Part B

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1 Vision, Mission and Programme Educational Objectives (75) **Total Marks : 75.00**

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)

INSTITUTE

VISION

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

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

DEPARTMENT

VISION

To be a center of excellence by producing high caliber engineers and technologists, who possess scientific temperament and would engage in design, manufacturing and research.

MISSION

The Mechanical Engineering Department is committed to

- Provide efficient engineers for global requirements by imparting quality education.
- Create, explore and develop innovations in the fields of Design, Thermal and Manufacturing.
- Enhance the skills of young minds so as to become globally competitive with entrepreneurial and managerial skills.

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 is communicated effectively to all stakeholders namely students, faculty, parents, industry, regulating authority, alumni and management etc.

Presently 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 fresher's/parents/guardians, Induction programmes to staff members, presentation to visiting academician, presentation to industrial persons, announcing during seminars, workshops, conferences.

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, and management) considering the scope for growth of the department and 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) {Departmental Development and Monitoring Committee (DDMC)} makes the draft.
4. These proposals are ratified by the governing body

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

1.2 Programme Educational Objectives (10)

Total Marks : 10.00

1.2.1 Describe the Programme Educational Objectives (PEOs) (1)

Institute Marks : 1.00

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

This programme is meant to prepare our students to professionally thrive and to lead. During their progression:

1. Post Graduates will be able to develop scientific and engineering temperament so as to comprehend, analyze, design and create novel products and solutions for the real life problems and to become entrepreneur.
2. Post Graduates will be able to develop professional and ethical responsibility, effective communication skills, teamwork, multidisciplinary approach, and life-long learning needed for a successful professional career**.**
3. Post Graduates will be able to gain required skills to be employed in jobs related to designing, modeling, analyzing, and managing modern complex systems, implementing and improving systems in manufacturing sectors at local, regional, national and global levels.

1.2.2 State how and where the PEOs are published and disseminated (1) Institute Marks : 1.00

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

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

Presently PEOs 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

1.2.3 List the stakeholders of the programme (1) Institute Marks : 1.00

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

The Stake holders for the programme are

1. Students 2.Faculty 3. Parents 4. Employer 5. Alumni 6. Management

Students: Students seek quality environment at the Institute which includes good infrastructure, qualified faculty, conducive learning environment. They expect the qualification to be well recognized for an employment with any industry of repute or for an admission in the best educational institution if opting for higher education or to prepare for a career of ones own choice. Students also play a key role in program enhancement. The inputs/feedback given by the students help in redesigning the curriculum, and in introducing new innovative practices to meet the industry needs.

Faculty: Faculty acts as facilitator for the students to achieve their goals. Faculty wants to improve their credentials and growth in profession. Faculty takes pride in associating with a reputed institution and builds their career. They also play a crucial role in designing the programme and establishing the PEOs/POs. The consistency of the programme is maintained by the different committees formed by the faculty.

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

Industry: The employer looks for recruiting the cream of students from the institution who can be trained easily, deployed rapidly and contribute for societal growth. Industry also sees institutions as a complementary asset to their R&D. They being one of the direct beneficiary, provide the necessary direction and growth plans. The feedback from the employer helps to fill the curriculum gaps so as to meet the current trends.

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: The Management is a facilitator for imparting quality education by providing best infrastructure, qualified faculty members and latest equipments and softwares. Management also focuses on the professional growth of the students. Management can enhance their social standings through the institution.

1.2.4 State the process for establishing the PEOs (3) Institute Marks : 3.00

(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 feedbacks.

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 their careers and the suitability of the preparation attributed to the curriculum they were tutored in, any advice they have to give to the current students, and what they have to do for succeeding in their careers.

Regular input from alumni is obtained via the following interactions:

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

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

Employers: Input from employers plays a vital role in the formulation and review of the PEOs which 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: Departments regularly arrange tours to industries as part of their courses education processes. Discussions with the industries, and the faculty visitors help gain additional information on the current needs of industry with regard to our graduates, and thereby contribute the understanding needed to formulate or revise our PEOs.

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

The PEOs are established through the following steps:

Step 1: Vision and Mission of the Institute 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 Post Graduate attributes are taken into account apart from the information collected from Alumni in terms of career achievements, contribution to society, ethical practices and intellectual contributions.

Step 3: Program Coordinator consults the key stakeholders in the light of the current status of the institute, teaching learning environment, student and faculty quality and infrastructure. Feedback from prospective employers and current employers of the 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) finalize the PEOs and submits to Academic Council.

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

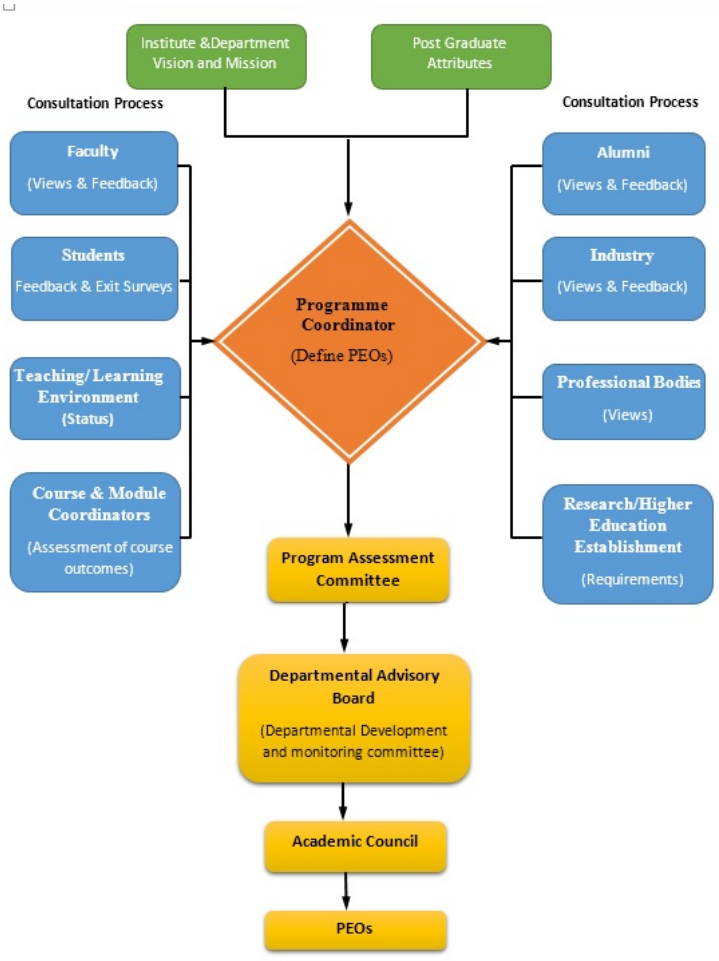

Figure 2: The process of establishing PEOs

1.2.5 Establish consistency of the PEOs with the Mission of the institute (4) Institute Marks : 4.00

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

The PEOs are consistent with the Mission of Department as described by mapping wherein it gives evidence on the agreement between Mission and the Mechanical Program Educational Objectives. The Mechanical-PEOs reflect the expected accomplishments of the post graduates a few years after their post-graduation. These objectives are consistent with the Mission statement as is evident from the statement above

By educating students in MTech (Design for Manufacturing), 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.

PEOs	Mission of Program		
	Quality Education	Create, explore and innovations	Entrepreneurial and Managerial Skills
Post Graduates will be able to develop scientific and engineering temperament so as to comprehend, analyze, design and create novel products and solutions for the real life problems and to become entrepreneur.	X	X	X
Post Graduates will be able to develop professional and ethical responsibility, effective communication skills, teamwork, multidisciplinary approach, and life-long learning needed for a successful professional career.	X	X	X
Post Graduates will be able to gain required skills to be employed in jobs related to designing, modeling, analyzing, and managing modern complex systems, implementing and improving systems in manufacturing sectors at local, regional, national and global levels.	X	X	X

1.3 Achievement of Programme Educational Objectives (20) — Total Marks : 20.00

1.3.1 Justify the academic factors involved in achievement of the PEOs (10) — Institute Marks : 10.00

(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 manufacturing, Computer aided design, precision 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 departments. These committees play main role to frame the curriculum.
3. Student participation in Internship programmes and Major Projects.
4. By conducting continuing education and professional development programmes for the faculty.
5. By effective monitoring of all systems and processes including the feedback.
6. By providing budgetary resources and modern infrastructure.
7. By developing and maintaining quality in instructions.
8. By collaborating with leading institutions, professional bodies and industries.
9. By effectively employing appropriate technologies to enhance instructions and student learning.

1.3.2 Explain how administrative system helps in ensuring the Achievement of the PEOs (10) — Institute Marks : 10.00

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

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

1. **Course Coordinator:** Faculty who teaches common 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 (PAC)
3. Board of Studies (Programme Assessment Committee)
4. Departmental Development and Monitoring Committee (Departmental Advisory Board)
5. Academic Council

Committee	Chair	Members	Responsibilities
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.
Programme Assessment Committee (PAC)	Programme Coordinator	1. Module Coordinators 2. Faculty of a particular course 3. Class coordinator	1. To monitor feed backs from stake holders and taking action thereafter on academic matters 2. To monitor assessment and attainment of COs, POs and PEOs. 3. Evaluate Programme effectiveness and propose necessary changes for continuous improvement. 4. Motivate faculty and students to attend workshops, developing projects, working models, paper publications and research. 5. Interact with Students, faculties, Programme coordinator, Module coordinators, and external stake holders in facilitating PEOs. 6. The reportis submitted to the department development & Monitoring comunity Committee Scheduled Meetings: Two times a semester or as and when needed.
Board of Studies	Programme Coordinator (Head of the Department)	1. All teaching faculty of each course/ specialization offered. 2. Two external experts in the programme 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. 5. Not more than two persons to be co-opted for their expert knowledge including those belonging to concerned profession or industry. 6. One post-graduate meritorious alumni nominated by the Principal. 7. 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.	1. To prepare, frame and modify the syllabi for 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. Coordinate research, teaching, extension and other academic activities in the department / college. 5. to Review implimentation of institutional quality assurence in the department for improving program. 6. Guding and evaluing POs and Cos baed on assesments
Departmental Development		1. All faculty are members- one among them will	1. To formalize the departmental vision and mission. 2. Delibrates on th report of program assesment committee (PAC) and future Issues. 3. To plan and monitor the growth of programmes of the

and Monitoring Committee (DDMC) (Departmental Advisory Board)	Head of the Department	act as Secretary, 2. Members may be co-opted from other programmes, University and industry as per requirement	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.
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. Three 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 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 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. 4. To recommend proposals of institution for new programmes of study to the Governing Body. 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 (35) — Total Marks : 35.00

1.4.1 Indicate tools and processes used in assessment of the attainment of the PEOs (5) — Institute Marks : 5.00

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) 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;

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 recruits
6		Industry Survey	Leading industry in the domain of particular programme

PEOs (Program Educational Objectives) relate to the career and professional accomplishments of students after their post-graduate from the program. Consequently, assessment and evaluation of the objectives requires assessment tools that can be applied after post-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.

DFM Program Educational Objectives	Assessment Tools & Performance Criteria	Process Used in assessment		Documentation
		Assessment Cycle	Evaluation Cycle	
PEO1: Post Graduates will be able to develop scientific and engineering temperament so as to comprehend, analyze, design and create novel products and solutions for the real life problems and to become entrepreneur..	Placement: 70% of ME graduates are currently employed in leading Industries	Every year	Every year	Department & Institute
	Alumni Survey: ME Alumni rate the overall quality of educational experience as well as gives the insight for improving the program.	Every year	Every year	Department & Institute
PEO2: Post Graduates will be able to develop professional and ethical responsibility, effective communication skills, teamwork, multidisciplinary approach, and life-long learning needed for a successful professional career.	Mid Examinations, Quizzicals & viva: Written mid examinations are clearly linked to learning objectives.	Twice in a semester	Every semester	Department
	End Semester Examination: These help in assessing the overall development of the students, which directly link to attainment of PEOs.	Every Semester	Every Semester	Department & Institute
PEO3: Post Graduates will be able to gain required skills to be employed in jobs related to designing, modeling, analyzing, and managing modern complex systems, implementing and improving systems in manufacturing sectors at local, regional, national and global levels.	Alumni Surveys: Alumni's are asked to rate the quality of preparation to demonstrate abilities which they feel needed by under graduate.	Every year	Every year	Department & Institute
	Employer Survey 70% of ME employers responding to the Employer Survey will indicate they are either very satisfied or satisfied with ME graduates' performance	Every year	Every year	Department & Institute
All PEOs	Board of Studies: will meet annually and provide feedback to improve the quality of the program, also evaluate the senior project design teams.	Every year	Every year	Department

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

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	Major project evaluation	Once in two years	Once in Two 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

a) The expected level of attainment for each of the programme educational objectives;
b) Summaries of the results of the evaluation processes and an analysis illustrating the extent to which each of the programme educational objectives is being attained; and
c) How the results are documented and maintained.

File Name
Surveys
Result Analysis
Minutes of Meetings

We have introduced the Outcome Based Education system in full spirit in GRIET recently. Therefore it will take one academic year 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 guide line are given, however the attainment of PEO's are commenced 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.

PEO	Assessment	Good	Average	Below Average	Attainment
PEO 1 Post Graduates	Performance	Above 70% distinctions	40-70% with distinctions	Below 40% with	Above 70% distinctions

will be able to develop scientific and engineering temperament so as to comprehend, analyze, design and create novel products and solutions for the real life problems and to become entrepreneur. .				distinctions	
	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 their training.	50-70% satisfied their training.	Below 50% satisfied 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
PEO 2 Post Graduates will be able to develop professional and ethical responsibility, effective communication skills, teamwork, multidisciplinary approach, and life-long learning needed for a successful professional career**.**	Alumni Survey	Above 60% graduates are in application development.	40-60% graduates are in application development	Below 40% graduates are in bench waiting for task	Above 65% are in development tasks
	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
PEO3: Post Graduates will be able to gain required skills to be employed in jobs related to designing, modeling, analyzing, and managing modern complex systems, implementing and improving systems in manufacturing sectors at local, regional, national and global levels.	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
	Alumni Survey	Above 80% graduates working in large teams	50-80% graduates working in large teams	Below 50% graduates working in large teams	Above 85% graduates working large teams
	Employer Survey	Above 85% of graduates posses good communication abilities	70-85% of graduates posses good communication abilities	Below 75% of graduates posses good communication abilities	Above 90% of graduates posses good communication abilities

1.5 Indicate how the PEOs have been redefining in the past (5)

Total Marks : 5.00

Institute Marks : 5.00

(Articulate with rationale how the results of the evaluation of the 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. We have defined PEOs based on the vision and mission of institution and the department. the curriculum is developed based on these PEOs used 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. We have a system to review the results of the evaluation of our outcome based education system at the end of each academic year.

For redefining PEOs, exit students survey, professional bodies view, alumni survey, employer survey and feedback are collected by programme coordinator. These are reviewed and redefined PEO's are drafted by PAC. The same is finalized by the DAB (DDMC).Then the proposed PEO's are ratified by academic council.

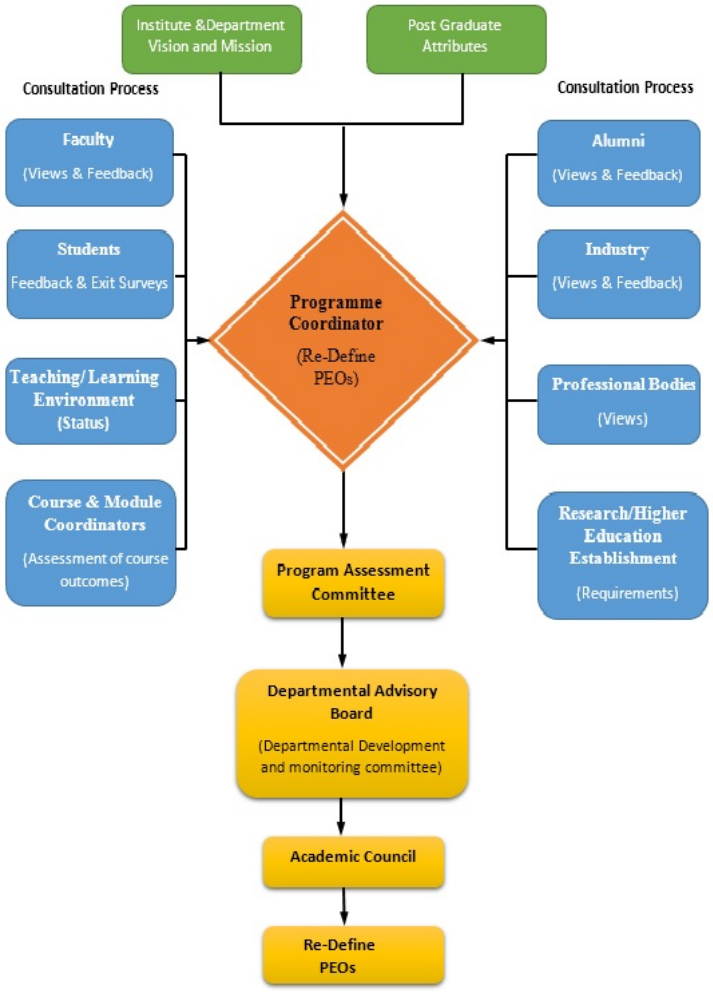

Figure 3: Redefining of Programme Educational Objectives

2 Programme Outcomes (250) **Total Marks : 250.00**

2.1 Definition and Validation of Course Outcomes and Programme Outcomes (20) **Total Marks : 20.00**

2.1.1 List the Course Outcomes(COs) and Programme Outcomes (POs) (1) Institute Marks : 1.00

(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 M.Tech (Design and Manufacturing)

Course Code	Course Title	Course Outcomes
I year I sem		
GR14D5109	Advanced Mechanics of Solids	• 28TTo analyze solid mechanics problems using classical methods and energy methods • 28TTo apply various failure criteria for general stress states at points of various cross sections of beams. • 28TAbility to apply the principles of solid mechanics to solve engineering problems and to design system or components to meet desire needs. • 28TStudents will able to apply the knowledge of solid mechanics fundamentals in engineering structures practically. • 28TIdentify an appropriate structural system to study a given problem and isolate it's from environment.
		• Students gain knowledge of advanced materials and will be able to select the right material for

		various engineering applications.
GR14D5110	Materials Technology	• Students will able to understand the strengths of different materials i.e. how to use, where to use and when to use a particulate material. • To give exposure to modern advanced materials. • Students will able to tackle any problems related to selection of materials • Students will get through knowledge on real time application.
GR14D5111	Precision Engineering	• Students gain knowledge of application in representation of geometric dimensions, tolerances, and analysis of surface finish. • Students gain knowledge of application nanotechnology for attaining accuracy. • Students will able to prepare tolerance work sheets and calculate process capabilities. • Students will able to provide perfect data to the work piece for attaining good accuracy. • Students will able to work on metrology equipment like CMM, Laser alignment for inspection and testing.
GR14D5112	Design for Manufacturing and Assembly	• Understand constraints of manufacturing processes that limit design possibilities with respect to cycle time, material handling, and other factory costs. • Apply quantitative methods to assess DFA between different designs. • Apply principles of DFA to increase manufacturing efficiency in assembly processes. • Distinguish poor practices from robust design practices for discussed processes. • Prepare project or report to illustrate applied DFM principles per an example from industry. • Optimize the existing design.
GR14D5113	Special Manufacturing Processes	• An ability to select and the knowledge, technique, skills and modern tools of the discipline, special manufacturing activities. • An ability to communicate effectively with industry person by developing a new manufacturing process with existing equipment • An ability to recommend cost effective material options based upon learning special manufacturing process. • An ability to prepare for productive professionals which includes into leaderships, teamwork and innovation. • An ability to recommend appropriate part manufacturing process, when provided a set of functional requirement and product development constraints given by the customer.
GR14D5114	Finite Element Applications in Manufacturing	• Students will be able to use the FE applications in manufacturing. • Students will able to impart knowledge in analysis of structural problems. • Students will able to analyze heat transfer problems and regeneration process. • Students will able to analyze structures like bar, beam truss and frames. • Students will able to analyze Eigen Value problems. • Students will able use FEA package like ANSYS, NASTRAN, HYPERMESH, ABACUS and DELMIA effectively.
GR14D5115	Quality Engineering in Manufacturing	• Students will be able to apply quality engineering in manufacturing. • Students will able to take decision to enhance the quality by analyzing and implementing the data. • Students will able to reduce the defects in manufacturing by adopting quality standards and policies. • Students will be convergent in design

		applications and quality check tests.
GR14D5116	Advanced CAD	• Students develop an understanding of the basic principles underlying computer aided tools used in engineering. • Students develop awareness in the application of CAD in the context of developing engineering products. • Students can develop awareness in CAD/CAM exchange formats. • Students can develop awareness regarding preprocessing and post processing of FEM applications. • Students will able to apply collaborative engineering principles in industry or organization. • Students will able to produce end user components designed from CAD system. • Students can able to develop a CAD model, import the model for FEM analysis and generate the output data.
GR14D5117	Mechatronics	• Students will be able to design a Mechatronics system such as pick and place robot, car park barriers, car engine management and bar code reader. • Students gain knowledge on CMM and CNC programming. • Students will have a deep understanding on various sensors used for different applications. • Students will be able to program microprocessors for project oriented applications. • Students able to use PLC kit by PLC program.
GR14D5118	Theory of Elasticity & Plasticity	• Students will have a deep understanding of plasticity theories and will be able to summarize and compare and explain them. • Students will have a deep understanding of the resolution methods of elastic and plastic problems. • Students will be able to apply the resolution methods to classical problems of plasticity theory. • Students will be exposed to real time experimental and theoretical data processing for plasto elastic failures.
GR14D5119	Manufacturing Simulation & Precision Engineering Lab	• Students will be able to use Flexsim tool to reduce the unnecessary costs to increase productivity. • Students will be able to use PLC and Microcontroller programming skills for project related applications. • Students will able to use optimization techniques in shop floor layouts in increasing the productivity. • Students will able to create new machine layouts by studying the existing layouts. • Students will able to use apply various program on robots for efficient material handling.
GR14D5175	Seminar-I	• Students will able to give a seminar on fundamentals of solid mechanics • Students will able to give a seminar on advanced materials. • Students will able to demonstrate on inspection Instruments like CMM, Scanning Laser beam. • Students will be able to present a seminar on some special manufacturing process like Plasma Arc Welding, Laser beam machining, and EDM wire cut machining. • Students will able to demonstrate on analysis of a component using ANSYS. • Students will able to give seminar on CNC programming taking a case study.
I year II sem		
		• Students will have a deep understanding of design hydraulic and pneumatic circuits.

GR14D5120	Design of Hydraulics and Pneumatics Systems	• Students will have a deep understanding of Design and understand the electro-hydraulic and electro-pneumatic circuits. • Students will be able to design the actuators and valves in hydraulics and pneumatics.
GR14D5121	Total Quality Management	• Students will be familiarized with the concepts advocated by quality gurus. • Students will get familiarized with the importance of customer focus in an organization. • Students will get familiarized with tools involved in improving productivity. • Students will able to analyze and relate the customer factors with quality. • Students will able the product/process quality and an attempt re-engineering to improve quality.
GR14D5122	Computer Aided Manufacturing	• Students will be able to understand functioning and programming of CNC machines. • Students will be able to use micro controllers, PLC's to design different applications. • Students will be able to understand structure of different expert systems employed in industries. • Students will be able to understand the design of postprocessor/controller for any CNC machine. • Students will be able understand the computer aided methods for inspection and control. • Students will be able to use CAM softwares like MASTER CAM, ESPIRIT CAM for automatic generation of CNC code.
GR14D5123	Design and Manufacturing of MEMS and Micro Systems	• Students will be able to understand working principles of currently available micro sensors, actuators, motors, valves, pumps and fluids used in Microsystems. • Students will be able to use materials for common micro components and devices. • Students will be able to choose a micromachining technique for a specific MEMS fabrication process. • Students will be able to understand the basic principles and applications of micro fabrication processes. • Students will be able to emphasis on real world applications of the technology, industry expectations and research opportunities
GR14D5124	Industrial Robotics	• Students will gain knowledge in design of robots applicable to industries. • Students will have deep understood on programming a robot. • Students will be able to know various motion control techniques in robot. • Students got familiar with the concepts of robot cell design. • Students will be able to develop an understanding of the basic principles on image processing and image analysis.
GR14D5125	Tool Design	• The student should be able to design a tool for increasing the production rate and reducing the overall manufacturing cost. • The designed tools should be of good quality so that the parts are produced with precision. • The student should be able to design the correct die for the required operation. • The designed tools should be safe and easy to operate. • Students will be able to select the right tool material for making dies depending upon the tonnage required for the particular operation.
		• Students will be able to demonstrate an awareness and an appreciation of the

GR14D5126	Production and Operations Management	importance of the operations and supply management to the sustainability of an enterprise. • Students will be able to demonstrate a basic understanding of project management. • Students will be able to demonstrate an awareness of the importance of facility layouts. • Students will be able to explain the importance of quality control. • Students will be able to understand the various production activities. • Students will be able to prepare aggregate plans, scheduling, BOM.
GR14D5127	Performance modeling and Analysis of Manufacturing Systems	• Students will be able to demonstrate how Kanban system is modeled in industry. • Students will be able to demonstrate a basic understanding of network models employed in manufacturing industry. • Students will be able to understand the automated manufacturing systems. • Students will be able to analyze the manufacturing systems as DTMCS, CTMCS. • Students will be able to apply queuing models to analyze the performance of automated manufacturing systems.
GR14D5128	Computational Fluid Dynamics	• To develop an understanding for the major theories, approaches and methodologies usedin CFD; • To build up the skills in the actual implementation of CFD methods (e.g. boundary conditions, turbulence modelling etc.) in using commercial CFD codes; • To gain experience in the application of CFD analysis to real engineering designs. • Understand and apply the grid generation techniques for solving flow problems.
GR14D5129	Automation in Manufacturing	• develop an understanding for the major automation theories, approaches and methodologies used in manufacturing; • build up the skills in the actual implementation of automation methods • Students can expose on communications system used in automation. • Students can develop and implement automation system in machining process. • Students will be able to understand the concepts of automated guided vehicles.
GR14D5130	CAD/CAM Lab	• Students should be able to work on CAM software to generate NC programming, robotic simulation, various reports etc., • Features and Selection of CNC turning and milling centers. • Practice input programming and operation of CNC turning machines, subroutine techniques and use of cycles. • Practice in part programming and operating a machining center, tool planning and selection of sequences of operations, tool setting on machine, • Practice in APT based NC Programming. • Practice in Robot programming and its languages. Robotic simulation using software Robo path control, • Preparation of various reports and route sheets, Simulation of manufacturing systems using CAM software, controller operation system commands.
GR14D5176	Seminar-II	• Students will be able to give a presentation on design the actuators and valves in hydraulics and pneumatics. • Students will be able to present management skills in improving productivity. • Students will be able to give a presentation of a CAM software. • Students will be able to explain the fabrication of MEMS, NEMS and micromachining. • Students will able to present a program on

		simulation Robot path. • Students will be able to present a paper published in journal/conference.
II year I sem		
GR14D5177	Seminar-III	• To test the knowledge of a student in the project they have done. • Makes him to go through the fundamentals. • It helps to students to improve presentation skills including preparation with audio-visual aid. • It builds up confidence in students. • It improves public speaking skills and listening comprehension
GR14D5178	Comprehensive viva	• Through into the subject and the project • Improves technically. • Builds technical confidence. • Improves communication • Helps to recap the knowledge gained through years of study.
GR14D5179	Project work	• The students will be in position to put their ideas and thoughts into practice to realize a product. • The students may also go for the patent rights for their projects. • It also helps the students to prepare technical presentation in the journals. • It helps in developing organizational qualities /skills and group working/participation. • Prepare students for technical deliberations
II year II sem		
GR14D5180	Project work and dissertation	• Students will be able give seminar on their project work. • Students will be able to demonstrate the products developed. • Students will be able show their project work dissertation in interviews • Students will be able explain their project work in interviews effectively.

