suguna Kumari	M.Tech	Asst. Professor	04/09/2014	CSE	100	0	0
A. Shravanthi	M.Tech	Asst. Professor	04/09/2014	CSE	100	0	0
H. Suresh	M.Tech	Asst. Professor	05/09/2014	CSE	100	0	0
P.Vijaya Lakshmi	M.Tech	Asst. Professor	06/09/2014	CSE	100	0	0
A. Sowmya	M.Tech	Asst. Professor	26/03/2015	CSE	100	0	0
P.Sujana	M.Tech	Asst. Professor	23/04/2015	CSE	100	0	0
P.Rajesh	M.Tech	Asst. Professor	09/09/2014	CSE	100	0	0
S.P.Raju	M.Tech	Asst. Professor	15/10/2010	CIVIL	50	50	0
P.Sirisha	M.Tech	Asst. Professor	10/02/2014	CIVIL	50	50	0
P.Bharat	M.Tech	Asst. Professor	01/07/2015	01-07-2015	50	50	0

7.1 Academic Support Units (35)

Total Marks : 30.91

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	1110	75	14.8	10
2014-2015	1110	75	14.8	10
2015-2016	1080	75	14.4	10

Average assessment 10

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

Institute Marks : 10.91

Assessment of qualification = 3 × (5x + 3y + 2z0)/N, where x + y + z0 ≤ N and z0 ≤ 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	11	38	33	45	10.73
2014-2015	13	36	33	45	11.00
2015-2016	13	36	33	45	11.00

Average assessment 10.91

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	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	134 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:	2
• Number of students per tutorial class:	40

• 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	7	38
Mechanical Engineering	11	10	10	7	38
Electronics and Communication Engineering	11	10	9	6	36
Computer Science and Engineering	11	10	10	7	38
Information Technology	11	10	10	7	38
Civil Engineering	11	10	9	7	37
Biomedical Engineering	-	10	9	7	26
Biotechnology	-	10	10	7	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 doing 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, Alumni 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

Feedback form consists of 10-13 questions. 2. Each question consists of the grading 5-1. 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 an 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.
- 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 has 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-leaning 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 ICI, IEI, 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.
    - Organizing and taking part in displays and road shows of industry oriented mini projects at the institute.
    - Taking part in Co-curricular activities, contests like x-Kernal, Scientific Fore Step and activities of Entrepreneurship Development Cell.
    - Access to streaming videos from ‘You Tube’ and uploading the projects on to ‘You Tube’ for receiving open critique.
    - Accessibility to popular Free access journals and resources on line such as:

      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)

Facilities

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

“Career and Counseling”, “Training and Placement” and “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	HigherStudies Students In India	Total
2013-14	123	91	214
2014-15	111	18	129
2015-16	120	50	170

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.

The activities consist of:-

- 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:

- 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 Seminar 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
2013-14	407
2014-15	440
2015-16	450

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:

Year	Event	Achievement/ Impact
2013-14	1. Organized a guest lecture by eminent and entrepreneur Mr. Srikanth of Sunfield energy pvt.Ltd on 23.10.2013 2. An interactive session with CEO of Fortune Automobiles Mr. Nirav Modi on 22.11.2013 3. Conducted competition on exhibiting innovative products on 22.01.2014	1. Explained entrepreneur opportunities to students 2. Improves the students knowledge 3. Students participated with their ideas received the prizes and appreciation certificates
2014-15	1. Organized a seminar on importance of entrepreneurship on 27-8-2014 and Assistant Director MSME was chief guest 2. Conducted “ idea tree” on 19-2-2015 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. 4. GRIET established incubation centre with Micro Small Medium Enterprise(MSME) 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	1. For the Improvement of the students placement 2. Selected 2 ideas to be presented for Financial assistance to MSME 3.Thiry faculty participated in this program 4.Encourages students to become entrepreneurs
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 4. Recognized as SIRO by DSIR 5. Recipient of TEQIP PHASE-II under WBA 6. Received Best Principal, Teacher, Student awards in 2014 by ISTE	1.For the Improvement of student project and its quality 2.For the Improvement of the faculty research work 3.For the Improvement of students for placement 4. Encourages students to become entrepreneurs 5. Provides the industry relevant skills on the emerging technology for better understanding of the capability areas and employability

	7. Research funding from Govt. agencies like DST, DRDO, AICTE, UGC	

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.

a) All activities are preplanned and included in the college diary.

b) All activities are planned and executed by the student bodies with assistance from faculty when needed.

c) Pragnya (the Tech festival) and Pulse (the Cultural festival) are the major annual attractions.

Co-curricular activities:

a) Associations:

- Institute of Engineers India (IEI)
- Indian Concrete Institute(ICI)
- Computer Society of India (CSI)
- Institute of Electrical and Electronics Engineers (IEEE)
- The Institution of Electronics and Telecommunication Engineers (IETE)
- Society for Automobile Engineers (SAE)
- Society of Manufacturing Engineers (SME)
- Indian Society for Technical Education (ISTE)
- Confederation of Indian Institute (CII)
- Hyderabad Management Association (HMA)
- Free Software Foundation
- 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:

- **Spirals:** This event focuses on literary activities such as debates, essay writing, elocution, crosswords; treasure hunts etc such that skills required projecting 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. Mr.R.Srinivasa Raju, MPEd., 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, disciple 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 acts as the chief organizer of the sports events plans, conducts and supervises them throughout the year.

Sports Facilities available in the college:

S.No	Name of the Event	Facility available	Management	Usage of

OUTDOOR GAMES:				
1	Basket Ball	38 x18 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:				
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
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	Osamania 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
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

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 Trolly-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 “Annaprasadam 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. 160 KVA -1 No.	2
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

d) Drinking Water

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	President Dr. Gokaraju Ganga Raju	Management	Sri G.V.K. Ranga Raju	Vice-President	1. To set and monitor the organization's mission, purpose, direction, priorities and strategies within the boundaries of the organizational policies and bye-laws. 2. 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. 3. To develop policies that allows the organization to serve well all its stakeholders. 4. To monitor the organization's programmes and services by influencing decisions and finances. 5. To institute scholarships, fellowships, studentships, medals, prizes and certificates. 6. To monitor development, the direction and growth of the institute and issue directions and recommendations. 7. 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. 8. To approve appointments made by the Appointment/Selection Committee. **Committee Scheduled Meetings:** Once in Three months (A copy of sample is annexed)
			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	1. Heads of Departments. 2. Four faculty members other than the Heads of Departments representing the various categories (by rotation and seniority). 3. 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. 4. Three nominees of the parent university 5. A faculty member nominated by the Principal of the institute to act as			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 courses of study, academic regulations, curricula, syllabi, their objectives and outcomes and modifications, instructional and evaluation arrangements, methods, procedures etc. 3. To make regulations regarding the admission of students to different programs of study. 4. To recommend to the Governing Body the proposals of institution for new programs of study. 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.

		Member Secretary.	6. To advise the Governing Body on suggestion(s) pertaining to academic affairs made by it. 7. To perform such other functions as may be assigned by the Governing Body. **Committee Scheduled Meetings:** Two time a year (A copy of sample is annexed)
Board of Studies	Chairman Board of Studies	1. Programme Coordinators of the Department. 2. All teaching faculty of each course/ specialization offered. 3. Module coordinators. 4. Two external experts in the course concerned and nominated by the Academic Council. 5. One expert to be nominated by the Vice-chancellor from a panel of six recommended by Principal of the institute. 6. Not more than two persons to be co-opted for their expert knowledge including those belonging to the concerned profession or industry. 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: 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.	1. To prepare, frame and modify the syllabus for the various courses keeping in view the Programme objectives 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. **Committee Scheduled Meetings:** As and when necessary (A copy of sample is annexed)
Finance Committee	Principal	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).	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. **Committees Scheduled Meetings**: Once a Year (A copy of sample is annexed)
Selection	Chairman of	1. Principal / Director of the institute. 2. Two nominees of the Vice	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

Committee	Governing Body or his nominee	Chancellor of the affiliating University. 3. Two subject experts 4. Head of the concerned programme of Professor Cadre.	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. **Committee Scheduled Meetings:** Two time a year
Internal Quality Assurance Committee (IQAC)	Chairperson: Principal	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	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. **Committee Scheduled Meetings:** Two times a year or as and when needed.
			1. Principle Planning Body 2. Monitoring of Institute performance by Top Down-Bottom Up approach. 3. Monitors the attainment of Mission and Vision of Institute. 4. Evaluation of Departmental Mission and Vision, Programme specific POs and PEOs.

Institutional Development Monitoring Committee (IDMC)	Principal- IDMC Coordinator	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.	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. **Committee Scheduled Meetings:** Once in three months. (A copy of sample is annexed)
Academic Affairs Committee	Dean Academic Affairs	1. Deans of the institute 2. HODs of all the programmes.	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). **Committee Scheduled Meetings:** Once in three months or as and when needed
Departmental Development and Monitoring Committee (DDMC)	Head of the Department	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	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. **Committee Scheduled Meetings:** Two times a semester or as and when needed. (A copy of sample is annexed)
			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

Programme Assessment Committee (PAC)	Programme Coordinator	1. Module Coordinators 2. Faculty of a particular course 3. Class Coordinators	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 **Committee Scheduled Meetings:** Once a semester or as and when needed. (A copy of sample is annexed)
Class Coordinating Committee (CCC)	Respective Class Coordinator	1. Faculty of a particular course 2. Student representatives.	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 **Committee Scheduled Meetings:** Two times a semester or as and when needed. (A copy of sample is annexed)
Research committee	Dean R&D	1. Five Staff members with R &D /Industry experience nominated by the Principal of the institute	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. 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. **Committee Scheduled Meetings:** Two times a year or as and when needed.
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	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. **Committee Scheduled Meetings:** Two times a year or as and when needed.