Program Outcomes

Based on the **Mechanical Engineering** department's educational objectives, students will achieve the following specific **Program Outcomes**

a. Ability to apply knowledge of mathematics, science, and engineering. (Knowledge of fundamentals/ principles)
b. Ability to design and conduct experiments, as well as to analyze and interpret data. (Experimentation and Interpret/ Engineering analysis)
c. Ability to design a system, component, or process to meet desired needs in Mechanical Engineering within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability. (Design and Modeling)
d. Ability to function on multi-disciplinary teams. (Team work)
e. Ability to identify, formulate and solve engineering problems. (Problem Solving)
f. Understanding of professional and ethical responsibility. (Professional Ethics)
g. Ability to communicate effectively. (Communication)
h. Broad education necessary to understand the impact of engineering solutions in a global, economic, environmental and societal context. (Engineering solutions/ Technology awareness)
i. Recognition of the need for, and an ability to engage in life-long learning. (Life-long learning)
j. Knowledge of contemporary issues. (Contemporary issues, Non-technical issues, global awareness)
k. Ability to use the techniques, skills and modern mechanical Engineering tools necessary for the Mechanical Engineering Practice. (Engineering Practice).
l. Post-Graduates will able to acquire skills for employment in Mechanical Design, Manufacturing related industries and higher education

2.1.2 State how and where the POs are published and disseminated (1) Institute Marks : 1.00

(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 etc. Presently POs are published and disseminated through the following methods:

Print Media: Departmental Brochure/Booklets, Academic regulation books, and Course Registers.

Electronic Media: College/Departmental Website, Display Monitors.

Display Boards: Institute/Department/Lab Notice Boards.

Direct Communication: Orientation programmes to fresher's/parents, Induction programmes to staff members.

2.1.3 Indicate processes employed for defining of the POs (3) Institute Marks : 3.00

(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 the 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.

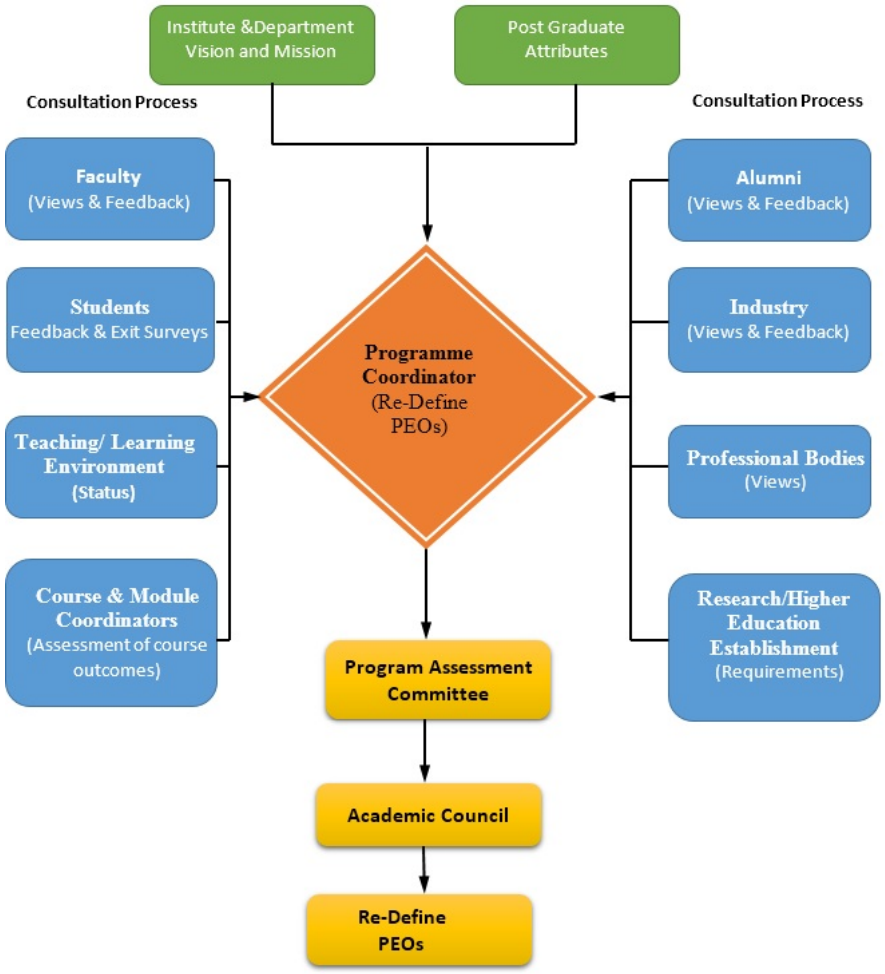

Figure 4

Figure 4. Process for Defining POs

2.1.4 Indicate how the defined POs are aligned to the Graduate Attributes prescribed by the NBA (7) Institute Marks : 7.00

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

- Engineering knowledge
- Problem analysis
- Design/Development of solutions
- 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											

Problem Analysis		X									
Design/Development of Solutions			X								
Conduct investigations of complex problems				X							
Modern Tool Usage										X	X
The engineer and society			X								X
Environment and Sustainability			X				X				
Ethics					X						
Individual and Teamwork				X							
Communication						X					
Project Management and Finance									X		
Life Long Learning								X			

2.1.5 Establish the correlation between the POs and the PEOs (8) Institute Marks : 8.00

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

Program Educational Objective(PEO)	Program Outcomes(PO)
1. Post Graduates will be able to develop scientific and engineering temperament so as to comprehend, analyze, design and create novel products and solutions for the real life problems and to become entrepreneur	a. Ability to apply knowledge of mathematics, science, and engineering. b. Ability to design and conduct experiments, as well as to analyze and interpret data. c. Ability to design a system, component, or process to meet desired needs in Mechanical Engineering within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability. d. Ability to function on multi-disciplinary teams. e. Ability to identify, formulate and solve engineering problems. j. Knowledge of contemporary issues. l. Post-Graduates will able to acquire skills for employment in Mechanical Design, Manufacturing related industries and higher education.
2. Post Graduates will be able to develop professional and ethical responsibility, effective communication skills, teamwork, multidisciplinary approach, and life-long learning needed for a successful professional career.	f. Understanding of professional and ethical responsibility. g. Ability to communicate effectively. d. Ability to function on multi-disciplinary teams. i. Recognition of the need for, and an ability to engage in life-long learning. k. Ability to use the techniques, skills and modern mechanical Engineering tools necessary for the Mechanical Engineering Practice.
3. Post Graduates will be able to gain required skills to be employed in jobs related to designing, modeling, analyzing, and managing modern complex systems, implementing and improving systems in manufacturing sectors at local, regional, national and global levels	h. Broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context. b. An ability to design and conduct experiments, as well as to analyze and interpret data. c. Ability to design a system, component, or process to meet desired needs in Mechanical Engineering within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability. j. Knowledge of contemporary issues. k. Ability to use the techniques, skills and modern mechanical Engineering tools necessary for the Mechanical Engineering Practice l. Post-Graduates will able to acquire skills for employment in Mechanical Design, Manufacturing related industries and higher education

2.2 Attainment of Programme Outcomes (75)

Total Marks : 75.00

2.2.1 Illustrate how course outcomes contribute to the POs (5)

Institute Marks : 5.00

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

Code	Subject	Course Outcomes	Programme Outcomes											
			a	b	c	d	e	f	g	h	i	j	k	l
I year I sem														
GR14D5109	Advanced Mechanics of Solids	28TTo analyze solid mechanics problems using classical methods and energy methods	H			M					M		H	H
		28TTo apply various failure criteria for general stress states at points of various cross sections of beams.	M			M					M		H	M
		28TAbility to apply the principles of solid mechanics to solve engineering problems and to design system or components to meet desire needs.	H			M					M		M	M
		28TStudents will able to apply the knowledge of solid mechanics fundamentals in engineering structures practically.	H			M							H	M
		28TIdentify an appropriate structural system to study a given problem and isolate it's from environment.	M								H		H	M
GR14D5110	Materials Technology	Students gain knowledge of advanced materials and will be able to select the right material for various engineering applications.	M	M	H		H						H	
		Students will able to understand the strengths of different materials i.e. how to use, where to use and when to use a particulate material.	M	M	H		H							
		To give exposure to modern advanced materials.	H		M		H						H	M
		Students will able to tackle any problems related to selection of materials	H	M			M							M
		Students will get through knowledge on real time application.	M										H	M
		Students gain knowledge of application in representation of geometric dimensions, tolerances, and analysis of surface finish.	H	M	M		H						H	

GR14D5111	Precision Engineering	Students gain knowledge of application nanotechnology for attaining accuracy.	M		M	H	M	M			M	M		M
		Students will able to prepare tolerance work sheets and calculate process capabilities.	H		M	H		M			M	H		M
		Students will able to provide perfect data to the work piece for attaining good accuracy.	M		M	H	M	M			M	M		M
		Students will able to work on metrology equipment like CMM, Laser alignment for inspection and testing.	M		H	H	M				M	M		H
GR14D5112	Design for Manufacturing and Assembly	Upon completion of this course, students will be able to: Understand constraints of manufacturing processes that limit design possibilities with respect to cycle time, material handling, and other factory costs.	M		M	H	M	M			M	M		M
		Apply quantitative methods to assess DFA between different designs.	H		M	H		M			M	H		M
		Apply principles of DFA to increase manufacturing efficiency in assembly processes.	M	M	H		H						M	H
		Distinguish poor practices from robust design practices for discussed processes.	H		H		H						M	H
		Prepare project or report to illustrate applied DFM principles per an example from industry.	M	M	H		H						M	H
		Optimize the existing design.	M	H	M		H						M	H
GR14D5113	Special Manufacturing Processes	An ability to select and the knowledge, technique, skills and modern tools of the discipline, special manufacturing activities.	M	M	H		H						M	H
		An ability to communicate effectively with industry person by developing a new manufacturing process with existing equipment	H	H	M	M	H						M	H
		An ability to recommend cost effective material options based upon learning special manufacturing process.	H		M	H	H						M	H
		An ability to prepare for productive professionals which includes into leaderships, teamwork and innovation.	H	H	M	M	H						M	H
		An ability to recommend appropriate part manufacturing process, when provided a set of functional requirement and product development constraints given by the customer.	M	H	H	M	H						H	M
GR14D5114	Finite Element Applications in Manufacturing	Students will be able to use the FE applications in manufacturing.												
		Students will able to impart knowledge in analysis of structural problems.	M			M					M		H	M
		Students will able to analyze heat transfer problems and regeneration process.	M			M					M		H	M
		Students will able to analyze structures like bar, beam truss and frames.	M			H					M		H	M
		Students will able to analyze Eigen Value problems.	M			M					M		H	M
		Students will able use FEA												

		package like ANSYS, NASTRAN, HYPERMESH, ABACUS and DELMIA effectively.	M								H		M	M
GR14D5115	Quality Engineering in Manufacturing	Students will be able to apply quality engineering in manufacturing.	M			M					M		H	M
		Students will able to take decision to enhance the quality by analyzing and implementing the data.	H			M					H		H	M
		Students will able to reduce the defects in manufacturing by adopting quality standards and policies.	M			M					M		H	M
		Students will be convergent in design applications and quality check tests.	M			H					M		H	M
GR14D5116	Advanced CAD	Students develop an understanding of the basic principles underlying computer aided tools used in engineering.	M			M					M		H	M
		Students develop awareness in the application of CAD in the context of developing engineering products.	M			M					H		M	M
		Students can develop awareness in CAD/CAM exchange formats.	H				H			M				
		Students can develop awareness regarding preprocessing and post processing of FEM applications.								M			M	
		Students will able to apply collaborative engineering principles in industry or organization.	H	H	M	M	H			M			M	
		Students will able to produce end user components designed from CAD system.	H	M		M	H			H			M	
		Students can able to develop a CAD model, import the model for FEM analysis and generate the output data.	H	H	M	M	H			M			M	
GR14D5117	Mechatronics	Students will be able to design a Mechatronics system such as pick and place robot, car park barriers, car engine management and bar code reader.	M	H	M	M	H			M			M	
		Students gain knowledge on CMM and CNC programming.	M		H			H		H				
		Students will have a deep understanding on various sensors used for different applications.	H		H			M		H				
		Students will be able to program microprocessors for project oriented applications.	M		H			H		H				
		Students able to use PLC kit by PLC program.	M		H			M		H				
GR14D5118	Theory of Elasticity & Plasticity	Students will have a deep understanding of plasticity theories and will be able to summarize and compare and explain them.	M		H			H		H				
		Students will have a deep understanding of the resolution methods of elastic and plastic problems.	H		H			M		H				
		Students will be able to apply the resolution methods to classical problems of plasticity theory.	M		H			H		H				

		Students will be exposed to real time experimental and theoretical data processing for plasto elastic failures.	M	H	H					M	M		M	H
GR14D5119	Manufacturing Simulation & Precision Engineering Lab	Students will be able to use Flexsim tool to reduce the unnecessary costs to increase productivity.	M	H	H					M	M		M	H
		Students will be able to use PLC and Microcontroller programming skills for project related applications.	M	H	H					M	M		M	H
		Students will able to use optimization techniques in shop floor layouts in increasing the productivity.		H	H						H		H	H
		Students will able to create new machine layouts by studying the existing layouts.		H	H						H		H	H
		Students will able to use apply various program on robots for efficient material handling.		H	H						H		H	H
GR14D5175	Seminar-I	Students will able to give a seminar on fundamentals of solid mechanics	M	M	H	M							M	H
		Students will able to give a seminar on advanced materials.	M	H		M							H	M
		Students will able to demonstrate on inspection Instruments like CMM, Scanning Laser beam.	M	M	H	M							M	H
		Students will be able to present a seminar on some special manufacturing process like Plasma Arc Welding, Laser beam machining, and EDM wire cut machining.	H	M	H								M	H
		Students will able to demonstrate on analysis of a component using ANSYS.	M	M	H	M							M	H
I year II sem														
GR14D5120	Design of Hydraulics and Pneumatics Systems	Students will have a deep understanding of design hydraulic and pneumatic circuits.	H		M		M			M			M	H
		Students will have a deep understanding of Design and understand the electro-hydraulic and electro-pneumatic circuits.	H	H	M		M			M			H	M
		Students will be able to design the actuators and valves in hydraulics and pneumatics.	H		M		M			M			M	H
GR14D5121	Total Quality Management	Students will be familiarized with the concepts advocated by quality gurus.	H	H	M		M			M			M	H
		Students will get familiarized with the importance of customer focus in an organization.	M	H			M			M			H	M
		Students will get familiarized with tools involved in improving productivity.				H			H	M				M
		Students will able to analyze and relate the customer factors with quality.				H			H					M
		Students will able the product/process quality and an attempt re-engineering to improve quality.				H			H	M				M
		Students will be able to understand functioning and programming of CNC machines.				H				M				M
		Students will be able to use micro controllers, PLC's to												

		design different applications.				H			H	M				M
		Students will be able to understand structure of different expert systems employed in industries.				H			H					M
		Students will be able to understand the design of postprocessor/controller for any CNC machine.				M			H	M				M
GR14D5122	Computer Aided Manufacturing	Students will be able understand the computer aided methods for inspection and control.	H	H	M	M		H		H			H	M
		Students will be able to use CAM softwares like MASTER CAM, ESPIRIT CAM for automatic generation of CNC code.	H	M	H		H			M		M	H	H
		Students will be able to understand working principles of currently available micro sensors, actuators, motors, valves, pumps and fluids used in Microsystems.	M		H		M			M			M	H
		Students will be able to use materials for common micro components and devices.	M		H	H	M			M			M	H
GR14D5123	Design and Manufacturing of MEMS and Micro Systems	Students will be able to choose a micromachining technique for a specific MEMS fabrication process.		H	M		H			H		M		H
		Students will be able to understand the basic principles and applications of micro fabrication processes.	H		H	M	H			M		H	H	
		Students will be able to emphasis on real world applications of the technology, industry expectations and research opportunities	H	H	M	M	H			M			M	H
		Students will gain knowledge in design of robots applicable to industries.	H	M		M	H			H			M	H
		Students will have deep understood on programming a robot.	H	H	M	M	H			M			H	M
		Students will be able to know various motion control techniques in robot.	M	H	M	M	H			M			M	H
		Students got familiar with the concepts of robot cell design.	H	M	H	M	H			M			M	H
GR14D5124	Industrial Robotics	Students will be able to develop an understanding of the basic principles on image processing and image analysis.	H	H	M	M	H			M			H	M
		The student should be able to design a tool for increasing the production rate and reducing the overall manufacturing cost.								H			H	H
		The designed tools should be of good quality so that the parts are produced with precision.								H			H	H
		The student should be able to design the correct die for the required operation.								H			H	H
GR14D5125	Tool Design	The designed tools should be safe and easy to operate.						H		H			H	H
		Students will be able to select the right tool material												

		for making dies depending upon the tonnage required for the particular operation.						H		H			H	H
GR14D5126	Production and Operations Management	Students will be able to demonstrate an awareness and an appreciation of the importance of the operations and supply management to the sustainability of an enterprise.	H			M					M		H	H
		Students will be able to demonstrate a basic understanding of project management.	M			M					M		H	M
		Students will be able to demonstrate an awareness of the importance of facility layouts.	H			M					M		M	M
		Students will be able to explain the importance of quality control.	H			M							H	M
		Students will be able to understand the various production activities.	M								H		H	M
		Students will be able to prepare aggregate plans, scheduling, BOM.	M	M	H		H						H	
GR14D5127	Performance modeling and Analysis of Manufacturing Systems	Students will be able to demonstrate how Kanban system is modeled in industry.	M	M	H		H							
		Students will be able to demonstrate a basic understanding of network models employed in manufacturing industry.	H		M		H						H	M
		Students will be able to understand the automated manufacturing systems.	H	M			M							M
		Students will be able to analyze the manufacturing systems as DTMCS, CTMCS.	M										H	M
		Students will be able to apply queuing models to analyze the performance of automated manufacturing systems.	H	M	M		H						H	
GR14D5128	Computational Fluid Dynamics	To develop an understanding for the major theories, approaches and methodologies used in CFD;	M		M	H	M	M			M	M		M
		To build up the skills in the actual implementation of CFD methods (e.g. boundary conditions, turbulence modelling etc.) in using commercial CFD codes;	H		M	H		M			M	H		M
		To gain experience in the application of CFD analysis	M		M	H	M	M			M	M		M

		to real engineering designs.												
		Understand and apply the grid generation techniques for solving flow problems.	M		H	H	M				M	M		H
GR14D5129	Automation in Manufacturing	develop an understanding for the major automation theories, approaches and methodologies used in manufacturing;	M		M	H	M	M			M	M		M
		build up the skills in the actual implementation of automation methods	H		M	H		M			M	H		M
		Students can expose on communications system used in automation.	M	M	H		H						M	H
		Students can develop and implement automation system in machining process.	H		H		H						M	H
		Students will be able to understand the concepts of automated guided vehicles.	M	M	H		H						M	H
GR14D5130	CAD/CAM Lab	Students should be able to work on CAM software to generate NC programming, robotic simulation, various reports etc.,	M	H	M		H						M	H
		Features and Selection of CNC turning and milling centers.	M	M	H		H						M	H
		Practice input programming and operation of CNC turning machines, subroutine techniques and use of cycles.	H	H	M	M	H						M	H
		Practice in part programming and operating a machining center, tool planning and selection of sequences of operations, tool setting on machine,	H		M	H	H						M	H
		Practice in APT based NC Programming.	H	H	M	M	H						M	H
		Practice in Robot programming and its languages. Robotic simulation using software Robo path control,	M	H	H	M	H						H	M
		Preparation of various reports and route sheets, Simulation of manufacturing systems using CAM software, controller operation system commands.												
GR14D5176	Seminar-II	Students will be able to give a presentation on design the actuators and valves in hydraulics and pneumatics.	M			M					M		H	M
		Students will be able to present management skills in improving productivity.	M			M					M		H	M
		Students will be able to give a presentation of a CAM software.	M			H					M		H	M
		Students will be able to explain the fabrication of MEMS, NEMS and micromachining.	M			M					M		H	M
		Students will able to present a program on simulation Robot path.	M								H		M	M
		Students will be able to present a paper published in journal/conference.	M			M					M		H	M
II year I sem														
		To test the knowledge of a student in the project they have done.	M			M					M		H	M
		Makes him to go through the fundamentals.	M			H					M		H	M

GR14D5177	Seminar-III	It helps to students to improve presentation skills including preparation with audio-visual aid.	M			M					M		H	M
		It builds up confidence in students.	M			M					H		M	M
GR14D5178	Comprehensive viva	Through into the subject and the project	H				H			M				
		Improves technically.								M			M	
		Builds technical confidence.	H	H	M	M	H			M			M	
		Improves communication	H	M		M	H			H			M	
		Helps to recap the knowledge gained through years of study.	H	H	M	M	H			M			M	
GR14D5179	Project work	The students will be in position to put their ideas and thoughts into practice to realize a product.	M	H	M	M	H			M			M	
		The students may also go for the patent rights for their projects.	M		H			H		H				
		It also helps the students to prepare technical presentation in the journals.	H		H			M		H				
		It helps in developing organizational qualities /skills and group working/participation.	M		H			H		H				
		Prepare students for technical deliberations	M		H			M		H				
II year II sem														
GR14D5180	Project work and dissertation	Students will be able give seminar on their project work.	H		H			M		H				
		Students will be able to demonstrate the products developed.	M		H			H		H				
		Students will be able show their project work dissertation in interviews	M	H	H					M	M		M	H
		Students will be able explain their project work in interviews effectively.	M	H	H					M	M		M	H

2.2.2 Explain how modes of delivery of courses help in attainment of the POs (5) Institute Marks : 5.00

(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 POs. This may be further justified using the indirect assessment methods such as course-end surveys.)

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

Lectures/Presentation: These are the effective ways of achieving educational objective and outcomes synchronously. The course objectives and outcomes could not be better achieved without these. Lectures are the best ways to get facts, make students think and get better in their attitudes. These make sure that the ground of the course is covered which improves the ability to design, formulate and solve the problems. Modes of delivery of lectures are PPT presentations and OHP presentations.

Guest Lectures/Expert Lectures: The invitation of guest speakers from various eminent institutes and industries helps the students and faculty to understand the current trends in various courses which leads to attainment of PO's. External resource persons also add value to the program, and help students to realize the link between education and the world outside along with professional responsibilities.

Seminars/Workshops: Department organizes seminars/workshops in topics of current relevance and interest to both students and faculty. These serve as a platform for sharing knowledge/expertise in advanced areas which results in collaborative attempt for further enhancement of the skills, techniques and modern engineering tools necessary for their engineering practice.

Project Work: Mini and a Main Project works in the curriculum gives the practical and analytical exposures of students. They can learn and implement for subjective 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/ experts evaluation and source of inspiration and information for others.

Mentoring and Counseling: Mentoring concepts are integral part of the curriculum. All faculty members play an important role in counseling and motivating the students which helps in augmenting the program. It prepares students adequately for contemporary issues.

Educational/Industrial Tours: Another delivery strategy includes visits and educational/ Industrial tours. Resource centers, work places and others place of interest, help to explore all opportunities that have an impact on students. It allows students to think and make realistic decisions. This has proved successful in career exploration and decision making 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. Students will also be trained to be more curious and able to gather information for them rather than wait to be spoon-fed; it prepares them adequately and allows them to take pride in themselves. Students are prepared to carry out their own research which serves in multiple ways. The documentation of the research benefits the students in their overall development.

E-Resources: Faculty provides course information and peripheral knowledge on the web so that students can asynchronously accept the same.

Attainment of 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			X
Seminars/Workshops		X	X						X	X	X	
Project Work	X								X			X
Road Shows	X		X	X	X	X	X	X	X	X	X	X
Mentoring and Counseling					X	X	X		X	X	X	X
Educational/Industrial Tours	X	X	X				X		X	X	X	
Certification Courses				X		X		X			X	X
Research Projects	X	X	X		X		X		X	X	X	
e-Resources	X					X			X		X	X

2.2.3 Indicate how assessment tools used to assess the impact of delivery of course/course content contribute towards the attainment of course outcomes/programme outcomes (15)

Institute Marks : 15.00

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

1. **mes/programme outcomes (15)**

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

Delivery Methods	Assessment Tools	
	Students Feedback	Students end 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

Note: Point scale of 5 5: Excellent; 4: Good; 3: Satisfactory 2: Poor

2.2.4 Indicate the extent to which the laboratory and project course work are contributing towards attainment of the POs (50) Institute Marks : 50.00

(Justify how the project works/thesis works carried out as part of the programme curriculum contribute towards the attainment of the POs.)