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/-

(a) To authorize purchase of consumables for laboratories over and above the powers of the Head of the Departments.

(b) To permit reimbursement of traveling and other expenses for official purposes within the permitted limit to be decided by the CEO.

(c) To entertain guests.

(d) To sponsor faculty / staff for any academic and co-curricular activities as per norms.

(e) 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

(a) To make urgent consumable purchases for Lab.

(b) To meet small non-recurring expenses.

(c) 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
- Principal
- 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).

At GRIET, 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

- 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 programmers 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

Female Student

(v) Programmes/Activities:

In order to achieve the stated goals, the following programmers 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	5500000	63030000	5149000	4864000
Library	5000000	3228000	3790000	4131000
Laboratory equipment	35750000	2751200	28591000	11512000
Laboratory consumables	3900000	2465000	1311000	1049000
Teaching and non-teaching staff salary	248000000	251567000	192349000	153681000
R&D	3305000	6037000	1800000	1655000
Training and Travel	6500000	4969000	1350000	1017000
Maintenanace and Spares	25100000	2329000	5484000	6524000
Other Equipments	29000000	17167000	13603000	14587000
Others	42500000	5133236	67279000	53944000
Total	404555000	358676436	320706000	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.

For, example, the budget in the year 2014-15, 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.

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	8
• Number of library staff with degree in Library	4

• 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

At present the Library Information Center uses in-house developed Library Management Software with the following functions 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
• Availability of digital library contents (If available, then mention number of courses, number of e-books, etc. Availability of an exclusive server)	yes: 260 NPTEL Lessons
• Availability of an exclusive server	yes
• Availability over Intranet/Internet	yes
• Availability of exclusive space/room	yes
• Number of users per day	150

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	54 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

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

- 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 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, who is available throughout the college working hours

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, pharmaceutics & 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.

- It is open throughout college working hours including sports periods.

9 Continuous Improvement (75)

Total Marks : 62.37

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 : 4.50

Institute Marks : 4.50

From 4.1
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	0.92	0.90	0.82	4.50

9.2 Improvement in Academic Performance Index of Students (5)

Total Marks : 3.65

Institute Marks : 3.65

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	0.74	0.72	0.72	3.65

9.3 Improvement in Student-Teacher Ratio (5)

Total Marks : 2.92

Institute Marks : 2.92

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	0.57	0.58	0.65	2.92

9.4 Enhancement of Faculty Qualification Index (5)

Total Marks : 3.26

Institute Marks : 3.26

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	0.65	0.65	0.66	3.26

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

Total Marks : 3.04

Institute Marks : 3.04

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	0.55	0.41	0.45	4.60
FRDC	0.39	0.03	0.11	1.49

9.6 Continuing Education (10)

Total Marks : 10.00

Institute Marks : 10.00

	Any Other					

	Institute/Industry	By		Persons	Audience	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	IITBombay	GRIET	Two Weeks	Experts from IIT Bombay	Fcaulty	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	Acquired Knowledge on Design of algorithms
DBMS workshop conducted by IITB	IIT B	GIRET	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	OneWeek	Facutly	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	IIMFaculty	Fculty	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 Structuresbehind auto suggest	Teqip	GRIET	One day	Faculty from Being Zero	Students	Acquired Knowledge on autosuggest
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

New Facilities Created:

S.No	Name of the Facility	Licenser/Developed by	Target Audience	Trainings if any	Usage and Citation	POs
1	NET SIM	NET SIM	BTech&MTech Students	2 FDPs for Faculty members 2 Workshops for UG&PG Students	BTech/MTech Projects *Students published papers in International Journals	a,c,d,k
2	IBM COGNOS	IBM	Faculty , BTech&MTech Students	1 Week FDP for Faculty members for hands on experience by IBM	BTech/MTech Projects	a,b,h,k
3	IBM Infosphere	IBM	Faculty , BTech&MTech Students	2 One week FDPs for hands on experience by IBM	BTech/MTech Projects	a,b,h,k
4	MATLAB	Mathworks	BTech/MTech Students	--	BTech/MTech Projects	a,d,e,k

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.

Specify the Strenghths/Weakness	Improvement Brought In	Contributed By	List the PO(s), which are strengthened	Comments, if any
2015-2016	IBM InfoSphere	GRIET	a,b,c	Various development
2014-2015	IBM COGNOS	GRIET	b, c, d	To strengthen the laboratory
2013-2014	NET Sim	GRIET	g, j, l	Acquired knowledge in sustainable technologies
2012-2013	MAT Lab	GRIET	h, i, j, k	Various skills are improved