Project Title	Type	PO
Analysis and Fabrication of Butt Joint using friction stir welding	Modeling and Analysis	b, c, e, k, l
Design and Development of Mini EDM	Proto type	a, h, k, l
Manufacture of Bevel helical gear train for a conveyor belt in material handling system.	Manufacturing and Inspection	a, b
Modeling and Analysis of Transformer tank	Design, Experimentation and Analysis	b, c, e, k, l
Design, Modeling and analysis of dynamic load sensor for fatigue testing machine	Design, Experimentation and Analysis	b, c, e, k, l
Experimental investigation on wear behavior of GFRP composite.	Design ,Analysis ,and testing	b, c, e, k, h
Modification of cam cycloid profile with B-Spline.	Design and Manufacturing	b, c, e, k, l
Machinability studies on Aluminum Composite alloys	Manufacturing and Analysis	a, b, c, k, l

2.3 Assessment of the attainment of the Programme Outcomes (125) Total Marks : 125.00

2.3.1 Describe assessment tools and processes used for assessing the attainment of each PO (25) Institute Marks : 25.00

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

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	projects evaluation
8	Indirect	Student Exit Survey	Passing out students
9		Yearly student survey	Students pursuing in respective academic year
10		Alumni Survey	Old batches of the students
11		Employer Survey	Industries which recruits

Assessment of Programme Outcomes by both direct and indirect methods

Direct Assessment			
PO	**Contributing Courses**	**Attainment %**	**Average attainment**
	GR14D5109-Advanced Mechanics of Solids	88.8	

a	GR14D5110-Materials Technology	94.4	90.25
	GR14D5111-Precision Engineering	83.3	
	GR14D5112-Design for Manufacturing and Assembly	92.5	
	GR14D5113-Special Manufacturing Processes	96.2	
	GR14D5116-Advanced CAD Precision Engineering Lab	98.1	
	GR14D5119-Manufacturing Simulation & Precision Engineering Lab	96.2	
	GR14D5120-Design of Hydraulics and Pneumatics Systems	90.7	
	GR14D5121-Total Quality Management	87.0	
	GR14D5122-Computer Aided Manufacturing	85.1	
	GR14D5123-Design and Manufacturing of MEMS and Micro Systems	79.6	
	GR14D5124-Industrial Robotics	81.4	
	GR14D5130-CAD/CAM Lab	100	

Direct Assessment			
PO	**Contributing Courses**	**Attainment %**	**Average attainment**
b	GR14D5119-Manufacturing Simulation & Precision Engineering Lab	98.1	92.52
	GR14D5130-CAD/CAM Lab	92.5	
	GR14D5110-Materials Technology	88.8	
	GR14D5111-Precision Engineering	98.1	
	GR14D5112-Design for Manufacturing and Assembly	96.2	
	GR14D5113-Special Manufacturing Processes	88.8	
	GR14D5116-Advanced CAD	94.4	
	GR14D5122-Computer Aided Manufacturing	83.3	
	GR14D5123-Design and Manufacturing of MEMS and Micro Systems	92.5	
	GR14D5114-Finite Element Applications in Manufacturing		

Direct Assessment			
PO	**Contributing Courses**	**Attainment %**	**Average attainment**
	GR14D5114-Finite Element Applications in Manufacturing in Manufacturing	94.4	
	GR14D5116-Advanced CAD	83.3	

c	GR14D5125-Tool Design	90.7	89.2
	GR14D5123-Design and Manufacturing of MEMS and Micro Systems	87.0	
	GR14D5115-Quality Engineering in Manufacturing	85.1	
	GR14D5126-Production and Operations Management	79.6	
	GR14D5121-Total Quality Management	98.1	
	GR14D5112-Design for Manufacturing and Assembly	95.4	

Direct Assessment			
PO	**Contributing Courses**	**Attainment %**	**Average attainment**
d	GR14D5119-Manufacturing Simulation & Precision Engineering Lab	100	99.28
	GR14D5130-CAD/CAM Lab	100	
	GR14D5175-Seminar-I	98.1	
	GR14D5176-Seminar-II	96.2	
	GR14D5177-Seminar-III	100	
	GR14D5178-Comprehensive viva	100	
	GR14D5179-Project work	100	
	GR14D5180-Project work and dissertation	100	

Direct Assessment			
PO	**Contributing Courses**	**Attainment %**	**Average attainment attainment**
e	GR14D5109-Advanced Mechanics of Solids	96.2	92.0
	GR14D5112-Design for Manufacturing and Assembly	88.8	
	GR14D5114-Finite Element Applications in Manufacturing	94.4	
	GR14D5120-Design of Hydraulics and Pneumatics Systems	90.7	
	GR14D5123-Design and Manufacturing of MEMS and Micro Systems	83.3	
	GR14D5128-Computational Fluid Dynamics	92.5	
	GR14D5125-Tool Design	98.1	

Direct Assessment			
PO	**Contributing Courses**	**Attainment %**	**Average attainment**
f	GR14D5118-Theory of Elasticity & Plasticity	90.7	85.6
	GR14D5115-Quality Engineering in Manufacturing	87.0	

	GR14D5124-Industrial Robotics	85.1	
	GR14D5129-Automation in Manufacturing	79.6	

Direct Assessment			
PO	**Contributing Courses**	**Attainment % %**	**Average attainment**
g	GR14D5175-Seminar-I	96.2	98.57
	GR14D5176-Seminar-II	100	
	GR14D5177-Seminar-III	100	
	GR14D5178-Comprehensive viva	98.1	

Direct Assessment			
PO	**Contributing Courses**	**Attainment % %**	**Average attainment**
h	GR14D5115-Quality Engineering in Manufacturing	100	99.62
	GR14D5126-Production and Operations Management	98.1	
	GR14D5178-Comprehensive viva	100	
	GR14D5179-Project work	100	
	GR14D5180-Project work and dissertation	100	

Direct Assessment			
PO	**Contributing Courses**	**Attainment % %**	**Average attainment**
i	GR14D5114-Finite Element Applications in Manufacturing	87.4	93.17
	GR14D5122-Computer Aided Manufacturing	98.5	
	GR14D5129-Automation in Manufacturing	89.3	
	GR14D5115-Quality Engineering in Manufacturing	97.5	

Direct Assessment			
PO	**Contributing Courses**	**Attainment % %**	**Average attainment**
j	GR14D5117-Mechatronics	88.8	93.47
	GR14D5121-Total Quality Management	94.4	
	GR14D5123-Design and Manufacturing of MEMS and Micro Systems	90.7	
	GR14D5119-Manufacturing Simulation & Precision Engineering Lab	100	

Direct Assessment			
PO	**Contributing Courses**	**Attainment %**	**Average attainment**
k	GR14D5109-Advanced Mechanics of Solids	87.0	91.1
	GR14D5113-Special Manufacturing Processes	90.7	
	GR14D5119-Manufacturing Simulation & Precision Engineering Lab	83.3	
	GR14D5123-Design and Manufacturing of MEMS and Micro Systems	88.8	
	GR14D5124-Industrial Robotics	96.2	
	GR14D5125-Tool Design	98.5	
	GR14D5127-Performance modeling and Analysis of Manufacturing Systems	83.3	
	GR14D5128-Computational Fluid Dynamics	92.5	
	GR14D5129-Automation in Manufacturing	96.2	
	GR14D5130-CAD/CAM Lab	94.4	

Direct Assessment			
PO	**Contributing Courses**	**Attainment %**	**Average attainment**
L	All the core Engineering Laboratories	97.65	95.43
	All the core Engineering Courses	93.21	

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 out comes 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.

ME Program Outcome	Assessment Evidence Source or Tool
a. Ability to apply knowledge of mathematics, science, and engineering.	alumni and other surveys faculty reviews course outcome data, 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.	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 Engineering Advanced Mechanics of Solids , Design for Manufacturing and Assembly, Finite Element Applications in Manufacturing, Computer Aided Manufacturing, Tool Design 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 and analyzed
g. Ability to communicate effectively.	Results of the courses like Seminar-I, Seminar-II Seminar-III and Comprehensive viva 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
• Post-Graduation students will able to acquire skills for employment in Mechanical Design, Manufacturing related industries and higher education.	Results , surveys data, feedback analyzed

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

Frequency of the Assessment Processes

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

2.3.2 Indicate results of Evaluation of each PO (100) Institute Marks : 100.00

c) The expected level of attainment for each of the programme 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
Surveys
Result Analysis
course register

Step 1: The Program coordinator along with the BoS and course coordinators analyses each outcome into elements (different abilities specified in the outcome)

along with the set of graduate attributes for each element and the 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/attitude.

Step 4: The course coordinators use the qualitative and quantitative data while assessing the outcomes on a continuous basis.

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 reviews along with the Programme Coordinator and the BoS to recommend content delivery methods/course outcomes/ curriculum improvements as needed.

The expected level of attainment for each programme outcomes

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

Courses	**Performance Criteria**	**Method of Assessment**	**Sources for data collection**	**Target for the performance**	**Length of Assessment Cycle/when the data is collected**
GR14D5109-Advanced Mechanics of Solids GR14D5110-Materials Technology GR14D5111-Precision Engineering GR14D5112-Design for Manufacturing and Assembly GR14D5113-Special Manufacturing Processes	Apply knowledge of mathematics/ Science principles, to provide numerical solution to the real time problems.	Internal/external Evaluation/ Assignments/ Group tasks(mini projects, main projects, lab activities, team activities)	Course outcomes Rubrics	90%	1 year End of semester
		Courses end survey/ Graduate Survey/ Alumni Survey	Survey reports	90%	1 year End of semester End of program
GR14D5116-Advanced CAD GR14D5119-Manufacturing Simulation & Precision Engineering Lab GR14D5120-Design of Hydraulics and Pneumatics Systems GR14D5121-		Internal/external Evaluation/ Assignments/ Group tasks	Course outcomes Rubrics	90%	1 year End of semester

Total Quality Management GR14D5122-Computer Aided Manufacturing GR14D5123-Design and Manufacturing of MEMS and Micro Systems GR14D5124-Industrial Robotics GR14D5130-CAD/CAM Lab	Solve the Mechanical Engineering problems	Courses end survey/ Graduate Survey/ Alumni Survey	Survey reports	85%	1 year End of semester End of program

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

Courses	Performance Criteria	Method of Assessment	Sources for data collection	Target for the performance	Length of Assessment Cycle/when the data is collected
GR14D5119-Manufacturing Simulation & Precision Engineering Lab GR14D5130-CAD/CAM Lab	design and conduct experiments	Internal/external Evaluation/ Assignments/ Group tasks	Lab activity data Rubrics Course outcome	90%	1 year End of semester
GR14D5110-Materials Technology GR14D5111-Precision Engineering		Courses end survey/ Graduate Survey/ Alumni survey	Survey data	85%	1 year End of semester End of program

GR14D5112-Design for Manufacturing and Assembly GR14D5113-Special Manufacturing Processes GR14D5116-Advanced CAD GR14D5122-Computer Aided Manufacturing GR14D5123-Design and Manufacturing of MEMS and Micro Systems GR14D5114-Finite Element Applications in Manufacturing	Analyze and interpret data	Internal/external Evaluation/ Assignments/ Group tasks	Lab activity data Rubrics Course outcome	85%	1 year End of semester
		Courses end survey/ Graduate Survey/ Alumni survey	Survey reports	85%	1 year End of semester End of program

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

Courses	Performance Criteria	Method of Assessment	Sources for data collection	Target for the performance	Length of Assessment Cycle/when the data is collected
GR14D5114-Finite Element Applications in Manufacturing GR14D5116-Advanced CAD GR14D5125-Tool Design GR14D5123-Design and Manufacturing of MEMS and Micro Systems	Design a system, component, within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.	Internal/external Evaluation/ Assignments/ Group tasks	Lab activity data Rubrics Course outcome	90%	1 year End of semester
		Courses end survey/ Graduate Survey/ Alumni survey	Survey reports	90%	1 year End of semester End of program
GR14D5115-Quality Engineering in Manufacturing GR14D5126-Production and Operations Management	Design a process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.	Internal/external Evaluation/ Assignments/ Group tasks	Lab activity data Rubrics Course outcome	90%	1 year End of semester
		Courses end survey/ Graduate		85%	1 year

GR14D5121-Total Quality Management GR14D5112-Design for Manufacturing and Assembly		Survey/ Alumni survey			End of semester End of program

d: Ability to function on multi-disciplinary teams

Courses	Performance Criteria	Method of Assessment	Sources for data collection	Target for the performance	Length of Assessment Cycle/when the data is collected
GR14D5119-Manufacturing Simulation & Precision Engineering Lab GR14D5130-CAD/CAM Lab GR14D5175-Seminar-I GR14D5176-Seminar-II GR14D5177-Seminar-III GR14D5178-Comprehensive viva GR14D5179-Project work GR14D5180-Project work and dissertation	function on multi-disciplinary	Internal/external Evaluation/ Assignments/ Group tasks	Lab activity data Rubrics Course outcome	90%	1 year End of semester
		Courses end survey/ Graduate Survey/ Alumni survey	Survey reports	90%	1 year End of semester End of program
	Team work	Internal/external Evaluation/ Assignments/ Group tasks	Lab activity data Rubrics Course outcome Project data	90%	1 year End of semester
		Courses end survey/ Graduate Survey/ Alumni survey	Survey reports	85%	1 year End of semester End of program

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

Courses	Performance Criteria	Method of Assessment	Sources for data collection	Target for the performance	Length of Assessment Cycle/when the data is collected
GR14D5109-Advanced Mechanics of Solids GR14D5112-Design for Manufacturing and Assembly GR14D5114-Finite Element Applications in Manufacturing GR14D5120-	identify, formulates, and engineering problems	Internal/external Evaluation/ Assignments/ Group tasks	Lab activity data Rubrics Course outcome	90%	1 year End of semester
		Courses end survey/ Graduate Survey/ Alumni survey	Survey reports	90%	1 year End of semester End of program
		Internal/external Evaluation/	Lab activity data		

Design of Hydraulics and Pneumatics Systems GR14D5123-Design and Manufacturing of MEMS and Micro Systems GR14D5128-Computational Fluid Dynamics GR14D5125-Tool Design	solve engineering problems	Assignments/ Group tasks	Rubrics Course outcome	90%	1 year End of semester
		Courses end survey/ Graduate Survey/ Alumni survey	Survey reports	85%	1 year End of semester End of program

f: Understanding of professional and ethical responsibility

Courses	Performance Criteria	Method of Assessment	Sources for data collection	Target for the performance	Length of Assessment Cycle/when the data is collected
GR14D5118-Theory of Elasticity & Plasticity	professional skills	Internal/external Evaluation/ Assignments/ Group tasks	Lab activity data Rubrics Course outcome	90%	1 year End of semester
		Courses end survey/ Graduate Survey/ Alumni survey	Survey reports	90%	1 year End of semester End of program
GR14D5115-Quality Engineering in Manufacturing GR14D5124-Industrial Robotics GR14D5129-Automation in Manufacturing	Ethical skills	Internal/external Evaluation/ Assignments/ Group tasks	Lab activity data Rubrics Course outcome	90%	1 year End of semester
		Courses end survey/ Graduate Survey/ Alumni survey	Survey reports	85%	1 year End of semester End of program

g: Ability to communicate effectively

			Sources for		Length of Assessment

Courses	Performance Criteria	Method of Assessment	data collection	Target for the performance	Cycle/when the data is collected
GR14D5175-Seminar-I GR14D5176-Seminar-II GR14D5177-Seminar-III GR14D5178-Comprehensive viva	Communication skills	Internal/external Evaluation/ Assignments/ Group tasks	Lab activity data Rubrics Course outcome	90%	1 year End of semester
		Courses end survey/ Graduate Survey/ Alumni survey	Survey reports	90%	1 year End of semester End of program
	Interpersonal skills	Internal/external Evaluation/ Assignments/ Group tasks	Lab activity data Rubrics Course outcome	90%	1 year End of semester
		Courses end survey/ Graduate Survey/ Alumni survey		85%	1 year End of semester End of program

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

Courses	Performance Criteria	Method of Assessment	Sources for data collection	Target for the performance	Length of Assessment Cycle/when the data is collected
GR14D5115-Quality Engineering in Manufacturing GR14D5126-Production and Operations Management GR14D5178-	Broad education of engineering solutions in a global, economic context	Internal/external Evaluation/ Assignments/ Group tasks	Lab activity data Rubrics Course outcome Project data	90%	1 year End of semester
		Courses end survey/ Graduate Survey/ Alumni survey	Survey reports	90%	1 year End of semester End of program
		Internal/external Evaluation/	Lab activity data Rubrics	90%	1 year

Comprehensive viva GR14D5179-Project work GR14D5180-Project work and dissertation.	engineering solutions in a environmental, and societal context	Assignments/ Group tasks	Course outcome		End of semester
		Courses end survey/ Graduate Survey/ Alumni survey	Survey reports	85%	1 year End of semester End of program

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

Courses	Performance Criteria	Method of Assessment	Sources for data collection	Target for the performance	Length of Assessment Cycle/when the data is collected
GR14D5114-Finite Element Applications in Manufacturing GR14D5122-Computer Aided Manufacturing GR14D5129-Automation in Manufacturing GR14D5115-Quality Engineering in Manufacturing	Engage in lifelong learning	Internal/external Evaluation/ Assignments/ Group tasks	Lab activity data Rubrics Course outcome	90%	1 year End of semester
		Courses end survey/ Graduate Survey/ Alumni survey	Survey data	90%	1 year End of semester End of program
	Update future developments in mechanical field	Internal/external Evaluation/ Assignments/ Group tasks	Lab activity data Rubrics Course outcome	90%	1 year End of semester
		Courses end survey/ Graduate Survey/ Alumni survey	Survey data	85%	1 year End of semester

j: Knowledge of contemporary issues

Courses	Performance Criteria	Method of Assessment	Sources for data collection	Target for the performance	Length of Assessment Cycle/when the data is collected
GR14D5117-Mechatronics					

GR14D5121-Total Quality Management GR14D5123-Design and Manufacturing of MEMS and Micro Systems GR14D5119-Manufacturing Simulation & Precision Engineering Lab	Knowledge of contemporary issues.	Internal/external Evaluation/ Assignments/ Group tasks	Rubrics Course outcome	90%	1 year End of semester
		Courses end survey/ Graduate Survey/ Alumni Survey	Survey data	90%	1 year End of semester End of program

k: An ability to use the techniques, skills and modern mechanical Engineering tools necessary for the Mechanical Engineering Practice

Courses	Performance Criteria	Method of Assessment	Sources for data collection	Target for the performance	Length of Assessment Cycle/when the data is collected
GR14D5109-Advanced Mechanics of Solids GR14D5113-Special Manufacturing Processes GR14D5119-Manufacturing Simulation & Precision Engineering Lab GR14D5123-Design and Manufacturing of MEMS and Micro Systems GR14D5124-Industrial Robotics GR14D5125-Tool Design GR14D5127-Performance modeling and Analysis of Manufacturing Systems GR14D5128-Computational Fluid Dynamics GR14D5129-Automation in Manufacturing GR14D5130-CAD/CAM Lab	Study experimental, statistical and computational methods	Internal/external Evaluation/ Assignments/ Group tasks	Lab activity data Rubrics Course outcome	90%	1 year End of semester
		Courses end survey/ Graduate Survey/ Alumni survey	Survey data	90%	1 year End of semester End of program
	Hands on experience in computational methods and tools necessary for engineering practice	Internal/external Evaluation/ Assignments/ Group tasks	Lab activity data Rubrics Course outcome	90%	1 year End of semester
		Courses end survey/ Graduate Survey/ Alumni survey	Survey data	85%	1 year End of semester End of program

l: Post-Graduates will able to acquire skills for employment in Mechanical Design, Manufacturing related industries and higher education

					Length of

Courses	Performance Criteria	Method of Assessment	Sources for data collection	Target for the performance	Assessment Cycle/when the data is collected
All the core Engineering Laboratories	ability to get an employment in Mechanical Engineering and related industry	Internal/external Evaluation/ Assignments/ Group tasks	Lab activity data Rubrics Course outcome	90%	1 year End of semester
All the core Engineering Courses		Courses end survey/ Graduate Survey/ Alumni Survey	Survey data	90%	1 year End of semester End of program

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

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

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

Program Outcome	Indicator
a. Ability to apply knowledge of mathematics, science, and engineering.	90 % of students who got 75% or greater pass percentages by year end.
b. Ability to design and conduct experiments, as well as to analyze and interpret data.	95% of students who got 80% or greater lab pass with tool usage rate by year end
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.	90% of students who acquired 75% or greater knowledge on social and other issues by year end
d. Ability to function on multi-disciplinary teams.	92 % of students who have 75% or greater ability to function in multi/several disciplinary teams rate by year end
e. Ability to identify, formulates, and solves engineering problems.	90% of students who have 80% or greater ability to formulate and solving engineering issues by year end
f. Understanding of professional and ethical responsibility.	85% of students who have 80% or greater understand of ethical and professional responsibility by year end 80% of students are aware on environmental issues
g. Ability to communicate effectively.	90% of students who have 85% or greater ability to communicate effectively
h. Broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.	85% of students who have 80% or greater understand the quality, environmental and social context
i. Recognition of the need for, and an ability to engage in life-long learning.	90% of students who have 85% or greater engage in life-long learning
j. Knowledge of contemporary issues.	85% of students who have an 80% or greater knowledge of other valuable issues
k. Ability to utilize experimental, statistical and computational methods and tools necessary for engineering practice.	90% of students who have an 80% or greater knowledge on experimental and statistical practices
l. Post-Graduates will able to acquire skills for employment in Mechanical Design, Manufacturing related industries and higher education	90% of students who have an 85% or greater knowledge on management and project management

e) How the results are documented and maintained

The results of Assessment and evaluation process for attaining POs are:

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

2.4 Use of Evaluation results towards improvement of the programme (30) **Total Marks : 30.00**

2.4.1 Indicate how results of assessment used for curricular improvements (5) Institute Marks : 5.00

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

We have introduced the outcome based education system in GRIET recently. Therefore students, having experienced the learning environment as per new defined PEOs and POs are yet to post graduate from the Institute. We have defined POs based on the NBA graduate attributes mapping to curriculum given by affiliating university JNTUH and used 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 POs. We have a system to review the results of the evaluation of our outcome based education system at the end of each academic year.

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 improvement 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. This process considers exit students survey, professional society survey, alumni survey, employer survey, feedback and rubrics. The improvement of PO attainment can be expected by bringing appropriate changes in course outcomes, curriculum, delivery methods, and assessment and evaluation methods. After receiving inputs from the internal committees Board of Studies, Academic Council will give the final approval for the necessary improvements.

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

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 POs have been used to review/redefine the POs in line with the Graduate Attributes of the NBA.)

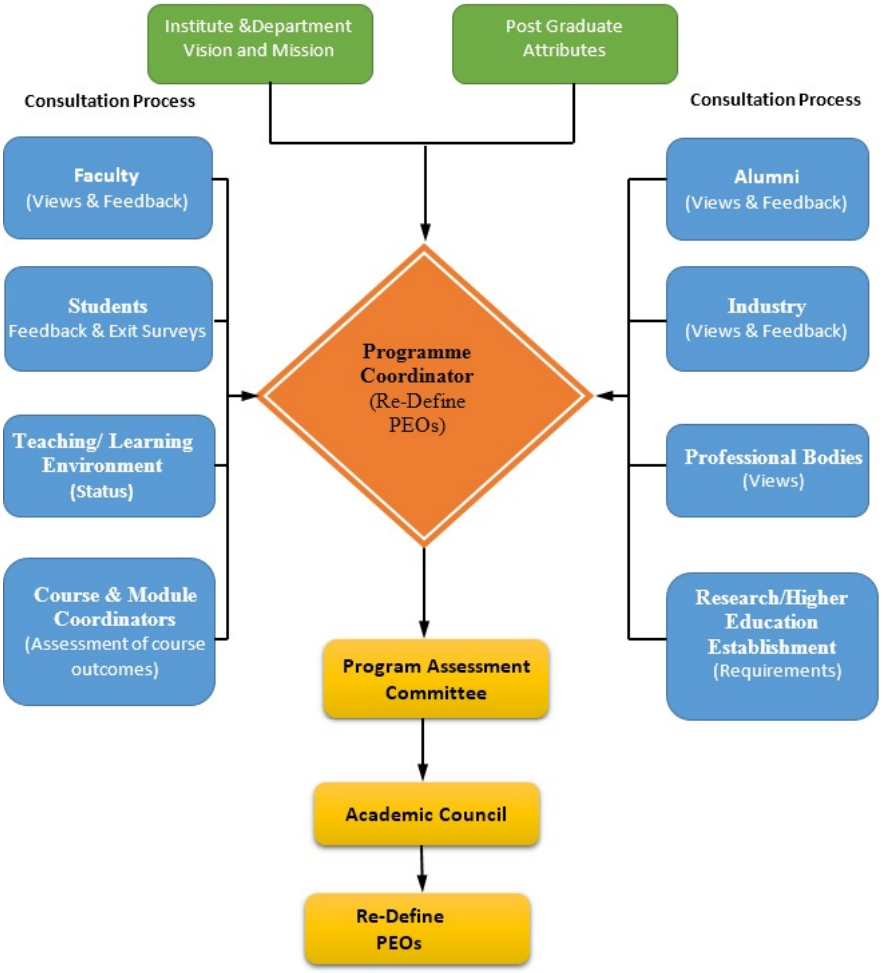

Figure 4

Figure 4: Process for Redefining POs

3 Programme Curriculum (75) **Total Marks : 75.00**

3.1 Curriculum (15)

Total Marks : 15.00

3.1.1 Describe the Structure of the Curriculum (5)

Institute Marks : 5.00

Curricular Composition	Credits
Theory courses	36
Laboratory courses	04
Seminars	06
Project works	40
cmprehensive viva	02

3.1.2 Justify how the curricular structure helps for the attainment of the POs and the (10)

Institute Marks : 10.00

(Articulate how the curricular structure helps in the attainment of each PO and PEO)

Course Component	Curriculum Content (% of total number of credits of the programme)	Total number of contact hours	Total Number of credits	POs	PEOs
Design	21	24	18	a,b,c,d,e,f,g,h,i,j,k,l	1,3
Manufacturing	28	32	25	a,b,c,d,e,f,g,h,i,j,k,l	2,3
Machines	30	30	27	a,b,c,d,e,f,g,h,i,j,k,l	1,2,3
Materials	21	24	18	a,b,c,d,e,f,g,h,i,j,k,l	1,3

3.2 Indicate interaction with R&D organisations / Industry (40)

Total Marks : 40.00

Institute Marks : 40.00

(Give the details of R&D organisations and 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, which can be continued as a full time project in second year.

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 reputed industries and professional bodies so as to move towards practical technologies.

- An expert from Industry is included as an active member of Academic Council and also in Departments Board of Studies with a very important role in design of the curriculum.
- The institution has MOU'S with reputed organizations like INTERGRAPH Pvt. ltd, Thermo Pack and Thermal systems Pvt. Ltd to strengthen the relationships with industry.
- Department is actively associate with TCS in academics.
- Students are encouraged to get internship with noted and related industry for PG Industry Oriented projects to gain hands on experience of a live industry which carries credit scores.
- Students are encouraged to take realistic problems/live problems from industry while carrying out the main project which is part of the curriculum carrying credits.

- The department also conducts several workshops for students and invites experts from Industry to share knowledge and experience.
- Entering into agreement with consultancies for providing resources and inputs to 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.

Event Name	Collaboration With	Duration	Resource Persons	Target Audience	Benifit
Industrial tour to HMT	GRIET	1Day (Oct 4)	PPC Prasad	MTech Faculty of Mechanical	Students and Faculty
Workshop on Non Destructive Testing	Kalva Engineers Pvt. Ltd.	4 Days (Oct 11 – 14, 2010)	Dr. K. Sammiah and P.Shanti Babu	B.Tech and M.Tech Students	Entrepreneurship
Workshop on Non Destructive Testing	Kalva Engineers Pvt. Ltd.	4 Days (Feb 23 - 26, 2010)	Dr.K. Sammiah and P.Shanti Babu	B.Tech and M.Tech Students	Entrepreneurship
Workshop on L.S.Dyna	Crane Software	2 Days (Dec 29–30, 2008)	Dr. S.K.Singh	B.Tech and M.Tech Students	Entrepreneurship
Workshop on Non Destructive	P.S. Metallurgical	4 Days (Feb 11 – 14,	Dr.K.Sammiah and P.Shanti	B.Tech and M.Tech	

Testing	and NDT Institute	2010)	Babu	Students	Entrepreneurship
Dual Lift prototype development	G.R.I.E.T	Dec 2009- May,10	P.P.C.Prasad	B.Tech and M.Tech Students	Technology Cell
Cage Brightening Station prototype development	G.R.I.E.T	Dec, 2007- March,2008	P.P.C.Prasad	B.Tech and M.Tech Students	Technology Cell
Solar Concentrator Prototype development	G.R.I.E.T	Dec, 2008- March,2009	Dr. K.G.K. Murti	B.Tech and M.Tech Students	Technology Cell
Low cost Refrigeration System	G.R.I.E.T	Dec, 2009- March,2010	B. Ch. Nooka Raju	B.Tech and M.Tech Students	Technology Cell

3.3 Curriculum Development (15)

Total Marks : 15.00

3.3.1 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)

Board of Studies takes responsibility of preparing curriculum of the programme. The curriculum for the programme is developed by considering PEOs and POs, taking the feedback from industry people regarding their expectations and latest developments in technology. The process of defining the curriculum is given below.

Step 1: PEOs and POs are taken as guide lines.

Step 2: A bench mark curriculum of JNTUH (affiliating University), premier institutes like IIT and also from abroad is considered.

Step 3: Relevant credit distribution is done between Mathematics, Science, Humanities, Core and Projects.

Step 4: courses are chosen as per contemporary technology and also industry and higher education requirements.

Step 5: The extent of coverage of depth and breadth are decided to suit the POs through COs

The curriculum gaps are continuously monitored but revision is limited to three years.

3.3.2 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 improvement 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. Feedback is collected from the alumni who has joined in the professional careers or pursuing higher studies or has become entrepreneurs.
7. *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 outco

3.4 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
M.Tech-DFM GR14 Detailed syllabus

Course code	Course Title	Total Number of contact hours			Credits	
		Lecture (L)	Practical (P)	Total Hours		
I Year 1 Sem						
GR14D5109	Advanced Mechanics of Solids	3	0	3	3	
GR14D5110	Materials Technology	3	0	3	3	
GR14D5111	Precision Engineering	3	0	3	3	
GR14D5112	Design for Manufacturing and Assembly	3	0	3	3	
Elective 1						
GR14D5113	Special Manufacturing Processes	3	0	3	3	
GR14D5114	Finite Element Applications in Manufacturing					
GR14D5115	Quality Engineering in Manufacturing					
Elective II						
GR14D5116	Advanced CAD	3	0	3	3	
GR14D5117	Mechatronics					
GR14D5118	Theory of Elasticity & Plasticity					
GR14D5119	Manufacturing Simulation & Precision Engineering Lab	0	6	6	2	
GR14D5175	Seminar-I	--	---	--	2	
I Year II Sem						
GR14D5120	Design of Hydraulics and Pneumatics Systems	3	0	3	3	
GR14D5121	Total Quality Management	3	0	3	3	
GR14D5122	Computer Aided Manufacturing	3	0	3	3	
GR14D5123	Design and Manufacturing of MEMS and Micro Systems	3	0	3	3	
Elective III						
GR14D5124	Industrial Robotics	3	0	3	3	
GR14D5125	Tool Design					
GR14D5126	Production and Operations Management					
Elective IV						
GR14D5127	Performance modeling and Analysis of Manufacturing Systems	3	0	3	3	
GR14D5128	Computational Fluid Dynamics					
GR14D5129	Automation in Manufacturing					
GR14D5130	CAD/CAM Lab	0	6	6	2	
GR14D5176	Seminar-II	--	---	--	2	
II Years I Sem						
GR14D5177	Seminar-III	0	3	3	2	
GR14D5178	Comprehensive viva	--	--	3	2	
GR14D5179	Project work	--	--	--	18	
II Years II Sem						
GR14D5180	Project work and dissertation	--	---	--	22	
Total		**36**	**15**	**54**	**88**	

4 Students' Performance (100) **Total Marks : 81.93**

4.1 Admission intake in the programme (15) **Total Marks : 14.64**

Year	Sanctioned Strength of the Programme	Number of Students Admitted	Percentage of seats filled	Number of Students Admitted with Valid GATE Score/PG entrance of State	Percentage of Students with Valid GATE Score/PG entrance of State
2014-2015	18	11	61.11	9	81.88
2013-2014	18	11	61.11	10	90.90
2012-2013	18	10	55.55	10	100.00
2011-2012	18	14	77.77	12	85.71
2010-2011	18	12	66.66	10	83.33

Average percentage of seats filled through approved procedure 88.36
Average percentage of students admitted with valid GATE Score/PG entrance of state 88.36

Year	Number of Students Admitted	API = Academic Performance Index = Average CGPA or Average Marks on a Scale of 10 (Compiled from the Graduation Records)
2014-2015	11	11.00
2013-2014	11	11.00
2012-2013	10	10.00
2011-2012	14	14.00
2010-2011	12	12.00

Average API 11.60

4.1.1 Number of seats filled through the admission procedure approved (5) Institute Marks : 4.42

4.1.2 Quality of students as judged from their complete graduation records (5) Institute Marks : 5.80

4.1.3 Number of students admitted having a valid GATE score/PG entrance of state (5) Institute Marks : 4.42

4.2 Success Rate (20) Total Marks : 15.40

Institute Marks : 15.40

Provide data for the past three batches of students
Assessment = 20 x Average GI
GI = Graduation Index
= (Number of students graduated from the programme) /
(Number of students joined the programme)

Year	Number of Students Graduated from the Programme	Number of Students Joined the Programme	GI
2012-2013 (LYG)	6	10	0.60
2011-2012 (LYGm1)	11	14	0.79
2010-2011 (LYGm2)	11	12	0.92

Average GI 0.77
Assessment 15.40

4.3 Academic Performance (20) Total Marks : 16.03

Institute Marks : 16.03

Assessment = 2 x Average API
API = Academic Performance Index
= Average CGPA or Average Marks
on a Scale of 10

Item Approximating the API by the following mid-point analysis	2012-2013	2011-2012	2010-2011
9 < Number of students with CGPA < 10	0.00	1.00	0.00
8 < Number of students with CGPA < 9	5.00	5.00	4.00
7 <= 8	1.00	2.00	7.00
6 <= 7	0.00	3.00	0.00
5 <= 6	0.00	0.00	0.00
Total	6.00	11.00	11.00
Approximating API By Mid-CGPA	0.00	0.00	0.00
Mean of CGPA/Percentage of all the students API	8.33	7.86	7.86
Assessment	16.66	15.72	15.72

Average assessment points 16.03

4.4 Placement and Higher Studies (20) Total Marks : 10.86

Institute Marks : 10.86

Assessment Points = 20 × (x + 3y)/N
where, x = Number of students placed
y = Number of students admitted for higher studies with valid
qualifying scores/ranks, and
N = Total number of students who were admitted in the batch to maximum

assessment points = 20

Item	LYG	LYGm1	LYGm2
Number of admitted students corresponding to LYG (N)	10.00	14.00	12.00
Number of students who obtained jobs as per the record in the industry/academia	4.00	3.00	3.00
Number of students who opted for higher studies with valid qualifying scores/ranks (y)	1.00	1.00	1.00
Assessment points	14.00	8.57	10.00

Average assessment points 10.86

4.5 Professional Activities (25)

Total Marks : 25.00

4.5.1 Membership in Professional Societies / Chapters and organising engineering events (5) Institute Marks : 5.00

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

GRIET lays stress not only on the academic excellence but also the on beyond academic excellence to make the Programme a holistic experience. This is managed by providing time and resources to allow the students to take part in Co and Extracurricular activities which are integrated and spread over the entire academic year. This we believe has a profound impact in shaping the overall persona of a student.

- The activities are pre-planned and included in the College diary.
- The activities are planned and executed by the student bodies of the college with supervision from faculty.

- Pragnya (a tech-fest) and Pulse (a cultural fest) are major annual attractions and widely participated.

To give fillip to beyond-curricular activity, the institution has encouraged registration of its student groups as members in professional societies, chapters such as: Institution of Engineers (IE), Computer Society of India (CSI), Institute of Electrical and Electronic Engineers (IEEE), Institute of Electronic and Telecommunication Engineers (IETE), Society of Automobile Engineers (SAE), Indian Society for Technical Education (ISTE), Indian Concrete Institute (ICI), Free Software Foundation (FSF), Robotics Club, Gaming Club.

The student chapters of professional societies such as IEEE, CSI, Robotic Club, and FSF have been intensely involved in Co-curricular activities giving full benefit and encouragement to the students.

Events organized by the professional societies/chapters:

Title	Professional Societies	Date	Achievement / Benefit
National symposium on software 2.0 emerging competencies	CSI	30/04/2013	Workshop conducted for academic improvement
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.
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
Seminar on "Research and Education Opportunities in Data Sciences"	IEEE	28/01/2013	Emphasized the importance of Data Sciences to the students
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.
PRAGNYA'12	IEEE	09/10/2012 to 10/10/2012	Prangnya'12 a national level technical symposium offers challenges for people coming from various walks of engineering. The breadth of events extends from the classical paper presentations, to new and demanding events such as carbon trading.
WIE Star Program	IEEE	03/08/2012, 06/08/2012, 16/08/2012	To educate the government school students about the basics of computers, electronics, communication etc., and update them with various developments in technology such as robotics.
IEEE Star Program	IEEE	03/08/2012	This educational outreach program promotes involvement of IEEE members with local junior high and high schools in order to create a positive image of engineering careers.
Open Source Seminar	IEEE & FSF	21/07/2012	The second and third year students attended this seminar where introduction to the concept of open source was given and its uses and advantages were discussed.
Android Seminar	IEEE & FSF	21/07/2012	To let the students know the working of android and its applications
"GRIET Productions"			It provides a platform for the students who

Club	IEEE	31/07/2012	are interested in photography, cinematography, direction and script writing.
Student Outreach Session	IEEE	25/06/2012	The basic idea of this session is to impart knowledge about safety from peril of addictions by the youngsters.
Robo Project Expo At D.A.V School	Robotic Club	21/04/2012	Display and demo of the projects developed at GRIET
Photoshop Workshop	IEEE & GAP	03/04/2012	This workshop was designed to help youngsters to design posters and edit pictures to a professional level. They were taught different aspects of the Photoshop which can be used in a variety of ways.
Cloud Computing Seminar	IEEE	31/03/2012	The Seminar was a half day session which dealt with the basics of Cloud Computing.
Mobi Tronix Robo Workshop	Robotic Club	09/03/2012 to 10/03/2012	Enhancement of Micro controller concepts, and Embedded system concepts in practical manner
Women's Day Celebration	IEEE	08/03/2012	Emphasizing on how the present day women have managed to overcome so many barriers by making a constant effort to follow their heart and manage their restrictions.

ANNUAL REPORT 2014-2015 OF SME STUDENT CHAPTER

Auto-CAD Training Program:

The Auto-CAD Training program is conducted on 11 August, 2014 under **SME** student chapter for 2nd and 3rd year students with team of 5 (4th year students) and two faculty advisors. The total duration of the program was 20 days. The total numbers of students are attended for this training program is 42(28 from 2nd year & 14 from 3rd year).

The topics which are discussed on this program are: Introduction to AutoCAD, Co-ordinate systems, Fundamentals of 2D drafting, Fundamentals of 2D drafting, Construction of 2D models (Covering all commands), Dimensioning & Annotation, Views (Orthographic, Isometric, Oblique, Perspective), Explanation of Isometric views and Fundamentals of 3D drafting.

The faculty advisors are Dr. Sathyanarayana and A.Anitha Laxmi.

The certificates for participated students are given based on assessment test. And the certification is divided into three levels Excellent, good and satisfactory based on their performance. The closing ceremony was conducted on 11 October, 2014.

Udyata:

Udyata is the technical event conducted by SME student chapter under the Department of Mechanical Engineering on 2 and 3 of March, 2015.

This event is mainly organized by students of **SME** student chapter. By this event students get a chance to participate in different workshops. Its main emphasis is to improve the knowledge of the students in various fields of technology. On inauguration day, there was a talk by Principal, Hod and Convener of SME.

This event contains **two technical workshops** and **Power Point Presentations** by the students**.**

- **Workshop 1**: *CNC(prototyping/product development)*
- **Workshop 2**: *Animax-Animation & 3D Designing.*

WORKSHOP DETAILS:

1CNC (PROTOTYPING/PRODUCTDEVELOPMENT) WORKSHOP

This workshop is useful for all product designers and developers that are looking forward for ways to prototype their dreams. This workshop will guide to students how to provide professional touch to their product, Additive and subtractive manufacturing. This workshop will be conducted for two days, in consecutive sessions. It has both theory and hands-on experience. It is conducted in collaboration with **SVP Laser Technologies Pvt.Ltd**. It is a design and manufacturing company providing high end services to diverse engineering Industries using advanced Laser, Plasma, Router and CNC profile cutting technologies.


Carrom Bot **Pen plotter**

This workshop was success with 62 students attending from our college and all the neighborhood colleges.

***2*. ANIMAX (ANIMATION & 3D DESIGNING) WORKSHOP**

Animax is a workshop based on **Animation & 3D Designing** .This workshop is an overview of the 3D computer animation industry, Basic modelling techniques, Creation of materials & Texture maps, Basic lighting techniques, Basic camera manipulation, Hierarchy linking, Basic key framing techniques, Rendering and Basic designing techniques of animation. After this workshop participants will come up with a short 3D movie designed by them. And it is more useful for the students who like to work in the animation industry. This workshop will be conducted in collaboration with **Innovians Technologies.** It is an India's fastest growing company in the field of Practical Educational Training, Professional Training, Corporate Training, Web & IT Services, with most advanced technologies & experience in hand.


This workshop was success with 33 students attending from our college and neighborhood colleges.

3. Power Point Presentations

The power point presentations are given by students on their own topic which is related to advance in today's technology. The number of students participated in this event are around 150 teams (2 per team) out of which 45 teams are selected for presentation.

Ruedo – General report

The much awaited environment fest of GRIET was successfully held on the 19th of February, 2015. Over two month's hard work was put in by the NSS wing and Street Cause to organize this one-of-a-kind fest.

It was a beautiful day to celebrate nature and its beauty.

The fest was inaugurated by the Head of Department of Biotechnology, Dr. Sunil Kumar. Since it is an environment fest, we thought it would be fitting to have a different kind of inauguration. We invited our faculty to plant a sapling each and then by lighting the lamp by our RUEDO convenor Prof. T Padma, Prof. S. Rama Murthy and Dr. N Sunil Kumar followed by their inspirational speeches in the presence of the students. The inauguration ended with a prayer song sung by one of the students.



The following events started off greatly with huge crowd participation:

Plant Distribution:

As a key part of saving the environment, 500 saplings were distributed among students and teachers and were encouraged to take care of it.

Sign Board:

A sign board was set up in front of the 3rd block on which there was a promissory stating “I take an oath to save our planet” on which the students were to put their signature on. It turned out to be a huge success as students showed great enthusiasm and the sign board was filled completely within a few hours!

Workshop:

For the very first time, a solar mobile charger workshop was organised by two of our very own students Luqmaan Taha Siddiqui and Uttej Reddy. The participants were successfully taught how to make a solar mobile charger from scratch on a PCB (printed circuit board) using eagle software.

The event turned out to be much liked and very useful to the participants.



Paper Presentation:

Technical Papers were presented on theme of environmental issues. Over 50 papers were submitted for selection from various colleges across India.

Treasure hunt:

A treasure hunt was organized and the clues were set up at various spots in the college premises and the students were given clues to identify the spots to reach the final destination.

Green Museum:

A museum was set up by the students showcasing how the environment degraded as the mankind evolved through centuries. It concentrated on showcasing the changes that had happened to forests, urban and rural areas throughout time.

Interesting facts were also put up on signs for informational purposes.

A mini theatre was set up in the museum as well for playing videos on our environment. The museum was a huge hit and raised a lot praises among the students as well as the teachers


Waste management seminar:

A waste management seminar was held in the college regarding how to manage waste and be pollution free


4.5.2 Participation and their outcomes in international/national events (5) Institute Marks : 5.00

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

1. K Sajun Prasad, Raghuram Karthik Desu, Jayahari Lade, **Swadesh Kumar Singh** and Amit Kumar Gupta, "Finite Element Modeling and Prediction of Thickness Strains of Deep Drawing using an ANN for ASS304" accepted for publication in NUMISHEET-2014, Jan 6-10, Deakin University, Melbourne, Australia, AIP Proceedings, pp 378-381.
2. Nitin Kotkunde, Aditya B, Amit Kumar Gupta, **Swadesh Kumar Singh**, " Flow stress Prediction of Ti-6Al-4V alloy at elevated temperature using artificial neural network", International Symposium on Engineering and Technology 2014, Pune.
3. **Swadesh Kumar Singh**, Jandhyala N Murthy, PAPN Varma and D Sailaja, " Study of Rice Straw Biocomposite and a Comparative Study of Flexural Strength of Various Biocomposite Plywood Materials" International Conference on Civil, Biological and Environmental Engineering, Nov. 21-22, 2013 Bangkok (Thailand) pp 37-40
4. NitinKotkunde, Aditya, D. Deole, A.K Gupta and **S.K Singh,** "Development of Constitutive models for Ti–6Al–4V alloy over wide ranges of low strain rates and temperatures" Accepted for publication in 8th International conference on Preecision. Meso, Micro and Nano Engineering, NIT Calicut, India Dec 13-15, 2013.
5. **Jayahari Lade,** Swadesh Kumar Singh, Balu Naik Banoth, “Formability analysis of austenitic stainless steel-304 under warm conditions”. Citation: **NUMISHEET 2014 AIP Conference Proceedings 1567, 378-381 (2013);** doi: 10.1063/1.4849994
6. **L.Jayahari,** Swadesh Kumar Singh, Balu Naik, “Study of Formability and Thickness Distribution in Warm Forming of ASS-304, **AIMTDR-2012**, December 2012, Kolkata, India.
7. **Lade Jayahari,** B.BaluNaik, Swadesh Kumar Singh, “Study of microhardness of Deep Drawn cups for Austenitic stainless steel-304 under warm conditions”. **High Nitrogen Steels (HNS -2012)**, PP12 Sep 2012, Chennai, India.
8. **L.Jayahari**, B.BaluNaik, N.Lakshmi et al, “Experimental Investigation of Punch Load of ASS 304 at Various Temperatures” **International Conference on Materials Processing and Characterization (ICMPC -2012),** 89-93, March, India.
9. **L.Jayahari,** B.BaluNaik, R.Bhargav et al,”Microhardness Studies of Austenitic Stainless steel-304”**International Conference on Materials Processing and Characterization (ICMPC -2012),**94-99, March, India.
10. **Raman Goud**.R,K.Eswar Prasad,Swadesh kumar Singh **“**FORMING LIMIT DIAGRAM OF EXTRA DEEP DRAWN STEEL FOR STRETCHING IN SHEET METAL FORMING” International Conference on material processing and charecterization,2012.
11. **Raman Goud**.R,K.Eswar Prasad,Swadesh kumar Singh **“**Formability limit diagrams of extra deep drawing steel at elevated temperatures” International Conference on material processing and charecterization,2014.
12. **N.Sateesh,** C.S.P. Rao, K.Prashanth Reddy, and R.Raman Goud, Design of Cam-Follower Mechanisms Using Rational B-Splines, International Conference on Advanced Materials and Manufacturing Technologies (AMMT), JNTUH, Hyderabad, India, 18-20, December, 2014, pp. 184-192.
13. Pudiri Madhu, **N.Sateesh,** Neela Praveen, and Karampuri Satish, Modeling and Simulation of Fins for 150cc Engine, 1st International Conference on Advances in Engineering, SITICAiE–2015, S. P. B. Patel Engineering College and Saffrony Institute of Technology, Ahmedabad, India**,** 22-23, January 2015, pp.24-28.

4.5.3 Publication and awards in international/national events (10) Institute Marks : 10.00

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

S.NO	TITLE OF THE PAPER	AUTHOR OF THE PAPER	NAME OF THE JOURNAL	NATIONAL/INTERNATIONAL	YEAR/VOLUME/PAGE NO
1	Experimental Study On Behaviour Of Sintered Copper Wick Heat Pipe At Different Orientations	B.Ch.Nookaraju, R Vijay Kumar, P S V Kurma Rao,Naga Sarada S	International Journal of Innovative Research in Advanced Engineering	INTERNATIONAL	**2015/2/176-180**
2	Experimental Investigations and comparison of Heat Pipes	B.Ch.Nookaraju,P S V Kurma Rao,Naga Sarada S, T Sai Kiran	International Journal of Innovations in Engineering and Technology	INTERNATIONAL	**2015/5/128-137**
3	“Experimental and Numerical investigation of Anisotropic Yield Criteria for Warm Deep Drawing of Ti-6Al-4V Alloy”	Swadesh Kumar Singh	Materials and Design	INTERNATIONAL	2014/63/336-344
4	, "Failure and formability studies in warm deep drawing of Ti-6Al-4V alloy”	Swadesh Kumar Singh	Materials and Design	INTERNATIONAL	2014/60/540-547
5	"Flow stress Prediction of Ti-6Al-4V alloy at elevated temperature using artificial neural network"	Swadesh Kumar Singh	Applied Mechanics and Materials	INTERNATIONAL	2014/612/83-88
6	"Comparative study of constitutive modeling for Ti-6Al-4V alloy at low strain rates and elevated temperatures"	Swadesh Kumar Singh	Materials and Design	INTERNATIONAL	2014/55/999-1005
7	“Analysis of Thickness Strain Prediction in Warm Deep Drawing of Ti-6Al-4V Alloy”	, Swadesh Kumar Singh	Advanced Materials Research,	INTERNATIONAL	2014/979/52-56
8	Formability and fracture studies of austenitic stainless steel 316 at different temperatures"	Swadesh Kumar Singh	Engineering Sciences	INTERNATIONAL	2014/26/184-190
9	"Microstructure Study and Constitutive Modeling of Ti-6Al-4V Alloy at Elevated Temperatures	Swadesh Kumar Singh	Materials and Design,	INTERNATIONAL	2014/54/96-103
10	Experimental and Numerical Investigation of Formability for Austenitic Stainless Steel 316 at Elevated Temperatures"	Swadesh Kumar Singh	Journal of Materials Research and Technology"	INTERNATIONAL	2014/3/75-80
11	Finite Element Simulation of Ironing process under warm conditions"	Swadesh Kumar Singh	Journal of Materials Research and Technology"	INTERNATIONAL	2014/3/34-38
12	"Comparative Study of bond strength of Formaldehyde and Soya based adhesive in wood	Swadesh Kumar Singh	Procedia	INTERNATIONAL	2014/6/2-9

	fibre plywood"		Material Science		
13	"Construction of formability limit diagrams for EDD steel at elevated temperatures"	R.Ramangoud,	Procedia Material Science	INTERNATIONAL	2014/6/123-128
14	"Experimental Investigations on Stretched EDD Steel at Elevated Temperatures	R.Ramangoud,	Journal of Manufacturing Engineering,	INTERNATIONAL	2014/9/128-134
15	"The Impact on Combustion, Performance and Emissions of CI Diesel Engine using Hydrogen as Dual Fuel Operation"	U. S. Jyothi,	International Journal of Emerging Technology and Advanced Engineering	INTERNATIONAL	2014/4/333-337
16	"some Metallurgical Studies of Austenitic Stainless Steel 304 under Warm Deep Drawing"	Lade Jayahari	Journal of Iron and steel	INTERNATIONAL	2014/21(12)/1147-1151
17	"Formability studies of ASS 304 and evaluation of friction for Al in deep drawing setup at elevated temperatures using LS-DYNA".	Lade Jayahari,	Journal of King Saud University – Engineering Sciences	INTERNATIONAL	2014/26/21-31
18	"Effect of Process Parameters and Metallographic Studies of ASS-304 Stainless Steel at Various Temperatures under Warm Deep Drawing	Lade Jayahari	PROCEDIA MATERIAL SCIENCE	INTERNATIONAL	2014/6/115-122
19	Comparison of Ironing in warm and Hydromechanical deep drawing of low Carbon steel"	Swadesh Kumar Singh	Material Science Forum	INTERNATIONAL	2013/773-774/203-210
20	, "Experimental investigation of Dynamic strain aging regime in Austenitic Stainless Steel 316	Swadesh Kumar Singh	International Journal of Engineering Research & Technology	INTERNATIONAL	2013/2/1691-1694
21	"Development of Constitutive Models for Dynamic Strain Aging Regime in Austenitic Stainless Steel 304"	Swadesh Kumar Singh	Materials & Design	INTERNATIONAL	2013/45/616-627
22	Development of Modified Arrhenius Model for Ti-6al-4v Alloy to Predict the Flow Stress"	Swadesh Kumar Singh	International Journal of Advanced Materials Manufacturing and Characterization	INTERNATIONAL	2013/3/83-87
23	" Prediction of Deformation Behavior of Austenitic Stainless Steel 304 in Dynamic Strain Aging	Swadesh Kumar Singh	International Journal of Advanced Materials Manufacturing and	INTERNATIONAL	2013/3/143-47

	Regime"		Characterization		
24	"Constitutive models to predict flow stress in Austenitic Stainless Steel 316 at elevated temperatures'	Swadesh Kumar Singh	Materials and Design	INTERNATIONAL	2103/40/410-418
25	Some aspects of Formability of ASS 304 under warm conditions	Lade Jayahari	Journal of Manufacturing Engineering	INTERNATIONAL	2013/8/221-224
26	Development of Constitutive Models for Dynamic Strain Aging Regime in Austenitic Stainless Steel 304	Swadesh Kumar Singh	Materials & Design, In Press, Accepted Manuscript,	**International Journal**	**Available online 1.**
27	Study of Formability and Friction in Warm Forming of Aluminum IS 737 Alloy	Swadesh Kumar Singh	International Journal of Advanced Materials Manufacturing and Characterization	**International Journal**	**2012/1** **for Vol 1, Issue 2**
28	Constitutive models to predict flow stress in Austenitic Stainless Steel 316 at elevated temperatures	Swadesh Kumar Singh	Materials and Design	**International Journal**	**2012/43/410-418**
29	Mathematical modelling and experimental validation of excessive ironing of EDD steel in deep drawing setup in Warm conditions	PAPN Varma, KGK Murti, AVS Raju and Swadesh Kumar Singh,	International Journal of Advanced Material Manufacturing and Characterization,	**International Journal**	**2012/1/165-172**
30	Prediction of Flow Stress in Dynamic Strain Ageing Regime of Austenitic Stainless Steel 316 using Artificial Neural Network	Swadesh Kumar Singh	Materials and Design	**International Journal**	**2012/35/589-595**
31	Development of Constitutive Models for Dynamic Strain Aging Regime in Austenitic Stainless Steel 304	Swadesh Kumar Singh	Materials & Design, In Press, Accepted Manuscript,	**International Journal**	**Available online 1**
32	Constitutive models to predict flow stress in Austenitic Stainless Steel 316 at elevated temperatures"	Swadesh Kumar Singh	Materials and Design	**International Journal**	**2013/43/410-418**
33	Prediction of Flow Stress in Dynamic Strain Ageing Regime of Austenitic Stainless Steel 316 using Artificial Neural Network	Swadesh Kumar Singh	Materials and Design.	**International Journal**	**2012/35/589-595**
	Ingredients				

34	Composition formulations and development of a new metal matrix composite for friction lining applications using MINITAB16	Dareddy Ramana Reddy, Swadesh Kumar Singh	International Journal of Engineering and Technology, Publishers GSTF, Singapore,	**International Journal**	**2012/1/99-104**
35	Effect of grit size and abrasive type on surface finish of a machined Al-SiCp MMC	Dareddy Ramana Reddy	International Journal of Manufacturing Engineering, SME Publications	**International Journal**	**2012/7/67-71**
36	Performance Improvement of an Oil Fired Furnace through Oscillating Combustion Technology”	M.V.Aditya Nag, Dareddy Ramana Reddy	International Journal of Scientific Essays and Research (IJSER), USA,	**International Journal**	**2012/3(7)/1-4**
37	Characterization of Austenitic Stainless Steel Friction Surfaced Deposit Over Low Carbon Steel	D.Govardhan, K.G.K. Murti	Materials and Design	**International Journal**	**2012/ /206-214**
38	Prediction of Flow Stress in Dynamic Strain Ageing Regime of Austenitic Stainless Steel 316 using Artificial Neural Network	Swadesh Kumar Singh	Materials and Design	**International Journal**	**2012/35/589-595**
39	Numerical Investigations On Augmentation Of Heat Transfer In Oil Coolers	D Eswaraiah, SN Sarada	International Journal Of Engineering Research And Technology	**International**	**2012/1/1-6**
40	Assessment Practices in Engineering- A Review	Jandhyala N Murthy	The Journal of Engineering Education, XIII-Special Issue, Technological Universitites of India,	**National Journal**	**2012/25/19-25**
41	Periodic simulation Heat Transfer using CFD”	K.SIVA SATYA MOHAN	International Journal of Engineering Research and Technology	International Journal	**2013/2/21-26**

4.5.4 Entrepreneurship initiatives and innovations (5) Institute Marks : 5.00

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

Entrepreneurship Development Cell takes initiatives for motivating students in product designs and innovations concerned with the individual specialty.

Departmental Level Entrepreneurial Activities:

Event	Event Name / Effort	Achievements
2014-2015		
Entrepreneurship Initiatives	Incubation center for R & D Works is maintained in the Department, . design and Manufacturing work shop (L S Dyna software) CNC Lathe and milling seminar	All student projects are brought to the level of manufacturing
Product Designs	Design and manufacturing of the components on CNC Machines	All student projects are brought to the level of manufacturing
Innovations	Multi- purpose table	Made as a product
2013-2014		
Entrepreneurship Initiatives	design and Manufacturing work shop (L S Dyna software)	All student projects are brought to the level of manufacturing
Product Designs	Table Top Machines	All student projects are brought to the level of manufacturing
Innovations	Multi purpose solr system	Made as a product
2012-2013		
Entrepreneurship Initiatives	PCB design work shop (EAGLE software)	All student projects are brought to the level of manufacturing
Product Designs	Automated machine designs	All student projects are brought to the level of manufacturing
Innovations	Tabletop machine with multy purpose drilling	Made as a product

Institute Level Entrepreneurial Activities:

Year	Event	Achievement/ Impact
2014-15	1.Faculty Development programme in Entrepreneurship sponsored by NSTEDB ,organized by center for Entrepreneurship Development (CED). 2. Conducted Guest lecture on "Industrial opportunities, Entrepreneurship and soft skills" 3. Constituting managing committee for implementation of the scheme support for Entrepreneurial and managerial Development of SMEs through Incubators.	1. Establishment of Incubation center 2. Students actively joining family business. 3. process and practice of entrepreneurship development,
	1. conducted a competition on exhibiting and product development. 2. Organized a guest lecture on	

2013-14	Creativity and innovation. 3. Conducted Round table discussion on Employability initiatives in life sciences segment.	communication and inter-personal skills, creativity, problem solving, achievement motivation training.
2012-13	1. conducted a CEO speak Session on "The Entrepreneurial Journey". 2. Conducted a guest lecture on "Entrepreneur opportunities and challenges " 4. Submitted proposal for implementation of the scheme "support support for Entrepreneurial and managerial Development of SMEs through Incubators".	

5 Faculty Contributions (200) **Total Marks : 165.06**

List of Faculty Members:

Exclusively for the Programme / Shared with other Programmes

(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 u programme (2nd, 3rd, and 4th year) are considered to calculate the STR.)

Faculty Profile
For CAYm2 2012-2013

Name of the faculty member	Highest Qualification	University	Year of graduation	Designation	date of joining the institution	Distribution of teaching load (%)			Number of research publications in journals and conferences	IPRs	R&D and consultancy work with amount		Hold an incuba uni
						1st Year	UG	PG			Funding Agency	Amount	
Dr. K.G.K. Murti	PhD	MADRAS UNIVERSITY	1987	Professor	12/10/2013	0.00	0.00	100.00	6	None	national agency	8.50	YES
Dr. P.S.V. Kurma Rao	PhD	ANDHRA UNIVERSITY	1977	Professor	22/12/2005	0.00	0.00	100.00	5	None	national agency	6.00	YES
Dr. Adapa Rama Rao	PhD	JNTU	2007	Professor	12/12/2005	0.00	0.00	100.00	0	None	None	0.00	NO
Dr. Jandhyala N Murthy	PhD	Cranfield	1988	Professor	15/03/2001	50.00	50.00	0.00	2	None	None	0.00	no
Dr.Swadesh Kumar Singh	PhD	IIT DELHI	2005	Professor	08/01/2007	0.00	0.00	100.00	12	None	national agency	32.20	YES
Dr. V.V. Kutumba Rao	PhD	BANARAS HINDHU UNIVERS	1972	Professor	01/01/2010	0.00	50.00	50.00	5	None	None	0.00	NO
Dr.PAPN Varma	PhD	JNTU-HYD	2012	Professor	04/09/1998	0.00	0.00	100.00	3	None	None	0.00	NO
PPC Prasad	ME/ M Tech	recw	1979	Associate Professor	14/06/2004	0.00	50.00	50.00	2	None	None	0.00	YES
R. Raman Goud	ME/ M Tech	JNTU-HYD	2004	Associate Professor	15/09/2005	0.00	100.00	0.00	2	None	None	0.00	NO
B.Ch. Nooka Raju	ME/ M Tech	NITC	2004	Associate Professor	07/02/2005	0.00	100.00	0.00	1	None	national agency	6.00	YES
L. Jayahari	ME/ M Tech	BTH,SWEEDA	2005	Associate Professor	14/11/2005	0.00	100.00	0.00	2	None	None	0.00	NO
P. Santhi Babu	ME/ M Tech	REC-T	1992	Associate Professor	07/09/2009	50.00	0.00	50.00	0	None	None	0.00	NO
D.S. Naga Raju	ME/ M Tech	RGPVV BHOPAL	2002	Associate Professor	07/07/2006	0.00	100.00	0.00	1	None	None	0.00	NO
M. Aditya Nag	ME/ M Tech	JNTU-H	2012	Assistant Professor	14/09/2009	50.00	50.00	0.00	1	None	None	0.00	NO

P. Srinivas	ME/ M Tech	OU	2008	Assistant Professor	07/07/2008	0.00 100.00 0.00	1		None	None	0.00	NO
S. Ravi Shekhar	ME/ M Tech	JNTU	2012	Assistant Professor	14/07/2008	50.00 50.00 0.00	0		None	None	0.00	NO
V. Ratna Kiran	ME/ M Tech	RECW	2002	Assistant Professor	03/12/2008	50.00 50.00 0.00	6		None	None	0.00	NO
D.Eswaraiah	ME/ M Tech	JNTU-H	2010	Assistant Professor	21/07/2010	0.00 100.00 0.00	0		None	None	0.00	NO
Y. Shanti	ME/ M Tech	JNTU-K	2006	Assistant Professor	26/07/2010	0.00 50.00 50.00	1		None	None	0.00	NO
K.Vasundhara	ME/ M Tech	AU	2011	Assistant Professor	02/08/2010	0.00 50.00 0.00	1		None	None	0.00	NO
G Gayatri Tanuja	ME/ M Tech	JNTU-K	2008	Assistant Professor	27/06/2011	50.00 50.00 0.00	0		None	None	0.00	NO
U S Jyothi	ME/ M Tech	JNTU	2001	Assistant Professor	30/06/2011	50.00 50.00 0.00	0		None	None	0.00	NO
T Venkata Deepthi	ME/ M Tech	AU	2010	Assistant Professor	07/07/2011	0.00 50.00 50.00	0		None	None	0.00	NO
K Koteswara Rao	ME/ M Tech	SVU	1984	Associate Professor	12/12/2011	50.00 50.00 0.00	0		None	None	0.00	NO
J.Venkata Suresh	ME/ M Tech	JNTU	2005	Assistant Professor	17/06/2012	50.00 50.00 0.00	0		None	None	0.00	NO
G Durga Prasad	ME/ M Tech	IITK	2010	Assistant Professor	06/05/2012	50.00 50.00 0.00	0		None	None	0.00	NO
M Ratna Deepika	ME/ M Tech	NU	2011	Assistant Professor	15/06/2012	0.00 100.00 0.00	0		None	None	0.00	NO
A Anitha Lakshmi	ME/ M Tech	AU	2007	Assistant Professor	15/06/2012	50.00 50.00 0.00	0		None	None	0.00	NO
P.V.K.Chaitanya Raju	ME/ M Tech	JNTU	2012	Assistant Professor	01/12/2012	0.00 100.00 0.00	0		None	None	0.00	NO
Sudha Rani	ME/ M Tech	JNTU	2005	Assistant Professor	01/12/2012	0.00 100.00 0.00	0		None	None	0.00	NO
D Ramana Reddy	ME/ M Tech	IIT MADRAS	2006	Associate Professor	04/08/2008	0.00 50.00 50.00	0		None	None	0.00	NO
B Tanya	ME/ M Tech	JNTU-K	2011	Assistant Professor	04/06/2012	0.00 100.00 0.00	1		None	None	0.00	NO

For CAYm1 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	R&D and consultancy work with amount		Hold an incuba uni
						1st Year	UG	PG			Funding Agency	Amount	
Dr. Adapa Rama Rao	PhD	JNTU	2007	Professor	12/12/2005	0.00	50.00	0.00	0	None	None	0.00	NO
Dr. Jandhyala N Murthy	PhD	Cranfield	1988	Professor	15/03/2001	50.00	50.00	0.00	2	None	None	0.00	NO
Dr.Swadesh Kumar Singh	PhD	IIT DELHI	2005	Professor	08/01/2007	0.00	0.00	100.00	12	Copyrights	national agency	32.20	YES
Dr.PAPN Varma	PhD	JNTU-HYD	2012	Professor	04/09/1998	0.00	0.00	100.00	3	None	None	0.00	NO
R. Raman Goud	ME/ M Tech	JNTU-H	2004	Associate Professor	15/09/2005	0.00	100.00	0.00	2	None	None	0.00	NO
B.Ch. Nooka Raju	ME/ M Tech	NITC	2004	Associate Professor	07/02/2005	0.00	100.00	0.00	1	None	national agency	6.00	YES
L. Jayahari	ME/ M Tech	BTH,SWEEDAN	2005	Associate	14/11/2005	0.00	100.00	0.00	2	None	None	0.00	NO

				Professor							
D.S. Naga Raju	ME/ M Tech	RGPVV-BHOPAL	2002	Associate Professor	07/07/2006	0.00 100.00 0.00	1	None	None	0.00	NO
P.SRINIVAS	ME/ M Tech	OU	2008	Assistant Professor	07/07/2008	0.00 100.00 0.00	1	None	None	0.00	NO
S.Ravishekar	ME/ M Tech	JNTU	2012	Assistant Professor	14/07/2008	50.00 50.00 0.00	0	None	None	0.00	NO
D.ESWARAIAH	ME/ M Tech	JNTU-H	2010	Assistant Professor	21/07/2010	0.00 100.00 0.00	0	None	None	0.00	NO
Y.SHANTI	ME/ M Tech	JNTU-K	2006	Assistant Professor	26/07/2010	0.00 50.00 50.00	1	None	None	0.00	NO
K.VASUNDHARA	ME/ M Tech	AU	2011	Assistant Professor	02/08/2010	0.00 50.00 50.00	1	None	None	0.00	NO
U.S.JYOTHI	ME/ M Tech	JNTU	2001	Assistant Professor	30/06/2011	0.00 50.00 50.00	0	None	None	0.00	NO
T.DEEPTHI	ME/ M Tech	AU	2010	Assistant Professor	07/07/2011	50.00 50.00 50.00	0	None	None	0.00	NO
K.KOTESWARARAO	ME/ M Tech	SVU	1984	Associate Professor	12/12/2011	50.00 50.00 0.00	0	None	None	0.00	NO
J.VENKATA SURESH	ME/ M Tech	JNTU	2005	Assistant Professor	17/06/2012	50.00 50.00 0.00	0	None	None	0.00	NO
M.RATNADEEPIKA	ME/ M Tech	NU	2011	Assistant Professor	15/06/2012	0.00 100.00 0.00	0	None	None	0.00	NO
A.ANITHA LAXMI	ME/ M Tech	AU	2007	Assistant Professor	15/06/2012	0.00 50.00 50.00	0	None	None	0.00	NO
B.TANYA	ME/ M Tech	JNTU-K	2011	Assistant Professor	04/06/2012	0.00 100.00 0.00	1	None	None	0.00	NO
Dr.Satyanarana	PhD	NIT-warangal	2013	Assistant Professor	17/02/2014	0.00 0.00 100.00	3	None	None	0.00	NO
M.Mamatha Gandhi	ME/ M Tech	JNTU-K	2012	Assistant Professor	27/04/2013	100.00 0.00 0.00	0	None	None	0.00	NO
K.SIVA SATYA MOHAN	ME/ M Tech	JNTU-H	2005	Assistant Professor	10/06/2013	0.00 100.00 0.00	5	None	None	0.00	NO
K.RATNA BABU	ME/ M Tech	JNTU-H	2010	Assistant Professor	10/06/2013	0.00 50.00 50.00	1	None	None	0.00	NO
K.PRASHANTH REDDY	ME/ M Tech	JNTU-H	2007	Assistant Professor	03/07/2013	50.00 50.00 0.00	4	None	None	0.00	NO
CH.PRASHANTHI	ME/ M Tech	JNTU-K	2011	Assistant Professor	04/12/2013	50.00 50.00 0.00	0	None	None	0.00	NO
G,GAYATRI	M.Sc.	JNTU-H	2011	Assistant Professor	12/08/2013	50.00 50.00 0.00	0	None	None	0.00	NO
Dr.K.G.K.Murthy	PhD	Madras University	1987	Professor	12/10/2013	0.00 0.00 100.00	6	None	national agency	8.50	yes
Dr.P.S.V.Kurma Rao	PhD	Andhra University	1977	Professor	22/12/2005	0.00 0.00 100.00	5	None	national agency	6.00	yes
P.P.C.Prasad	ME/ M Tech	REW	1979	Associate Professor	14/06/2004	0.00 50.00 50.00	2	None	None	0.00	no

For CAY 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&D and consultancy work with amount		Hold an incuba uni
						1st Year	UG	PG			Funding Agency	Amount	
Dr. Adapa Rama Rao	PhD	JNTU	2007	Professor	12/12/2005	0.00	0.00	100.00	0	None	None	0.00	NO

Dr. Jandhyala N Murthy	PhD	Cranfield	1988	Professor	15/03/2001	50.00 0.00 0.00	2	None	None	0.00	no
Dr.Swadesh Kumar Singh	PhD	IIT DELHI	2005	Professor	08/01/2007	0.00 0.00 100.00	12	None	national agency	32.20	YES
Dr.N,Satish	PhD	OU	2010	Professor	30/07/2014	0.00 0.00 100.00	5	None	None	0.00	no
Dr.Krthikeyan	PhD	ANAMALA UNIVERSITY	2012	Professor	24/12/2014	0.00 50.00 50.00	0	None	None	0.00	NO
Dr.Ramasubbaiah	PhD	singhania university,pillani	2013	Professor	24/12/2014	0.00 50.00 50.00	0	None	None	0.00	no
Dr.K.Satyanarayana	PhD	NIT-WARANGAL	2013	Assistant Professor	17/02/2014	0.00 0.00 100.00	3	None	None	0.00	NO
R.RAMAN GOUD	ME/ M Tech	JNTU-H	2014	Associate Professor	15/09/2005	0.00 100.00 0.00	2	None	None	0.00	NO
B.CH.NOOKARAJU	ME/ M Tech	NITC	2004	Associate Professor	07/02/2005	0.00 100.00 0.00	1	None	national agency	6.00	YES
L.JAYAHARI	ME/ M Tech	BTH,SWEDAN	2005	Associate Professor	14/11/2005	0.00 100.00 0.00	2	None	None	0.00	NO
D.S.NAGARAJU	ME/ M Tech	RGPVV,BHOPAL	2002	Associate Professor	07/07/2006	0.00 100.00 0.00	1	None	None	0.00	NO
P.SRINIVAS	ME/ M Tech	OU	2008	Assistant Professor	07/07/2008	0.00 100.00 0.00	1	None	None	0.00	NO
S.RAVISHEKAR	ME/ M Tech	JNTU	2012	Assistant Professor	14/07/2008	50.00 50.00 0.00	0	None	None	0.00	NO
D.ESWARAIAH	ME/ M Tech	JNTU-H	2010	Assistant Professor	21/07/2010	0.00 100.00 0.00	0	None	None	0.00	NO
Y.SHANTHI	ME/ M Tech	JNTU-K	2006	Assistant Professor	26/07/2010	0.00 50.00 50.00	1	None	None	0.00	NO
US.JYOTHI	ME/ M Tech	JNTU	2001	Assistant Professor	30/06/2011	0.00 50.00 50.00	0	None	None	0.00	NO
T.DEEPTHI	ME/ M Tech	AU	201	Assistant Professor	07/07/2011	0.00 50.00 50.00	0	None	None	0.00	NO
K.KOTESWARARAO	ME/ M Tech	SVU	1984	Associate Professor	12/12/2011	50.00 50.00 0.00	0	None	None	0.00	NO
J.VENKATA SURESH	ME/ M Tech	JNTU	2005	Assistant Professor	17/06/2012	50.00 50.00 0.00	0	None	None	0.00	NO
M Ratna Deepika	ME/ M Tech	NU	2011	Assistant Professor	15/06/2012	0.00 100.00 0.00	0	None	None	0.00	NO
A Anitha Lakshmi	ME/ M Tech	AU	2007	Assistant Professor	15/06/2012	50.00 50.00 0.00	0	None	None	0.00	NO
B.TANYA	ME/ M Tech	JNTU-K	2011	Assistant Professor	04/06/2012	0.00 100.00 0.00	1	None	None	0.00	NO
K.Prashanth reddy	ME/ M Tech	jntu-h	2007	Assistant Professor	30/06/2010	0.00 50.00 50.00	4	None	None	0.00	NO
M.MAMATHA GANDHI	ME/ M Tech	JNTU-K	2012	Assistant Professor	27/04/2013	100.00 0.00 0.00	0	None	None	0.00	NO
K.SIVA SATYA MOHAN	ME/ M Tech	JNTU-H	2005	Assistant Professor	10/06/2013	0.00 100.00 0.00	5	None	None	0.00	NO
K.RATNA BABU	ME/ M Tech	JNTU-H	2010	Assistant Professor	10/06/2013	0.00 50.00 50.00	1	None	None	0.00	NO
CH.PRASHANTHI	ME/ M Tech	JNTU-K	2011	Assistant Professor	04/12/2013	50.00 50.00 0.00	0	None	None	0.00	NO
S.BHANU TEJA	ME/ M Tech	JNTU-K	2014	Assistant Professor	02/06/2014	50.00 50.00 0.00	0	None	None	0.00	NO
				Assistant							

CH.BANDHAVI	ME/ M Tech	JNTU-K	2012	Professor	02/09/2014	50.00 50.00 0.00	0	None	None	0.00	NO
L.KIRAN KUMAR	ME/ M Tech	UNIVERSITY OF ARKANSAS	2006	Assistant Professor	09/09/2014	0.00 100.00 0.00	1	None	None	1.00	NO
S.SRAVAN SASHANKK	ME/ M Tech	MANIPAL UNIVERSITY	2013	Assistant Professor	11/09/2014	0.00 100.00 0.00	0	None	None	0.00	NO
V.BALAJI	ME/ M Tech	JNTU-H	2014	Assistant Professor	07/07/2014	50.00 50.00 0.00	0	None	None	0.00	NO
K.P.SIREESHA	ME/ M Tech	JNTU-K	2013	Assistant Professor	20/08/2014	100.00 0.00 0.00	0	None	None	0.00	NO
B.KRISHNA MOHAN	ME/ M Tech	JNTU-K	2012	Assistant Professor	11/06/2014	50.00 50.00 0.00	0	None	None	0.00	NO
LIN PRAKASH PS	ME/ M Tech	IIT-HYD	2014	Assistant Professor	21/07/2014	0.00 100.00 0.00	0	None	None	0.00	NO

5.1 Student-Teacher Ratio (STR) (20)

Total Marks : 17.44

Institute Marks : 17.44

U1 = Number of Students in UG 2nd Year
U2 = Number of Students in UG 3rd Year
U3 = Number of Students in UG 4th Year
P1 = Number of Students in PG 1st Year
P2 = Number of Students in PG 2nd Year
N1 = Total Number of Faculty Members in the Parent Department
S=Number of Students in the Parent Department
= U1 + U2 + U3 + P1 + P2
Student Teacher Ratio (STR) = S / N1
Assessment = [20 x 13 /STR], subject to maximum of 20

Year	U1	U2	U3	P1	P2	S	N1	STR	Assessment
2014-2015	216	144	144	11	11	526	33	15.94	16.31
2013-2014	144	144	144	11	10	453	28	16.18	16.07
2012-2013	144	144	144	10	14	456	35	13.03	19.95

Average assessment 17.44

5.2 Faculty strength in PG programme (20)

Total Marks : 13.37

Institute Marks : 13.37

Assessment = 20 x [X/Y]
X = Number of faculty members with Ph.D available for PG Programme
Y = Number of faculty members with Ph.D. / M.Tech. / M.E available for PG Programme
Assessment will be done on the basis of the number of faculty members with Ph.D./M.Tech./M.E., available for the PG programme. [Minimum number suggested: 4]

Year	X	Y	Assessment
2014-2015	5	8	12.50
2013-2014	5	7	14.29
2012-2013	6	9	13.33

Average assessment 13.37

5.3 Faculty Qualifications (30)

Total Marks : 30.00

Institute Marks : 30.00

Assessment = 3 × FQI
where, FQI = Faculty qualification index
= (10x + 6y + 4 z0)/N2
such that, x + y +z0 <= N2; and z0 <= z
where, x = Number of faculty members with PhD
y = Number of faculty members with ME/ M Tech
z = Number of faculty members with BE / BTech / MSc.

	X	Y	Z	N	FQI	Assessment
2012-2013	7	25	-29	5	10.00	30.00
2013-2014	7	22	-26	3	10.00	30.00
2014-2015	7	28	-32	7	10.00	30.00

Average assessment 30.00

5.4 Faculty Competencies correlation to Programme Curriculum (15) Total Marks : 15.00

Institute Marks : 15.00

(Indicate the faculty competencies (specialisation, research publication, course developments etc.) to correlate the programme curriculum)

In GRIET, the quality and performance of the students during their course duration and subsequent passage in their careers are very important considerations. The institution evaluates student performance, advises students regarding curricular and career matters, and also monitors student's progress to foster their success in achieving program outcomes, thereby enabling them as uggraduates to attain program objectives. The institution has enforced policies for the validation of programme curriculum to satisfy the applicable programme criteria specified by the SAE and SME.

GRIET has the required number of faculty with relevant competency and qualification to satisfy all of the curricular areas of the program. The institution accommodates adequate levels of student-faculty interaction, student advising and counseling by the faculty, University service activities, professional development, and interactions with industrial and professional practitioners, as well as employers. The faculty ensures that the program curriculum devotes adequate attention and time to each component, consistent with the outcomes and objectives of the program and institution.

Our faculty has appropriate qualifications and demonstrate sufficient authority to ensure proper guidance of the program and to develop and implement processes for the evaluation, assessment, and continuing improvement of the program, and its objectives and outcomes. Our faculty has the overall competence with diversity of backgrounds, engineering experience, teaching experience, ability to communicate, enthusiasm for developing more effective programs, level of scholarship, participation in professional societies.

The details of the faculty competencies that correlate to the Programme Specific Criteria are given in the tables below:

Specialization	Name of the faculty	Subjects handled
Manufacturing	Dr. Swadesh Kumar Singh	Metallurgy and material science
	Dr R. Karthikeyan	Production Technology
	Dr.K.Satyanarayana	Machine tools, Tool Design
	Dr. Sudheer Reddy	Advanced in Manufacturing Technology
	Dr.Rama subaiah	Metallurgy and material science, Production technology
	R.Raman Goud	Production technology, Automation in Manufacturing
	S.Ravi Sekhar	Manufacturing of MEMS and Micro systems
	P.Srinivas	Tool design
	K Ratna Babu	Computer aided Manufacturing
	S.Sravan Sashank	Special Manufacturing Process
	B.Tanya	Engineering Graphic and Machine drawing
	M.Rathna Deepika	Unconventional Machining
	Ch Bandhavi	Metrology
Design	Dr.N.Sateesh	Advanced CAD, FEM
	Dr. L. Jaya Hari	Design of Machine Members
	Lin Prakesh	Advanced Mechanics of Solids
	Y.Shanti	Dynamics of Machinery
	T.Venkat Deepthi	CAD/CAM
	A.Anitha Laxmi	Design of Hydraulic and pneumatic system
	B.Krishna Mohan	Design for Manufacturing and Assembly
	M Mamatha Gandhi	Design of MEMS
	B.Balaji	Mechanics of Solids
	KP.Sirisha	Kinematics of Machinery
Thermal	Dr. Jandhyala Narayana Murthy	IC Engines
	Dr.A.Ramara Rao	Power plant Engineering
	B.Ch.Nookaraju	Applied Thermodynamics
	Dr.R.Ganesh	Heat and Mass transfer
	D S Nagaraju	Heat Transfer
	K.Prashath Reddy	Computation Fluid Dynamics
	U.S.Jyothi	IC Engines
	K Sunil Reddy	Engineering Mechanics
	D.Eswaraiah	Thermodynamics
	J.Venkata Suresh	Computation Fluid Dynamics
	K.S.S.Mohan	Thermodynamics
	S.Bhanu Teja	Thermodynamics
	L.Kiran Kumar	Fluid mechanics and Hydraulic Machinery

Manufacturing Specialization

	Dr Swadesh Kumar Singh is presently working as a Professor in the

	department of mechanical Engineering at Gokaraju Rangaraju Institute of Engineering & Technology. He has completed MTech and PhD from Indian Institute of Technology Delhi in the area of Metal Forming. He has 3 years of industrial and 10 years of experience in teaching and research. He has completed projects worth of 80 lakhs funded by deferent research organization like DST,AICTE. Presently he has 2 ongoing projects.
	Dr R. Karthikeyan received his A.M.I.E (Mechanical) from The Institution of Engineers (India), Kolkata, M.E (Thermal Power Engineering) and Ph.D (Manufacturing Engineering) from Annamalai University, Annamalai Nagar. He worked in Fabrication, Non Destructive Testing and Special Waste Destruction (Incineration, Physical – Chemical Treatment, Recycling) concepts. And he contributed as a Co-Investigator in the project of Extramural Research & Intellectual Property Rights (ER&IPR), DRDO. He has published three research papers in international, one in national journal and made six presentations in both national and international conferences on various aspects of friction stir spot welding of age-hardenable luminium alloys. He is a life member of The Institution of Engineers (India), the Indian Welding Society and ISTE. Now, he is working as Professor in this institution.
	Dr.K.Satyanarayana done his master from National Institute of technology Warangal with a specialization Product Design and Development 2009. He has awarded doctorate degree in mechanical Engineering from National Institute of technology Warangal 2013. His area of interest includes manufacturing, machine tool design and optimization. He has published 16 papers in international journals and conferences. He is member in the ASME and World Academic – Industry Research Collaboration (WAIRCO) professional bodies. Presently he is working as Assistant professor in this institution
	Dr.Sudheer Reddy graduated from Nagarjuna University and accomplished M.E in Design Engineering from BITS Pilani. He has obtained ph.D in Mechanical Engineering from National Institute of Technology, Karnataka. He worked for a short stinct at General Motors India and has 13 years of experience in teaching. His Research interest includes processing and characterization of Metal Matrix Composites, in particular optimizing processing parameters of stir casting technique and has published around 10 research papers in International/National Journals/Conferences. He has experience in other activities of the institute such as Industry-Institute Interaction.
	Dr.Ram Subbiah is working as an Associate Professor in the Department of Mechanical Engineering at Gokaraju Rangaraju Institute of Engineering and Technology, Hyderabad, Telangana. He holds his B.E in Mechatronics Engineering, Anna University, Chennai, M.Tech (Gold Medallist) in Computer Integrated Manufacturing, SRM University, Chennai, MBA in Education Management, Alagappa University, Karaikudi, Ph.D on Surface Hardening from Singhania University, Pilani, Rajasthan. He has overall 8 years of academic experience from various reputed engineering colleges. He has published 11 papers in International Journals, 27 National Conferences and 14 International Conferences. He is a life member of Indian Society of Technical Engineers. He has keen interest in the field of research spanning Mechatronics based systems, Material science related projects.
	R.Raman Goud graduated in Mechanical Engineering from Osmania university and his master degree from JNTUH, Hyderabad 2004 in Advanced Manufacturing System as specialization. He is pursuing doctorate degree in Mechanical Engineering with a specialization in metal forming from JNTUH, Hyderabad. He has 10 years of experience in teaching and research. He has published more than 5 papers in international journals and conferences. Presently he is working as Associate Professor in this institution.
	**Mr.S.Ravi Sekhar**, M.Tech from JNTU Hyderabad is specialized in Design for Manufacturing and has 17 years industrial experience and 13years teaching experience and academic record in BE (Mech Engg), Diploma in ISM. He has worked in Chemical & Drug Industries in and around Hyderabad as Manager (Maintenance & Safety) as Maintenance and Safety manager, he is experienced in implementing the Work Order System for all the mechanical works, Preventive Maintenance Schedules for all the Equipment, Calibration Records for all the Instruments/Testing Equipment, To upkeep all Utilities like Compressors,Chilling Plant, DG set, Boiler and all types of Pumps etc., `Industrial Safety`& Employees Safety, under this, ensured to meet all Factory's Act and statutory requirements. He has handled Instrumentation and Control Systems Lab.His versatile knowledge in different Machinery/Instruments pertaining to the Industry understanding the basic concepts and depth of the subject with ease. His experience, practical knowledge and innovative teaching practices helped to students in understanding the subject and creativity in designing prototypes. His practical knowledge helps to demonstrate the theoretical knowledge and technical skills in the performance of lab testings, error recognisation and ability to integrate and interpret analytical data in Instrumentation & Control Systems Lab. His vast Maintenance experience helps the students in developing projects that meet the industry needs. He also conducted and attended many

	programmes related to the Industrial Maintenance and Safety. He is an asset for the students and the organization.
	**Mr P Srinivas**, M.Tech, specialized in the area of Tool Design from Osmania University and has 5 years teaching experience, guided more than 10 graduate students. He is currently handling Machine Drawing for B.Tech and Tool design for M.Tech (Design for Manufacturing). He has participated in the workshops conducted in the college. He had very close interaction with students to improve knowledge in the above mentioned areas.
	**Mr K.Ratna Babu**,M.Tech, from JNTUH is specialized in Advanced Manufacturing Systems. He is having four years of teaching experience. He has handled Mechanics of solids, Theory of Machines, Machine Design, Production Drawing Practice Lab and Finite Element Methods. He has participated in the workshops conducted in the college.He had very close interaction with students to improve knowledge in the above mentioned areas.Design of Machine Members is the basic subject for designing parts of machine elements.By learning Production Drawing students can draw the orthographic projections of mechanical components very effectively.
	**Mr.S Shravan Shashak** currently working as Assistant Professor in Gokaraju Rangaraju Institute of Engineering and Technology. His total Experience is teaching 2 Years. He has done his M-Tech from **Manipal Institute of Technology, Manipal University, Manipal** and B-Tech (Mechanical) from **Vidya Jyothi Institute of Technology, JNTU Hyderabad**. He has done Internship at BHEL R&D, Hyderabad for a period of 10 months where he was involved in the research work on New Product Development on **"Development of Wire Winding Machine"** which involves Design, Analysis and also Manufacturing of Wire Winding Machine which involved tools **AutoCAD, Solid Works, MSC Adams**. He also worked at RANE Brake Valves Limited for the project work on Brake Valves in improving the efficiency of the Brake Pads during the manufacturing/machining operations.
	**Mrs B Tanya**,M.Tech from JNTUK specialized in Machine Design.She has published research paper in International journal.She has attended many Faculty development programs in the areas of material science, Research methodology, advanced manufacturing Technology.She handled Engineering drawing, kinematics of machinery. Her versatile knowledge in different Machine design tools guides the students in understanding the basic concepts and depth of the subject with ease. Her experience helps the students in developing projects that meet the industry needs.
	**Mrs Ratna Deepika**,M.Tech from JNTUK specialized in CAD/CAM. She has published research paper in National and International journals. She has attended many Faculty development programs in the areas of material science, Research methodology, advanced manufacturing Technology. She handled Engineering drawing, CAD/CAM. Her versatile knowledge in different CAD/CAM tools guides the students in understanding the basic concepts and depth of the subject with ease. Her experience helps the students in developing projects that meet the industry needs.
	**Mrs C Bandhavi, obtained his Masters from JNTUK with the specialization CAD/CAM.** She has attended many Faculty development programs in the areas of material science, Research methodology, advanced manufacturing Technology. Her experience helps the students in developing projects that meet the industry needs
Design Specilization	
	Dr. N. Sateesh graduated in Mechanical Engineering from Nagarguna University AP, 1992. He has done his master degree from JNTUH, Hyderabad 2002 in CAD/CAM specialization. He has awarded doctorate degree in Mechanical Engineering from Osmania University, Hyderabad, 2010. He has 6 years of industrial experience and 15 years of experience in teaching and research. His area of research in CAD/CAM, Composite materials, Modelling and Simulation. He has published more than 25 papers in international journals and conferences. Presently he is working as Professor in this institution.
	Dr Lade Jayahari, completed his doctorate degree from JNTUH Hyderabad and holds Master's degree from Blekinge Institute of Technology (BTH), KARLSKRONA, SWEDEN with specialization 'structural Mechanics'. He has published 8 research papers in reputed International and national conference and also published a research Paper in Elsevier journal like, Journal of King Saud University – Engineering Sciences and 3 Pier viewed journal papers are in review. He is an organizing Committee member of annually conducted International conference ICMPC and also an organizing committee member of faculty development programme organized in GRIET 2013 and also attended many FDP Programes to enhance his knowledge. At

	present he's working as an Associate professor in the department of mechanical engineering in GRIET and he is eminent faculty in teaching Design subjects and to guide the Projects and knowledge transfer to them in recent advances.
	**Mr.Lin Prakash P.S**, holds M.Tech from IIT Hyderabad & is specialized in Manufacturing Engineering. His MTech research work was in the field of Incremental Sheet Metal Forming which is one of the latest developments in metal forming. Recently he participated in the workshop on FRP Composites. Presently he is working as an Assistant Professor in the department of Mechanical Engineering in GRIET. He has proficiency in MATLAB & softwares like ANSYS, ABAQUS etc. Which will helpful for students to develop analysis skills.
	**Mrs Y.Shanti**, pursuing Ph.D in GITAM University in the area of vibration of beams. She completed her M.Tech in JNTU Kakinada with specialization Machine Design. She attended many faculty development programmes and conferences held under the area of design. This experience is helping her to guide B.Tech & M.Tech students for their projects which meet the industry needs. She has presented a paper in national conference which was related to vibrations. This experience is an asset to her which can help student to know more about new technologies implemented in design. She is having 7 years of teaching experience in the area of Machine Design. She has guided the students in understanding the basic concepts and depth of the subject. She has handled dynamics of machinery, engineering drawing subject, from these subjects students will be provided to have problem solving capability and drafting capability for the design.
	**Mrs T. Venkata Deepthi,** Pursuing Ph.D from JNTUH completed her M.Tech from Andhra University, with specialization CAD/CAM. She attended many faculty development programmes under the area of Computer Aided Design and Manufacturing. That experience is helping her to guide B.Tech & M.Tech students for their projects which meet the industry needs. This experience is an asset to her which can help student to know more about new technologies implemented in design. She is having 5 years of teaching experience in the area of CAD/CAM. She has guided the students in understanding the basic concepts and depth of the subject and help the student to gain knowledge in this regards. She handled Mechanics of Solids, CAD/CAM, and Engineering drawing subjects. From these subjects students will be provided to have problem solving capability and drafting capability for the design
	A.Anitha laxmi done her masters form Andhra university with the specialization CAD/CAM. She is perusing her doctorate degree in mechanical engineering with a specialization in metal forming from Andhra university. She has 5 years of experience in teaching and research. He has published more than 2 papers in international journals and conferences. Presently he is working as Assistant Professor in this institution.
	Mr. B. Krishna Mohan presently working as an Assistant professor in GRIET. His specializations includes Finite Element Methods, Computational Fluid Dynamics. He is having a total of 3 years of industrial and 10 years of teaching experience. He has having skills in CAD Software: Solidworks 2013, AutoCAD 2014 and in CAE: ABAQUS 2013, Ansys 2014. Presently he is handling the class work for IV^{rth} BTech.
	**Mrs M. Mamatha Gandhi**, completed M.Tech from JNTUK specialization in CAD-CAM.She has 3 years of teaching experience & currently handling Engineering drawing. She has published paper in international,e-journals on Strength Analysis of Exhaust manifold of MPV Two cylinder Engine. She has attended workshops and faculty development programs in the area of machine design. Her knowledge in machine design & Engineering drawing helps the students in understanding the basics with ease.
	**Mr.V.Balaji** holds M.Tech from JNTU Hyderabad & is specialized in Advanced Manufacturing Systems. He is having 7 years of industrial experience & 4 years of teaching experience. He had worked with Sunkap Automation Limited, Hyderabad for 3 years as Assistant manager (Production),he had worked with EPE Process Filters & Accumulators limited, Hyderabad as Assistant manager (Production).He had also worked in Defence Machinery Design Establishment, an Indian Navy work center, Secunderabad for 2 years as Technical Consultant in Reverse Engineering division. Currently he is working as an Assistant Professor in the department of Mechanical Engineering in GRIET. His industrial experience and teaching experience will be helpful to the student in developing their technical skills as well as knowledge both in practical & theoretical ways. He has expertise in softwares like ANSYS, Pro E & SAP(PP).

	K.P.Sireesha holds M.Tech from JNTU Kakinada in 2013. Presently she is working as assistant professor in department of mechanical Engineering at GRIET. she published paper in international-journals on Structural and Modal Analysis of Frameless Chassis I. she has attended workshops and faculty development programs in the area of machine design.
Thermal Engineering Specilization	
	**Dr. Jandhyala N Murthy,** B.Tech (Mech) from IIT Madras, MS (Thermal Engineering), Ph.D (Combustion) from Cranfield Institute of Technology, UK, served in the Maintenance Branch of the Indian Air Force as an AE (M) officer for over 25 years , held various appointments looking after operations, overhaul , training at unit, station and command levels. He was an instructor at Air Force Technical College, Bangalore. He had tenure at combustor division, Gas Turbine Research and Development Establishment, Bangalore. He led an IAF Technical Training Team for providing training and maintenance support to Botswana Defence Force, Africa. He is an alumnus of Defence Services Staff College, Wellington. Currently a Professor in Department of Mechanical Engineering ,holding the appointment as the Principal of GRIET,an NBA accredited and autonomous college under JNTU Hyderabad. His areas of interest span the Thermal Engineering domain, Gas Turbine Combustion chambers and Simulation.
	**Dr. Adapa Rama Rao,** did M.Tech from REC (NIT) Warangal and did Ph.D from JNTU. He is a Doctorate did Product Research on Power generation by Gas Turbines with Fire Advance Technology. He published 13 research papers in both national and international journals and participated in 7 conferences. He worked in M/s BHEL for 26 years as Dy. General Manager (Production) and developed four new products like Oil Rigs, Large Steam Turbines, Pulverizes and Gas Turbines. He was deputed to many developed countries like USA, UK, Germany, Malaysia etc. Presently working in GRIET since 8 years as Dean and Professor. Form last 14 years he is developing the students for soft skills and CRT programs for grooming the students for campus placements. He is teaching the subjects like Power Plant engineering, and Automobile engineering with practical, industrial and example oriented methods. He created Course Files system and conducted the Faculty Development Programs. With his vast Industrial and Teaching experience for more than 40 years (26+14), he became an asset to the students community as well as for management. He conducted many Industrial tours while teaching the subjects for both UG & PG students; he is taking part in administration activities.
	**Mr B.Ch.Nookaraju,** pursuing **Ph.D** from JNTUH Hyderabad and holds Master's degree from National Institute of Technology NIT Calicut, with specialization as 'Thermal Sciences'. Presently he is working as an Associate professor and Head Of the Department, in the department of mechanical engineering in GRIET and he is eminent faculty in teaching Thermodynamics, Fluid Mechanics and Hydraulic Machines subjects and his research work is going on in the area of Heat Transfer analysis in Heat pipes helps the student community to guide the Projects and knowledge transfer to them in recent advances in Thermal Engineering. He is the co-principal investigator for **AICTE** sanctioned Research Project on Heat Pipes. He prepared Fluid mechanics and Hydraulic machines manual for the B.Tech students. He has published 5 research papers in reputed national conferences and two papers are under review in international journals. He is an organizing Committee member of annually conducted International conference ICMPC and also an organizing committee member of faculty development programme organized in GRIET and also attended many FDP Programes to enhance his knowledge. His versatile knowledge in thermal subjects guide the students in understanding the basic concepts and depth of the subject with ease.
	Dr.R.Ganesh graduated from University of Madras in Mechanical Engineering. He has done his Masters from Anna University, Chennai in the specialization Computer Integrated Manufacturing and Doctorate from Anna University, Chennai in the specialization Characterization and machinability of Metal Matrix Composites. He has excellent academic track record and secured University 4th rank in B.E and Gold Medal in M.E. He has overall 11 years of acedamic experience in various reputed engineering colleges. He has published around 23 technical and research papers in reputed International, national journals and conferences. He is a life member of IACSIT and member of Society of Automotive Engineers (SAE). Currently he is working as Associate Professor in this institution. He is a life member of The Institution of Engineers (India), the Indian Welding Society and ISTE. Now, he is working as Professor in this institution.
	Mr D.S. Nagaraju, Obtained B.Tech., Mechanical Engineering with distinction from S.V. University, Tirupathi in the year 1999 and M.E , Industrial Engineering and Management with distinction from SGSITS Indore (M.P) in the year 2002. Presently He is pursuing PhD in Supply Chain Management from JNTU Hyderabad. His research interests include supply chain management, Optimization techniques, Simulation

	studies Manufacturing Techniques. He has 12+ years of experience. He has guided M.Tech and B.Tech students. He is expert in handling subjects like Operations Research, Plant layout & Materails Management, Hydraulic Machines, Engineering Graphics, Production & Operations Management, Applied Thermo Dynamics.
	**Mr K. Prasanth Reddy**, M.Tech (Thermal Engineering) and pursuing Ph.D from JNTU college of engineering Hyderabad is specialized in heat transfer. He has published research papers in national and international conferences, 1 international journal has an impact factor of 0.4. He has 12 years' experience in teaching undergraduate students of mechanical engineering His knowledge in the field of CFD analysis with software tools like ANSYS has allowed the students to get awareness to modern mechanical engineering tools necessary for finding solutions to engineering problems. His long experience in teaching subjects like engineering mechanics has guided the students to apply the knowledge of maths and science in order to design innovative and novel products. His contribution to the department's progress is appreciable.
	**Mrs U.S.Jyothi**,pursuing Ph.D from JNTU,Hyderabad in Alternative fuels of internal combustion engines.She completed her master's in Thermal Engineering. She is having 12 years of Industrial experiance. She has two years of teaching experience and taught subjects like Thermodynamics, Applied thermodynamics and Automobile Engineering and handling Thermal Engineering lab. Her experience in maintenance, design of the systems and performance of the engines of the Automobiles helps the students to implement industry standards in their projects. Further her experience helps the student to understand the impact of engineering solutions in a global economic, environmental and social context. She was the key contributor in preparing the online manuals & videos for Thermal engineering lab experiments. Her experience as a personnel officer helps in coordinating the parents of poor performing students and to motivate the students towards maintenance of good attendance and achieving good academic results. She is also member of technical committee for International Conference on Material Processing and Characterization (ICMPC)
	**Mr.K.Sunil K Reddy**, M.Tech from NIT Calicut is specialized in Thermal Sciences. He is having 12 years of industrial & teaching experience. He has handled Engineering Mechanics, Mechanics of Solids Lab and Heat Transfer for undergraduate students. He has participated in the workshops conducted in the college. He has MBA degree from Wolverhampton University in UK & also have international work experience from UK. His versatile knowledge in different subjects guides the students in understanding the basic concepts & depth of the subject with ease.
	**Mr D. Eswaraiah**, M.Tech, from JNTUH is specialized in Thermal Engineering. He is having three years of teaching experience. He has published and presented one international journal and one international conference. He has handled various subjects like Thermal engineering, Heat Transfer, Thermal Engineering lab, Fluid Mechanics and Hydraulic Machinery lab. He is currently handling Applied thermodynamics-II and Thermal Engineering lab. He has participated in the workshops conducted in the college as well as JNTU university. He has worked in the domain of Mechanical Software's like Ansys CFX; it is very helpful for numerical analysis in the areas of heat transfer and fluid flow, which in turn help the students to get an enhancement of knowledge in those areas. He had very close interaction with students to improve knowledge in the above said areas..
	**Mr Venkata Suresh Javvadi, M.Tech (Energy Systems) & Pursuing Ph.D.(Mechanical engineering) from JNTUCE; Hyderabad is specialized in Heat Transfer. He has nearly 8 Years of experience which includes 4 years of Teaching & 3.6 Years of Industry. He has presented a paper in National Conference & also another paper in International Conference. He has attended many Faculty Development Programs. He has worked in the areas of Mechanical Software's like Plant Design Software(PDS), is a comprehensive, intelligent Computer-aided Design/engineering application for plant design, construction and operations, Which in turn help the students to get an employ ability in the domain of Oil & gas, Process, Chemical, Thermal areas. His Knowledge in Design, guides the students in understanding the basic concepts & depth of subject with ease. He has taught different subjects like Engineering Drawing, Machine Drawing which helps the students to enhance the their logical thinking, understanding of Basic principles, finding solutions to mechanical engineering problems etc**
	Mr K.Siva Satya Mohan, M.Tech from JNTU Anantapur affiliated to JNTUH and Pursuing Ph.D from Andhra University from 2010 onwards. His research area is Heat Transfer. He has Published on International Journal in April 2013. He has 9 years of teaching

	experience including Foreign teaching experience (Eritrea, East Africa). He has attended nearly 20 National workshops, one international workshop and two National conferences. Due to his capability students got benefited in the area of Design Engineering.
	**Mrs. S. BhanuTeja** joined in this institution on 2nd June 2014. She completed her Master's Degree in Thermal Engineering from JNTUK in 2013 & B.Tech from GMRIT in 2011.She is having 3 years of teaching experience. She had done projects on Thermal, Performance & Flow analysis of nano fluids in a heat exchanger & published 2 technical papers in International Journals. She had also participated in "Advances in Thermal Engineering" workshop conducted at CBIT, Hyderabad. She is familiar with software products like AutoCAD, Pro-E, ANSYS and Fluent. Her contribution to students makes them to develop practical approach in real time environment.
	**Mr.L.Kiran Kumar** he has completed his MS in Thermal Sciences from university of Arkansas, Fayetteville, USA. His area of research includes Refrigeration & Air Conditioning, Cryogenics and he has a teaching experience of 6 years. Presently he is working with GRIET and handling subjects for under graduate fluid mechanics and for post-graduation Cryogenics.

Department faculty Research Publications

S.NO	TITLE OF THE PAPER	AUTHOR OF THE PAPER	NAME OF THE JOURNAL	NATIONAL/INTERNATIONAL	YEAR/VOLUME/PAGE NO
1	Experimental Study On Behaviour Of Sintered Copper Wick Heat Pipe At Different Orientations	B.Ch.Nookaraju, R Vijay Kumar, P S V Kurma Rao,Naga Sarada S	International Journal of Innovative Research in Advanced Engineering	INTERNATIONAL	**2015/2/176-180**
2	Experimental Investigations and comparison of Heat Pipes	B.Ch.Nookaraju,P S V Kurma Rao,Naga Sarada S, T Sai Kiran	International Journal of Innovations in Engineering and Technology	INTERNATIONAL	**2015/5/128-137**
3	"Experimental and Numerical investigation of Anisotropic Yield Criteria for Warm Deep Drawing of Ti-6Al-4V Alloy"	Swadesh Kumar Singh	Materials and Design	INTERNATIONAL	2014/63/336-344
4	, "Failure and formability studies in warm deep drawing of Ti-6Al-4V alloy"	Swadesh Kumar Singh	Materials and Design	INTERNATIONAL	2014/60/540-547
5	"Flow stress Prediction of Ti-6Al-4V alloy at elevated temperature using artificial neural network"	Swadesh Kumar Singh	Applied Mechanics and Materials	INTERNATIONAL	2014/612/83-88
6	"Comparative study of constitutive modeling for Ti-6Al-4V alloy at low strain rates and elevated temperatures"	Swadesh Kumar Singh	Materials and Design	INTERNATIONAL	2014/55/999-1005
7	"Analysis of Thickness Strain Prediction in Warm Deep Drawing of Ti-6Al-4V Alloy"	, Swadesh Kumar Singh	Advanced Materials Research,	INTERNATIONAL	2014/979/52-56

8	Formability and fracture studies of austenitic stainless steel 316 at different temperatures"	Swadesh Kumar Singh	Engineering Sciences	INTERNATIONAL	2014/26/184-190
9	"Microstructure Study and Constitutive Modeling of Ti-6Al-4V Alloy at Elevated Temperatures	Swadesh Kumar Singh	Materials and Design,	INTERNATIONAL	2014/54/96-103
10	Experimental and Numerical Investigation of Formability for Austenitic Stainless Steel 316 at Elevated Temperatures"	Swadesh Kumar Singh	Journal of Materials Research and Technology"	INTERNATIONAL	2014/3/75-80
11	Finite Element Simulation of Ironing process under warm conditions"	Swadesh Kumar Singh	Journal of Materials Research and Technology"	INTERNATIONAL	2014/3/34-38
12	"Comparative Study of bond strength of Formaldehyde and Soya based adhesive in wood fibre plywood"	Swadesh Kumar Singh	Procedia Material Science	INTERNATIONAL	2014/6/2-9
13	"Construction of formability limit diagrams for EDD steel at elevated temperatures"	R.Ramangoud,	Procedia Material Science	INTERNATIONAL	2014/6/123-128
14	"Experimental Investigations on Stretched EDD Steel at Elevated Temperatures	R.Ramangoud,	Journal of Manufacturing Engineering,	INTERNATIONAL	2014/9/128-134
15	"The Impact on Combustion, Performance and Emissions of CI Diesel Engine using Hydrogen as Dual Fuel Operation"	U. S. Jyothi,	International Journal of Emerging Technology and Advanced Engineering	INTERNATIONAL	2014/4/333-337
16	"some Metallurgical Studies of Austenitic Stainless Steel 304 under Warm Deep Drawing"	Lade Jayahari	Journal of Iron and steel	INTERNATIONAL	2014/21(12)/1147-1151
17	"Formability studies of ASS 304 and evaluation of friction for Al in deep drawing setup at elevated temperatures using LS-DYNA".	Lade Jayahari,	Journal of King Saud University – Engineering Sciences	INTERNATIONAL	2014/26/21-31
18	"Effect of Process Parameters and Metallographic Studies of ASS-304 Stainless Steel at Various Temperatures under Warm Deep Drawing	Lade Jayahari	PROCEDIA MATERIAL SCIENCE	INTERNATIONAL	2014/6/115-122
	Comparison of Ironing in warm and	Swadesh Kumar	Material Science		2013/773-774/203-210

19	Hydromechanical deep drawing of low Carbon steel"	Singh	Forum	INTERNATIONAL	
20	, "Experimental investigation of Dynamic strain aging regime in Austenitic Stainless Steel 316	Swadesh Kumar Singh	International Journal of Engineering Research & Technology	INTERNATIONAL	2013/2/1691-1694
21	"Development of Constitutive Models for Dynamic Strain Aging Regime in Austenitic Stainless Steel 304"	Swadesh Kumar Singh	Materials & Design	INTERNATIONAL	2013/45/616-627
22	Development of Modified Arrhenius Model for Ti-6al-4v Alloy to Predict the Flow Stress"	Swadesh Kumar Singh	International Journal of Advanced Materials Manufacturing and Characterization	INTERNATIONAL	2013/3/83-87
23	" Prediction of Deformation Behavior of Austenitic Stainless Steel 304 in Dynamic Strain Aging Regime"	Swadesh Kumar Singh	International Journal of Advanced Materials Manufacturing and Characterization	INTERNATIONAL	2013/3/143-47
24	"Constitutive models to predict flow stress in Austenitic Stainless Steel 316 at elevated temperatures'	Swadesh Kumar Singh	Materials and Design	INTERNATIONAL	2103/40/410-418
25	Some aspects of Formability of ASS 304 under warm conditions	Lade Jayahari	Journal of Manufacturing Engineering	INTERNATIONAL	2013/8/221-224
26	Development of Constitutive Models for Dynamic Strain Aging Regime in Austenitic Stainless Steel 304	Swadesh Kumar Singh	Materials & Design, In Press, Accepted Manuscript,	**International Journal**	**Available online 1.**
27	Study of Formability and Friction in Warm Forming of Aluminum IS 737 Alloy	Swadesh Kumar Singh	International Journal of Advanced Materials Manufacturing and Characterization	**International Journal**	**2012/1** **for Vol 1, Issue 2**
28	Constitutive models to predict flow stress in Austenitic Stainless Steel 316 at elevated temperatures	Swadesh Kumar Singh	Materials and Design	**International Journal**	**2012/43/410-418**
29	Mathematical modelling and experimental validation of excessive ironing of EDD steel in deep drawing setup in Warm conditions	PAPN Varma, KGK Murti, AVS Raju and Swadesh Kumar Singh,	International Journal of Advanced Material Manufacturing and Characterization,	**International Journal**	**2012/1/165-172**
30	Prediction of Flow Stress in Dynamic Strain Ageing Regime of Austenitic Stainless Steel 316 using	Swadesh Kumar Singh	Materials and Design	**International Journal**	**2012/35/589-595**

	Artificial Neural Network				
31	Development of Constitutive Models for Dynamic Strain Aging Regime in Austenitic Stainless Steel 304	Swadesh Kumar Singh	Materials & Design, In Press, Accepted Manuscript,	**International Journal**	**Available online 1**
32	Constitutive models to predict flow stress in Austenitic Stainless Steel 316 at elevated temperatures"	Swadesh Kumar Singh	Materials and Design	**International Journal**	**2013/43/410-418**
33	Prediction of Flow Stress in Dynamic Strain Ageing Regime of Austenitic Stainless Steel 316 using Artificial Neural Network	Swadesh Kumar Singh	Materials and Design.	**International Journal**	**2012/35/589-595**
34	Ingredients Composition formulations and development of a new metal matrix composite for friction lining applications using MINITAB16	Dareddy Ramana Reddy, Swadesh Kumar Singh	International Journal of Engineering and Technology, Publishers GSTF, Singapore,	**International Journal**	**2012/1/99-104**
35	Effect of grit size and abrasive type on surface finish of a machined Al-SiCp MMC	Dareddy Ramana Reddy	International Journal of Manufacturing Engineering, SME Publications	**International Journal**	**2012/7/67-71**
36	Performance Improvement of an Oil Fired Furnace through Oscillating Combustion Technology"	M.V.Aditya Nag, Dareddy Ramana Reddy	International Journal of Scientific Essays and Research (IJSER), USA,	**International Journal**	**2012/3(7)/1-4**
37	Characterization of Austenitic Stainless Steel Friction Surfaced Deposit Over Low Carbon Steel	D.Govardhan, K.G.K. Murti	Materials and Design	**International Journal**	**2012/ /206-214**
38	Prediction of Flow Stress in Dynamic Strain Ageing Regime of Austenitic Stainless Steel 316 using Artificial Neural Network	Swadesh Kumar Singh	Materials and Design	**International Journal**	**2012/35/589-595**
39	Numerical Investigations On Augmentation Of Heat Transfer In Oil Coolers	D Eswaraiah, SN Sarada	International Journal Of Engineering Research And Technology	**International**	**2012/1/1-6**

40	Assessment Practices in Engineering- A Review	Jandhyala N Murthy	The Journal of Engineering Education, XIII-Special Issue, Technological Universitites of India,	**National Journal**	**2012/25/19-25**
41	Periodic simulation Heat Transfer using CFD"	K.SIVA SATYA MOHAN	International Journal of Engineering Research and Technology	International Journal	**2013/2/21-26**

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.)

Participant/resource person in two week faculty development programme : 5 points
Participant/resource person in one week faculty development programme : 3 Points

File Name
FDP

Name of the faculty	max. 5 per faculty		
	2012-2013	2013-2014	2014-2015
A.ANITHA LAXMI	5.00	5.00	5.00
B Tanya	5.00	5.00	5.00
B.Ch. Nooka Raju	5.00	5.00	5.00
B.CH.NOOKARAJU	0.00	0.00	0.00
B.KRISHNA MOHAN	0.00	0.00	5.00
B.TANYA	0.00	0.00	0.00
CH.BANDHAVI	0.00	0.00	5.00
CH.PRASHANTHI	0.00	0.00	5.00
D Ramana Reddy	5.00	0.00	0.00
D.Eswaraiah	5.00	5.00	5.00
D.S. Naga Raju	5.00	5.00	5.00
D.S.NAGARAJU	0.00	0.00	0.00
Dr. Adapa Rama Rao	5.00	5.00	5.00
Dr. Jandhyala N Murthy	5.00	5.00	5.00
Dr. K.G.K. Murti	5.00	5.00	0.00

Dr. P.S.V. Kurma Rao	5.00	0.00	0.00
Dr. V.V. Kutumba Rao	5.00	0.00	0.00
Dr.K.Satyanarayana	0.00	0.00	5.00
Dr.Krthikeyan	0.00	0.00	5.00
Dr.N,Satish	0.00	0.00	5.00
Dr.PAPN Varma	0.00	0.00	0.00
Dr.Ramasubbaiah	0.00	0.00	5.00
Dr.Satyanarana	0.00	0.00	0.00
Dr.Swadesh Kumar Singh	5.00	5.00	5.00
G Durga Prasad	5.00	0.00	0.00
G Gayatri Tanuja	5.00	0.00	0.00
G,GAYATRI	5.00	5.00	0.00
J.VENKATA SURESH	5.00	5.00	5.00
K Koteswara Rao	5.00	0.00	0.00
K.KOTESWARARAO	0.00	0.00	0.00
K.P.SIREESHA	0.00	0.00	5.00
K.Prashanth reddy	0.00	5.00	5.00
K.RATNA BABU	0.00	5.00	5.00
K.SIVA SATYA MOHAN	0.00	5.00	5.00
K.VASUNDHARA	5.00	0.00	0.00
L. Jayahari	5.00	5.00	5.00
L.JAYAHARI	0.00	0.00	0.00
L.KIRAN KUMAR	0.00	0.00	5.00
LIN PRAKASH PS	0.00	0.00	5.00
M Ratna Deepika	0.00	0.00	5.00
M. Aditya Nag	0.00	0.00	0.00
M.Mamatha Gandhi	0.00	5.00	5.00
M.RATNADEEPIKA	0.00	0.00	0.00
P. Santhi Babu	5.00	0.00	0.00
P. Srinivas	5.00	5.00	0.00
P.SRINIVAS	0.00	0.00	0.00
P.V.K.Chaitanya Raju	3.00	0.00	0.00
PPC Prasad	5.00	0.00	0.00
R. Raman Goud	5.00	5.00	5.00
R.RAMAN GOUD	0.00	0.00	0.00
S. Ravi Shekhar	5.00	5.00	5.00
S.BHANU TEJA	0.00	0.00	5.00
S.RAVISHEKAR	0.00	0.00	0.00
S.SRAVAN SASHANKK	0.00	0.00	5.00
Sudha Rani	3.00	0.00	0.00
T Venkata Deepthi	5.00	5.00	0.00
T.DEEPTHI	5.00	5.00	5.00
U S Jyothi	0.00	0.00	0.00
U.S.JYOTHI	0.00	0.00	0.00
US.JYOTHI	0.00	0.00	0.00
V. Ratna Kiran	0.00	0.00	0.00
V.BALAJI	0.00	0.00	5.00
Y. Shanti	5.00	5.00	0.00
Y.SHANTHI	0.00	0.00	0.00
Y.SHANTI	0.00	0.00	0.00
Sum	141.00	110.00	155.00
N	5.00	3.00	7.00
Assessment = 3 × Sum/N	15.00	15.00	15.00

Average assessment 15.00

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

Institute Marks : 15.00

Assessment = 5 × 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	2012-2013	2013-2014	2014-2015
Number of faculty members with experience of less than l year (x0)	0.00	0.00	7.00
Number of faculty members with 1 to 2 years experience (x1)	1.00	3.00	6.00
Number of faculty members with 2 to 3 years experience (x2)	2.00	4.00	3.00
Number of faculty members with 3 to 4 years experience (x3)	6.00	5.00	5.00
Number of faculty members with 4 to 5 years experience (x4)	4.00	3.00	2.00
Number of faculty members with more than 5 years experience (x5)	19.00	12.00	12.00
N	5.00	3.00	7.00
RPI = x1 + 2x2 + 3x3 + 4x4 + 5x5	134.00	98.00	95.00
Assessment	15.00	15.00	15.00

Average assessment 15.00

5.7 Faculty Research Publications (FRP) (30)

Total Marks : 30.00

Institute Marks : 30.00

(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 = 6 × (Sum of the research publication points scored by each faculty member)/N
The research papers considered are those (i) which can be located on Internet and/or are included in hard-copy volumes/proceedings, published by reputed publishers, and (ii) the faculty member's affiliation, in the published papers/books, is of the current institution
Include a list of all such publications and IPRs along with details of DOI, publisher, month/year, etc.

File Name
Faculty Research Publications

Name of the Faculty (contributing to FRP)	FRP points (max. 5 per faculty)		
	2012-2013	2013-2014	2014-2015
A Anitha Lakshmi	5.00	3.00	3.00
A.ANITHA LAXMI	0.00	0.00	0.00
B Tanya	3.00	0.00	0.00
B.Ch. Nooka Raju	5.00	5.00	5.00
B.CH.NOOKARAJU	0.00	0.00	0.00
B.KRISHNA MOHAN	0.00	0.00	0.00
B.TANYA	3.00	3.00	3.00
CH.BANDHAVI	0.00	0.00	0.00
CH.PRASHANTHI	0.00	0.00	0.00
D Ramana Reddy	5.00	5.00	5.00
D.Eswaraiah	0.00	0.00	0.00
D.S. Naga Raju	0.00	0.00	0.00
D.S.NAGARAJU	0.00	0.00	0.00
Dr. Adapa Rama Rao	3.00	0.00	0.00
Dr. Jandhyala N Murthy	5.00	0.00	0.00
Dr. K.G.K. Murti	5.00	0.00	0.00
Dr. P.S.V. Kurma Rao	5.00	0.00	0.00
Dr. V.V. Kutumba Rao	0.00	0.00	0.00
Dr.K.Satyanarayana	0.00	0.00	5.00
Dr.Krthikeyan	0.00	0.00	5.00
Dr.N,Satish	0.00	0.00	5.00
Dr.PAPN Varma	5.00	5.00	0.00
Dr.Ramasubbaiah	0.00	0.00	5.00
Dr.Satyanarana	0.00	0.00	0.00
Dr.Swadesh Kumar Singh	5.00	5.00	5.00
G Durga Prasad	5.00	0.00	0.00
G Gayatri Tanuja	3.00	0.00	0.00
G,GAYATRI	0.00	0.00	0.00
J.VENKATA SURESH	5.00	0.00	0.00
K Koteswara Rao	0.00	0.00	0.00
K.KOTESWARARAO	0.00	0.00	0.00

K.P.SIREESHA	0.00	0.00	0.00
K.Prashanth reddy	0.00	0.00	5.00
K.RATNA BABU	0.00	0.00	0.00
K.SIVA SATYA MOHAN	3.00	0.00	0.00
K.VASUNDHARA	5.00	0.00	0.00
L. Jayahari	5.00	5.00	5.00
L.JAYAHARI	0.00	0.00	0.00
L.KIRAN KUMAR	0.00	0.00	0.00
LIN PRAKASH PS	0.00	0.00	0.00
M Ratna Deepika	0.00	0.00	0.00
M. Aditya Nag	0.00	0.00	0.00
M.Mamatha Gandhi	0.00	0.00	0.00
M.RATNADEEPIKA	0.00	0.00	0.00
P. Santhi Babu	0.00	0.00	0.00
P. Srinivas	0.00	0.00	0.00
P.SRINIVAS	0.00	0.00	0.00
P.V.K.Chaitanya Raju	0.00	0.00	0.00
PPC Prasad	5.00	0.00	0.00
R. Raman Goud	5.00	5.00	5.00
R.RAMAN GOUD	0.00	0.00	0.00
S. Ravi Shekhar	0.00	0.00	0.00
S.BHANU TEJA	0.00	0.00	0.00
S.RAVISHEKAR	0.00	0.00	0.00
S.SRAVAN SASHANKK	0.00	0.00	0.00
Sudha Rani	0.00	0.00	0.00
T Venkata Deepthi	5.00	0.00	0.00
T.DEEPTHI	0.00	0.00	0.00
U S Jyothi	0.00	0.00	0.00
U.S.JYOTHI	5.00	0.00	0.00
US.JYOTHI	0.00	0.00	0.00
V. Ratna Kiran	0.00	0.00	0.00
V.BALAJI	0.00	0.00	0.00
Y. Shanti	5.00	0.00	0.00
Y.SHANTHI	0.00	0.00	0.00
Y.SHANTI	0.00	0.00	0.00
Sum	100.00	36.00	56.00
N	5.00	3.00	7.00
Assessment of FRP = 6 × Sum/N	30.00	30.00	30.00
		Average assessment	30.00

5.8 Faculty Intellectual Property Rights (FIPR) (10)

Total Marks : 4.92

Institute Marks : 4.92

Assessment of FIPR = 2 × (Sum of the FIPR points scored by each faculty member)/N

Name of faculty member (contributing to FIPR)	FIPR points (max. 5 per faculty member)		
	2012-2013	2013-2014	2014-2015
A Anitha Lakshmi	0.00	0.00	0.00
A.ANITHA LAXMI	0.00	0.00	0.00
B Tanya	0.00	0.00	0.00
B.Ch. Nooka Raju	0.00	0.00	0.00
B.CH.NOOKARAJU	0.00	0.00	0.00
B.KRISHNA MOHAN	0.00	0.00	0.00
B.TANYA	0.00	0.00	0.00
CH.BANDHAVI	0.00	0.00	0.00
CH.PRASHANTHI	0.00	0.00	0.00
D Ramana Reddy	5.00	0.00	0.00
D.Eswaraiah	0.00	0.00	0.00

D.S. Naga Raju	0.00	0.00	0.00
D.S.NAGARAJU	0.00	0.00	0.00
Dr. Adapa Rama Rao	0.00	0.00	0.00
Dr. Jandhyala N Murthy	0.00	0.00	0.00
Dr. K.G.K. Murti	5.00	0.00	0.00
Dr. P.S.V. Kurma Rao	5.00	0.00	0.00
Dr. V.V. Kutumba Rao	5.00	0.00	0.00
Dr.K.Satyanarayana	0.00	0.00	0.00
Dr.Krthikeyan	0.00	0.00	0.00
Dr.N,Satish	0.00	0.00	0.00
Dr.PAPN Varma	0.00	0.00	0.00
Dr.Ramasubbaiah	0.00	0.00	0.00
Dr.Satyanarana	0.00	0.00	0.00
Dr.Swadesh Kumar Singh	5.00	5.00	5.00
G Durga Prasad	5.00	0.00	0.00
G Gayatri Tanuja	0.00	0.00	0.00
G,GAYATRI	0.00	0.00	0.00
J.VENKATA SURESH	0.00	0.00	0.00
K Koteswara Rao	0.00	0.00	0.00
K.KOTESWARARAO	0.00	0.00	0.00
K.P.SIREESHA	0.00	0.00	0.00
K.Prashanth reddy	0.00	0.00	0.00
K.RATNA BABU	0.00	0.00	0.00
K.SIVA SATYA MOHAN	0.00	0.00	0.00
K.VASUNDHARA	0.00	0.00	0.00
L. Jayahari	0.00	0.00	0.00
L.JAYAHARI	0.00	0.00	0.00
L.KIRAN KUMAR	0.00	0.00	0.00
LIN PRAKASH PS	0.00	0.00	0.00
M Ratna Deepika	0.00	0.00	0.00
M. Aditya Nag	0.00	0.00	0.00
M.Mamatha Gandhi	0.00	0.00	0.00
M.RATNADEEPIKA	0.00	0.00	0.00
P. Santhi Babu	0.00	0.00	0.00
P. Srinivas	0.00	0.00	0.00
P.SRINIVAS	0.00	0.00	0.00
P.V.K.Chaitanya Raju	0.00	0.00	0.00
PPC Prasad	0.00	0.00	0.00
R. Raman Goud	0.00	0.00	0.00
R.RAMAN GOUD	0.00	0.00	0.00
S. Ravi Shekhar	0.00	0.00	0.00
S.BHANU TEJA	0.00	0.00	0.00
S.RAVISHEKAR	0.00	0.00	0.00
S.SRAVAN SASHANKK	0.00	0.00	0.00
Sudha Rani	0.00	0.00	0.00
T Venkata Deepthi	0.00	0.00	0.00
T.DEEPTHI	0.00	0.00	0.00
U S Jyothi	0.00	0.00	0.00
U.S.JYOTHI	0.00	0.00	0.00
US.JYOTHI	0.00	0.00	0.00
V. Ratna Kiran	0.00	0.00	0.00
V.BALAJI	0.00	0.00	0.00
Y. Shanti	0.00	0.00	0.00
Y.SHANTHI	0.00	0.00	0.00
Y.SHANTI	0.00	0.00	0.00
Sum	30.00	5.00	5.00
N	5.00	3.00	7.00
Assessment of FIPR = 2 × Sum/N	10.00	3.33	1.43

Average assessment 4.92

5.9 Funded R&D Projects and Consultancy (FRDC) Work (30) **Total Marks : 9.33**

Institute Marks : 9.33

(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 = 6 × (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)		
	2012-2013	2013-2014	2014-2015
A Anitha Lakshmi	0.00	0.00	0.00
A.ANITHA LAXMI	0.00	0.00	0.00
B Tanya	0.00	2.00	0.00
B.Ch. Nooka Raju	5.00	0.00	0.00
B.CH.NOOKARAJU	0.00	0.00	0.00
B.KRISHNA MOHAN	0.00	0.00	0.00
B.TANYA	0.00	0.00	0.00
CH.BANDHAVI	0.00	0.00	0.00
CH.PRASHANTHI	0.00	0.00	0.00
D Ramana Reddy	0.00	0.00	0.00
D.Eswaraiah	0.00	0.00	0.00
D.S. Naga Raju	0.00	0.00	0.00
D.S.NAGARAJU	0.00	0.00	0.00
Dr. Adapa Rama Rao	0.00	0.00	0.00
Dr. Jandhyala N Murthy	0.00	0.00	0.00
Dr. K.G.K. Murti	5.00	0.00	0.00
Dr. P.S.V. Kurma Rao	5.00	0.00	0.00
Dr. V.V. Kutumba Rao	5.00	0.00	0.00
Dr.K.Satyanarayana	0.00	0.00	0.00
Dr.Krthikeyan	0.00	0.00	0.00
Dr.N,Satish	0.00	0.00	0.00
Dr.PAPN Varma	0.00	0.00	0.00
Dr.Ramasubbaiah	0.00	0.00	0.00
Dr.Satyanarana	0.00	0.00	0.00
Dr.Swadesh Kumar Singh	0.00	0.00	0.00
G Durga Prasad	0.00	0.00	0.00
G Gayatri Tanuja	0.00	0.00	0.00
G,GAYATRI	0.00	0.00	0.00
J.VENKATA SURESH	0.00	0.00	0.00
K Koteswara Rao	0.00	0.00	0.00
K.KOTESWARARAO	0.00	0.00	0.00
K.P.SIREESHA	0.00	0.00	0.00
K.Prashanth reddy	0.00	0.00	0.00
K.RATNA BABU	0.00	0.00	0.00
K.SIVA SATYA MOHAN	0.00	0.00	0.00
K.VASUNDHARA	0.00	0.00	0.00
L. Jayahari	0.00	0.00	0.00
L.JAYAHARI	0.00	0.00	0.00
L.KIRAN KUMAR	0.00	0.00	0.00
LIN PRAKASH PS	0.00	0.00	0.00
M Ratna Deepika	0.00	0.00	0.00
M. Aditya Nag	0.00	0.00	0.00
M.Mamatha Gandhi	0.00	0.00	0.00
M.RATNADEEPIKA	0.00	0.00	0.00

P. Sahith Babu	0.00	0.00	0.00
P. Srinivas	0.00	0.00	0.00
P.SRINIVAS	0.00	0.00	0.00
P.V.K.Chaitanya Raju	0.00	0.00	0.00
PPC Prasad	0.00	0.00	0.00
R. Raman Goud	0.00	0.00	0.00
R.RAMAN GOUD	0.00	0.00	0.00
S. Ravi Shekhar	0.00	0.00	0.00
S.BHANU TEJA	0.00	0.00	0.00
S.RAVISHEKAR	0.00	0.00	0.00
S.SRAVAN SASHANKK	0.00	0.00	0.00
Sudha Rani	0.00	0.00	0.00
T Venkata Deepthi	0.00	0.00	0.00
T.DEEPTHI	0.00	0.00	0.00
U S Jyothi	0.00	0.00	0.00
U.S.JYOTHI	0.00	0.00	0.00
US.JYOTHI	0.00	0.00	0.00
V. Ratna Kiran	0.00	0.00	0.00
V.BALAJI	0.00	0.00	0.00
Y. Shanti	0.00	0.00	0.00
Y.SHANTHI	0.00	0.00	0.00
Y.SHANTI	0.00	0.00	0.00
Sum	20.00	2.00	0.00
N	5.00	3.00	7.00
Assessment of FRDC = 6 × Sum/N	24.00	4.00	0.00

Average assessment 9.33

5.10 Faculty Interaction with Outside World (15)

Total Marks : 15.00

Institute Marks : 15.00

(Instruction: A faculty member gets a maximum of five interaction points, depending upon the type of institution or R&D laboratory or industry, as follows)
FIP = Faculty interaction points
Assessment = 3 × (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)
Points to be awarded, for those activities, which result in joint efforts in publication of
books/research paper, pursuing externally funded R&D / consultancy projects and/or
development of semester-long course / teaching modules.

Name of faculty member (contributing to FIP)	FIP		
	2012-2013	2013-2014	2014-2015
A Anitha Lakshmi	3.00	3.00	3.00
A.ANITHA LAXMI	0.00	0.00	0.00
B Tanya	3.00	3.00	3.00
B.Ch. Nooka Raju	5.00	5.00	5.00
B.CH.NOOKARAJU	0.00	0.00	0.00
B.KRISHNA MOHAN	0.00	0.00	0.00
B.TANYA	0.00	0.00	0.00
CH.BANDHAVI	0.00	0.00	0.00
CH.PRASHANTHI	0.00	0.00	0.00
D Ramana Reddy	5.00	0.00	0.00
D.Eswaraiah	0.00	0.00	0.00
D.S. Naga Raju	0.00	0.00	0.00
D.S.NAGARAJU	0.00	0.00	0.00
Dr. Adapa Rama Rao	5.00	5.00	0.00
Dr. Jandhyala N Murthy	5.00	5.00	5.00
Dr. K.G.K. Murti	5.00	0.00	0.00
Dr. P.S.V. Kurma Rao	5.00	0.00	0.00
Dr. V.V. Kutumba Rao	5.00	0.00	0.00
Dr.K.Satyanarayana	0.00	0.00	0.00

Dr.Krishkeyan	0.00	0.00	0.00
Dr.N,Satish	0.00	0.00	0.00
Dr.PAPN Varma	3.00	0.00	0.00
Dr.Ramasubbaiah	0.00	0.00	0.00
Dr.Satyanarana	0.00	0.00	0.00
Dr.Swadesh Kumar Singh	5.00	5.00	5.00
G Durga Prasad	3.00	0.00	0.00
G Gayatri Tanuja	3.00	0.00	0.00
G,GAYATRI	0.00	0.00	0.00
J.VENKATA SURESH	0.00	0.00	0.00
K Koteswara Rao	5.00	0.00	0.00
K.KOTESWARARAO	0.00	0.00	0.00
K.P.SIREESHA	0.00	0.00	0.00
K.Prashanth reddy	0.00	0.00	0.00
K.RATNA BABU	0.00	0.00	0.00
K.SIVA SATYA MOHAN	0.00	0.00	0.00
K.VASUNDHARA	3.00	0.00	0.00
L. Jayahari	5.00	5.00	5.00
L.JAYAHARI	0.00	0.00	0.00
L.KIRAN KUMAR	0.00	0.00	0.00
LIN PRAKASH PS	0.00	0.00	0.00
M Ratna Deepika	0.00	0.00	0.00
M. Aditya Nag	0.00	0.00	0.00
M.Mamatha Gandhi	0.00	0.00	0.00
M.RATNADEEPIKA	0.00	0.00	0.00
P. Santhi Babu	5.00	0.00	0.00
P. Srinivas	0.00	0.00	0.00
P.SRINIVAS	0.00	0.00	0.00
P.V.K.Chaitanya Raju	0.00	0.00	0.00
PPC Prasad	5.00	0.00	0.00
R. Raman Goud	5.00	5.00	5.00
R.RAMAN GOUD	0.00	0.00	0.00
S. Ravi Shekhar	3.00	3.00	3.00
S.BHANU TEJA	0.00	0.00	0.00
S.RAVISHEKAR	0.00	0.00	0.00
S.SRAVAN SASHANKK	0.00	0.00	0.00
Sudha Rani	0.00	0.00	0.00
T Venkata Deepthi	3.00	0.00	0.00
T.DEEPTHI	0.00	0.00	0.00
U S Jyothi	5.00	5.00	5.00
U.S.JYOTHI	0.00	0.00	0.00
US.JYOTHI	0.00	0.00	0.00
V. Ratna Kiran	0.00	0.00	0.00
V.BALAJI	0.00	0.00	0.00
Y. Shanti	0.00	0.00	0.00
Y.SHANTHI	0.00	0.00	0.00
Y.SHANTI	0.00	0.00	0.00
Sum	94.00	44.00	39.00
N	5.00	3.00	7.00
Assessment of FIP = 3 × Sum/N	15.00	15.00	15.00

Average assessment 15.00

6 Facilities and Technical Support (75) **Total Marks : 75.00**

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

Room	No. of		Shared/		

description	Rooms	Usage	Exclusive	Capacity	Rooms Equipped with PC, Internet, etc.
Class Rooms	10	For conducting class work	Exclusive	72	State-of-art infrastructure, Wi-Fi
Faculty Rooms	6	For Department faculty	Exclusive	45	Modern infrastructure , Wi-Fi
Seminar Hall	1	For conducting workshops, Guest lectures and departmental meetings	Exclusive	60	Air-conditioned with modern teaching aids
Tutorial Room	1	For conducting tutorial and remedy classes	Exclusive	80	Modern teaching aids
Meeting Room	1	For conducting departmental meetings	Shared	60	Equipped with corporate infrastructure and facilities

6.1 Classrooms in the Department (15)

Total Marks : 15.00

6.1.1 Adequate number of rooms for lectures (core/electives), seminars, tutorials, etc., for the program (5)

Institute Marks : 5.00

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

No of Class rooms: 10

No of Seminar rooms: 1

No of Tutorial rooms: 1

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

Room No	Usage	Exclusive/ Shared	Room Equipped with
4301	Class Room	Exclusive	Class rooms are equipped with good infrastructure and are well designed to give ideal teaching and learning environment.
4302			
4304			
4324			
4424			
4501			
4502			
4504			
4508			
4510			
4503	Tutorial room	Exclusive	Tutorial rooms with a seating capacity of 24students are available for special and remedial classes
4312	Seminar Halls	Exclusive	Air conditioned hall equipped with modern teaching aids and PA System.

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

Institute Marks : 5.00

Teaching Aids:

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

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

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

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

Different Teaching aids used in GRIET:

Visual Aids:

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.

i. **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.

ii. **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.

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

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

1. **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 this instructor’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.

2. **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. Students are encouraged to upload the project vedios in you tube.
- 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
4302	85sq.mt / 48	Good	Excellent	Excellent	State-of-art infrastructure, necessary gadgets
4304	80sq.mt / 48				
4501	95sq.mt / 48				
4502	85sq.mt / 48				
4510	80sq.mt / 48				
4301	95sq.mt / 48				
4508	80sq.mt / 48				
4324	80sq.mt / 48				
4504	85sq.mt / 48				
4424	80sq.mt / 48				

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 87 sq.mt each are utilized to have room for the teaching faculty.
- Each hall is portioned into 8 cubicles for accommodating 1 – 3 faculty members comfortably.
- Each cubicle is well equipped with necessary infrastructure, good ventilation and Wi-Fi facility round the clock.
- The cabins are spacious enough to have interactions with students personally.

Room No	No. of Cabins	Room size in sq.mt
4314	1	25 sq.mt
4514	2	25 sq.mt
4313	11	87 sq.mt
4316	11	80 sq.mt
4513	11	87 sq.mt
4416	11	80 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
4314	Yes	Wi-Fi and Laptops	Adequate in number	Desktop computer, scanner, printer, water purifier, refrigerator and kitchenette
4313	Yes			
4514	Yes			
4513	Yes			
4316	Yes			
4416	Yes			

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.)

The following table is required for the subsequent criteria.

- 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
4313	Yes	Yes
4314		
4513		
4514		
4316		
4416		

Laboratory description in the curriculum	Exclusive use / shared	Space, number of students	Number of experiments	Quality of instruments	Laboratory manuals
Manufacturing Simulation and Precision Engineering Lab	Exclusive	80sq mt, 30	12	Excellent	Available
CAD/CAM Lab	Shared	190 sq.mt, 72	15	Excellent	Available

6.3 Laboratories in the Department to meet the Curriculum Requirements and the POs (30) Total Marks : 30.00

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
CAD/CAM	Exclusive	190 sq.mt, 72	15	Excellent	Available
Mechanics of Solids		190 sq.mt, 48	14		
Workshop		280 sq.mt, 48	32		
Machine Tools		280 sq.mt, 48	14		
Fluid Mechanics & Hydraulic		280 sq.mt, 48	26		
Thermal Engineering		190 sq.mt, 48	14		
Production Technology		190 sq.mt, 48	12		
Metrology		80 sq.mt, 48	12		
Instrumentation and Control Systems		80 sq.mt, 48	12		
Heat Transfers		80 sq.mt, 48	14		
Metallurgy		80 sq.mt, 48	12		
Metal Forming		95 sq.mt, 48	8		
Manufacturing Simulation and Precision Engineering		80 sq.mt, 48	12		
Computational Methods		80 sq.mt, 48	12		

For PG Labs:

Lab Description in the Curriculum	Exclusive / Shared	Space (Sq.mts), Number of Students	Number of Experiments
Manufacturing Simulation and Precision Engineering	Exclusive	80 sq.mt, 48	12
CAD/CAM		190 sq.mt, 72	15

Mapping of Laboratories with POs

Name of the Laboratory	Programme Outcomes											
	a	b	c	d	e	f	g	h	i	j	k	l
CAD/CAM	X	X	X				X	X			X	X

Mechanics of Solids	X			X		X		X	X		X	
Workshop	X	X	X			X		X		X	X	X
Machine Tools	X			X			X	X	X		X	
Fluid Mechanics & Hydraulic Machines	X	X	X	X	X			X		X	X	
Thermal Engineering	X	X		X	X			X			X	
Production Technology	X	X		X	X			X	X		X	
Metrology	X	X		X	X			X			X	
Instrumentation & Controls	X	X		X	X			X		X	X	
Heat Transfer	X	X		X		X		X			X	
Metallurgy	X			X				X			X	
Metal Forming				X			X			X		
Manufacturing Simulation and Precision Engineering	X	X	X					X			X	X
Computational Methods	X	X	X						X		X	X

For PG Labs:

Name of the Laboratory	Programme Outcomes											
	a	b	c	d	e	f	g	h	i	j	k	l
Manufacturing Simulation and Precision Engineering	X	X	X		X						X	X
CAD/CAM	X	X	X					X			X	X

6.3.2 Availability of computing facilities in the department (5) Institute Marks : 5.00

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

Laboratory	Room Number	No of Computers/ Laptops	Condition of Equipment	Hardware / Software	PEOs
CAD/CAM Lab	4305,4307	72	Excellent	Auto CAD, cam, CATIA, Pro-E	1,2,3
Manufacturing Simulation and Precision Engineering	4505,4506,4507	11	Excellent	Flexsim	1,2,3
Mechanical Research Lab	4101	04	Excellent	dynaform, LS-dyna	1,2,3
Metrology Lab	4315,16	02	Excellent	Image Analyser	1,2,3

6.3.3 Availability of research facilities to conduct project works / thesis work (5) Institute Marks : 5.00

(Articulate the facilities provided to carry out the project works/thesis).

- 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 do their research work requirements.
- Laboratories are equipped with sufficient hardware & licensed software to run program specific curriculum and off program curriculum for their research.
- The Research work is under the guidance of well experienced faculty, lab assistants also.
- Digital library is available for search of papers with free internet facility and with latest journals.
- Product laboratory is available for faculty and students to carry their innovative products and projects.
- Exclusively a research lab has been provided for the students to carry out their research work and major project work

6.3.4 Availability of laboratories with technical support within and beyond working hours (5) Institute Marks : 5.00

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

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

Year	College Timings	Laboratories and 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
M.Tech	**9.00AM to 4.00PM**	**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
		Projects on Pro-E,		

CAD/CAM Lab	8:00 A.M to 6:00 P.M	Catia, Ansys, Manufacturing with CNC Milling and Lathe Machines	Dr.N. Sateesh	T. Deepthi
Manufacturing Simulation and Precision Engineering	8:00 A.M to 6:00 P.M	Major Projects, Projects on Flexsim	Dr.N. Sateesh	Dr.K.Satyanarayana
Mechanical Research Lab	8:00 A.M to 6:00 P.M	Major Projects	Dr. S K Singh	Sukha

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

Institute Marks : 5.00

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

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

Laboratory	Equipment	Maintenance	No of Students per Experiment	Size of the Laboratory	Overall ambience
CAD/CAM Lab	Computers with Design and Analysis software	Maintained by Skilled lab technician & computer Hardware Professional	1	190 sq.mt	Qualified faculty, staff with good condition of Lab equipment has created an ambience for learning
Machine Tools	Lathes, Milling Machines, Grinding, Drilling Machines, Cutting Machines	Maintained by Skilled lab technician & Professional	2	280 sq.mt	Qualified faculty, staff with good condition of Lab equipment has created an ambience for learning
Manufacturing Simulation Lab	CNC Lathe, CNC Milling Machines	Maintained by Skilled lab technician & Skilled Hardware Professional	2	95 sq.mt	Qualified faculty, staff with good condition of Lab equipment has created an ambience for learning
Production Technology	Arc welding, Gas welding, Sand Moulding and Plastic Moulding Machinery	Maintained by Skilled lab technician & Skilled Professional	1	190 sq.mt	Qualified faculty, staff with good condition of Lab equipment has created an ambience for learning
Mechanics of Solids	UTM, Hardness testing equipment, computerized material property testing machines	Maintained by Skilled lab technician & Skilled computer Hardware Professional	2	190 sq.mt	Qualified faculty, staff with good condition of Lab equipment has created an ambience for learning
Thermal Engineering Lab	4-S single cylinder petrol and Diesel Engines,4S multi cylinder engine, compressor, Refrigeration unit	Maintained by Skilled lab technician & Professional	2	190 sq.mt	Qualified faculty, staff with good condition of Lab equipment has created an ambience for learning
Fluid Mechanics & Hydraulic Machinery	Turbines, Pumps and pipe flow losses, Jet flows, Venturimeter& Orifice meter etc..	Maintained by Skilled lab technician & Professional	2	280 sq.mt	Qualified faculty, staff with good condition of Lab equipment has created an ambience for learning
Heat Transfer	Conduction, convection, Radiation, Heat pipe, boiling and condensation	Maintained by Skilled lab technician &	2	190 sq.mt	Qualified faculty, staff with good condition of Lab equipment has created an ambience for

	related equipments	Professional			learning
Metallurgy	Computerized microscopes, material grain structure identification equipment	Maintained by Skilled lab technician & Skilled Professional	2	95 sq.mt	Qualified faculty, staff with good condition of Lab equipment has created an ambience for learning
Metrology	Surface roughness measurement, Optical projector, micrometer, vernier calipers, screw gauge	Maintained by Skilled lab technician & Professional	2	95 sq.mt	Qualified faculty, staff with good condition of Lab equipment has created an ambience for learning

PG Lab

Laboratory	Equipment	Maintenance	No of Students per Experiment	Size of the Laboratory	Overall ambience
Manufacturing Simulation and Precision Engineering	Computers with material handling software like Flexim, Mentor robo, and LSM controller	Maintained by Skilled lab technician & computer Hardware Professional	1	80 sq.mt	Qualified faculty, staff with good condition of Lab equipment has created an ambience for learning
CAD/CAM Lab	Computers with Design and Analysis software. CNC Milling and Lathe Machines	Maintained by Skilled lab technician & computer Hardware Professional	1	190 sq.mt	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		
PVRK Anjaneya Raju	Lab Assistant	6700-55600	Exclusive	24/11/1997	I.T.I (Fitter)	I.T.I (Fitter)	All types of Welding, Training in Metal Forming Equipment	Assistance TE and PT Lab
G. Ramakrishnam Raju	Lab Assistant	6700-55600	Exclusive	24/11/1997	I.T.I (Fitter)	I.T.I (Fitter)	Training on Drilling, Milling and Lathe operations	MT and FMHM Lab
E N Murthy Raju	Lab Assistant	6700-55600	Exclusive	01/03/2007	I.T.I	ITI	Training on Fitting, House wiring, Soldering, plumbing	Work Shop
K. Hari Krishna	Lab Assistant	6700-55600	Exclusive	25/09/1999	I.T.I (Carpenter)	I.T.I (Carpenter)	Training on Wood work operations, Tin smithy	Work Shop
V.Satyanarayana Raju	Lab Assistant	6700-55600	Exclusive	24/11/1997	ssc	ssc	Training on NDT	Office Assistance
P. Venkat Raju	Mechanic	6700-55600	Exclusive	17/11/1997	I.T.I (Carpenter)	I.T.I (Carpenter)	Training on Surface Finishing, UTM	MOS,I & C and MET
NSM Raju	Mechanic	6700-55600	Exclusive	03/08/2007	B.Com	B.Com	Training on Manufacturing and simulation lab	CAD/CAM& Simulation Lab, Manufacturing Simulation and Precision Engineering
NCK Kumar Raju	Lab Assistant	6700-55600	Exclusive	27/06/2011	Inter	Inter	Training on Heat transfer equipment	Heat Transfer

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.)

S.No	Laboratory	Qualified technical Staff	Designation
1	CAD/CAM	NSM Raju	Lab Assistant

2	Manufacturing Simulation and Precision Engineering	NSM Raju	Lab Assistant
3	Machine Tools	G Rama Krishnam Raju	Lab Assistant
4	Metallurgy	V.Satyanarayana Raju	Lab Assistant
5	Metrology	P Venkata Raju	Lab Assistant
6	Manufacturing Simulation	NSM Raju	Lab Assistant
7	Thermal Engineering	P V R K Anjaneya Raju	Lab Assistant
8	Heat Transfer	NCK Kumar Raju	Lab Assistant
9	Fluid Mechanics & Hydraulic Machinery	G Rama Krishnam Raju	Lab Assistant
10	Instrumentation & Control Systems	P Venkata Raju	Mechanic
11	Mechanics of Solids Lab	P Venkata Raju	Mechanic
12	Production Technology	P V R K Anjaneya Raju	Lab Assistant
13	Engineering Workshop	E N Murthy Raju	Mechanic
14	Metal Forming Lab	P V R K Anjaneya Raju	Lab Assistant

Technical Staff competencies with Programme specific criteria

	**G Venkata Raju**, completed ITI Fitter in 1985, worked as a machinist, as a Operator, as a Production officer. He joined as a Lab Assistant in GRIET 1997. He attended various development programmes like advanced machining techniques and welding processes and practice skills improvement in fabrication. His practical experience is useful in handling Mechanics of solids Lab, Metrology and Machine Tools Lab and Instrumentation and control systems Lab. At present he's working as a Mechanic in the department of mechanical engineering in GRIET and he is eminent non Teaching faculty in helps to students in labs, mini and major projects.
	**G. Rama Krishna Raju**, completed ITI (Fitter) in 1987 worked as a machinist, as a Operator, as a Production officer. He joined as a Lab Assistant in GRIET 1997. He attended various development programmes like advanced machining techniques and welding processes and practice skills improvement in fabrication. His practical experience is useful in handling Machine Tools Lab and Fluid Mechanics and Hydraulic Machinery Lab. At present he's working as a Mechanic in the department of mechanical engineering in GRIET and he is eminent non Teaching faculty in helps to students in labs, mini and major projects.
	**P.V.R.K.Anjaneya Raju**, completed ITI Fitter in 1985, worked as a machinist, as a Operator, as a Production officer. He joined as a Lab Assistant in GRIET 1997. He attended various development programmes like advanced machining techniques and welding processes and practice skills improvement in fabrication. His practical experience is useful in handling Thermal Engineering Lab and Production Technology Lab. At present he's working as a Mechanic in the department of mechanical engineering in GRIET and he is eminent non Teaching faculty in helps to students in labs, mini and major projects.
	**E.N.Murthy Raju**, completed ITI in 1980, worked as a machinist, as a Operator, as a Production officer. He joined as a Lab Assistant in GRIET 2007. He attended various development programmes like advanced machining techniques and welding processes and practice skills improvement in fabrication. His practical experience is useful in handling Engineering Workshop Lab. At present he's working as a Mechanic in the department of mechanical engineering in GRIET and he is eminent non Teaching faculty in helps to students in labs, mini and major projects.
	**V.Satyanarayana Raju**, completed ITI in 1985, worked as a machinist, as a Operator, as a Production officer. He joined as a Lab Assistant in GRIET 1997. He attended various development programmes like advanced machining techniques and welding processes and practice skills improvement in fabrication. His practical experience is useful in handling Metallurgy Lab and Fluid Mechanics and Hydraulic Machinery Lab. At present he's working as a Lab Assistant in the department of mechanical engineering in GRIET and he is eminent non Teaching faculty in helps to students in labs, mini and major projects.
	**N.S.M.Raju,** completed Diploma in 2005, worked as a shift supervisor, Maintenance Engineer, CAD Designer. He joined as a Lab Assistant in GRIET 2007. He attended various development programmes like Auto CAD, Pro-E, Desktop publishing, Page maker, Corel draw, Photo shop, Multimedia and Web design, advanced Machining techniques and welding processes and practice skills improvement in fabrication. His practical experience is useful in handling CAD/CAM Lab, Precision Engineering and Java Lab. At present he's working as a Mechanic in the department of mechanical engineering in GRIET and he is eminent non Teaching faculty in helps to students in labs, mini and major projects.
	**N C Kumar Raju**, completed inter/ITI in 2006, worked as a machinist. He joined as a Lab Assistant in GRIET 2010. He attended various development programmes like advanced machining techniques and welding processes and practice skills improvement in fabrication. His practical experience is useful in handling Heat Transfer Lab and Machine Tools Lab. At present he's working as a Lab Assistant in the department of mechanical engineering in GRIET and he is eminent non Teaching faculty in helps to students in labs, mini and major projects.

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.)

- College provides incentives to non-teaching and technical staff members
- Award is given to a supporting staff for best performance annually.
- 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 Teaching-Learning Process (75) **Total Marks : 75.00**

7.1 Evaluation process: course work (25) **Total Marks : 25.00**

7.1.1 Evaluation Process – Class test / mid-term test schedules and procedures for (10) Institute Marks : 10.00

Assessment is based upon the efficacy of the evaluation process being followed.

PAPER SETTING, EVALUATION OF ANSWER SCRIPTS, MARKS AND ASSESSMENT:

a. Paper setting and Evaluation of the Answer Scripts shall be done as per the procedures laid down by the Academic Council of the College from time to time.
b. The following is the division of marks between internal and external evaluations.

S.No	Particulars	Internal	External	Total
1	Theory	40	60	100
2	Practical	40	60	100
3	Comprehensive Viva	----	100	100
4	Seminar	50	----	50
5	Project Work	Grade	----	----
	Project work & dissertation			

6	(Grading System)	----	Grade	----

c. **Continuous Internal Evaluation and Semester End Examinations**

The assessment of the student's performance in each course will be based on continuous internal evaluation and semester-end examinations. The marks for each of the component of assessment are fixed as shown in the following Table.

Assessment Procedure

d. **Mid-Term Written Examination:**

There shall be **two mid-term** written examinations during a semester. The first mid-term written examination shall be conducted from the first 50 per cent of the syllabus and the second mid-term written examination shall be conducted from the remaining **50 per cent** of the syllabus. The mid-term written examinations shall be evaluated for **30 marks** and average of the marks scored in the two mid-term written examinations shall be taken as the marks scored by each student in the mid-term written examination for that semester.

e. **Tutorial:**

Tutorials are to be conducted, students participation and performance are to be observed and marks not exceeding 5 (5%) per semester per paper are to be awarded by the teacher concerned.

f. **Attendance:**

A maximum **of 5 marks (5%) per semester per course** are to be awarded on the basis of attendance one puts in. Course-wise attendance is taken for this purpose. These 5 marks are awarded as follows.

i. For **75%** or more attendance: **5 Marks**
ii. For **65%** or more but less than less than 75% attendance: **3 Marks**
iii. For **less than 65%** attendance: **0 Marks**

S. No	Component of Assessment	Marks Allotted	Type of Assessment	Scheme of Examinations
1	Theory	40	Internal Exams & Continuous Evaluation	1. Mid Examination –30 marks (Two mid semester examinations shall be conducted for 30 marks each for duration of 2 hours. Average of the two mid exams shall be considered). 2) Assignment - 5 marks 3) Attendance - 5 marks
		60	Semester-end examination	The semester-end examination is for a duration of 3 hours
	Practical	40	Internal Exams & Continuous Evaluation	1. Lab Internal :15 Marks 2. Continuous Assessment :15 Marks 3. Attendance : 5 Marks 4. Record : 5Marks

2				
		60	Semester-end examination	The semester-end examination is for a duration of 3 hours

7.1.2 Seminar and Presentation Evaluation (10) Institute Marks : 10.00

Assessment is based upon the methodology being followed and its effectiveness

a. **Comprehensive Viva:** There shall be a Comprehensive Viva-Voce in II year I semester. The Comprehensive Viva-Voce will be conducted by the committee consisting of Head of the Department and two senior faculty members of the Department. The Comprehensive Viva-Voce is aimed to assess the student's understanding in various subjects he/she studies during the M.Tech course of study. The Comprehensive Viva-Voce is valued for 100 marks by the committee. There are no internal marks for the Comprehensive Viva-voce.
b. **Seminar:** There shall be three Seminar Presentations by the student, one each in the I,II and III semesters. For the seminar, the student shall collect the information on a specialized topic other than his/her project and prepare a technical report, showing his understanding over the topic, and submit to the department, which shall be evaluated by a Departmental committee consisting of the Head of the department, seminar Supervisor and a senior faculty member. The seminar report shall be evaluated for **50 marks**. There shall be *no external examination for seminar***.**
c. **Project:** The work on the project shall be initiated in the beginning of the second year and the duration of the project is for two semesters (III & IV). Every candidate shall be required to submit thesis or dissertation after taking up a topic approved by the Project Review Committee (PRC).

i. PRC shall be constituted with HOD as chair person, two senior faculty members and project supervisor.
ii. Registration of Project Work: A candidate is permitted to register for the project work after satisfying the attendance requirement of all the subjects (theory and practical subjects).
iii. A candidate has to submit, in consultation with his project supervisor, the title,objective and plan of action of his project work to the PRC for its approval. Only after obtaining the approval of PRC the student can initiate the Project work.

iv. If a candidate wishes to change his supervisor or topic of the project he/she can do so with approval of PRC. However, the PRC shall examine whether the change of topic/supervisor leads to a major change of his initial plans of project proposal. If so, his date of registration for the project work starts from the date of change of supervisor or topic as the case may be.
v. **Project Work:** The candidate should be continuously observed by the project supervisor. His performance is assessed by the PRC through a seminar and interim report. Full credits are awarded **'SAT'** on satisfactory performance of the student. **'US'** grade is given on unsatisfactory performance. If the performance is unsatisfactory, the PRC should redefined the project and the candidate is allowed to appear for the evaluation only after six months.
vi. **Project Work & Dissertation:** A candidate shall submit status report (in a bound-form) in two stages at least with a gap of 3 months between them to the project supervisor.
vii. A candidate is permitted to submit Project dissertation only after successful completion of theory and practical course with the approval of PRC not earlier than 40 weeks from the date of registration of the project work. For the approval of PRC the candidate shall submit the draft copy of dissertation to the Head of the Department and shall make an oral presentation before the PRC along with project supervisor.
viii. Student has to submit to the department three copies of the Project dissertation along with a soft copy on CD certified by the supervisor.
ix. The dissertation shall be adjudicated by one examiner selected by the Controller of examination from the panel of 3 examiners as suggested by Head of the Department, who are eminent in that field with the help of the concerned guide and head of the department.
x. If the report of the Examiner is not favorable, the candidate shall revise and resubmit the dissertation, in the time frame as described by PRC. If the report of the examiner is unfavorable again, the thesis shall be summarily rejected.
xi. If the report of the examiner is favorable, viva-voce examination shall be conducted by a board consisting of the supervisor, Head of the Department and the examiner who adjudicated the dissertation. The Board shall jointly report candidates work as:

A. **Excellent**
B. **Good**
C. **Satisfactory**
D. **Unsatisfactory**.

Head of the Department shall coordinate and make arrangements for the conduct of viva-voce examination.

If the report of the viva-voce is unsatisfactory, the candidate will retake the viva-voce examination after three months. If he/she fails to get a satisfactory report at the second viva-voce examination, he/she will not be eligible for the award of the degree.

7.1.3 Performance and Feedback (3) Institute Marks : 3.00

Assessment is based upon effective implementation of the following activities:
o Post-semester feedback to students on their performance
o Extra care for poor performers and remedial classes
o Comparison of mid and end semester performance

Tutorial classes are also conducted for M.Tech for all subjects. 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.

- Mentoring System : Yes
- Type of Mentoring : Total Development
- Number of faculty mentors : All
- Number of students per mentor : 20/4
- Frequency of meeting : Fortnightly or on need basis

Mentoring program is adopted in GRIET in order to improve the performance of the graduate students and post graduates. 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 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 for all activities.

Duties and Responsibilities of Mentor:

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

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

7.1.4 Mechanism for addressing evaluation related grievances (2) Institute Marks : 2.00

Assessment is based upon the efficacy of the mechanism being followed.

1. **Recounting of Marks in the End Examination Answer Books:** A student can request for re-counting of his/her answer book on payment of a prescribed fee.
2. **Re-evaluation of the End Examination Answer Books:** A student can request for re-evaluation

   of his/her answer book on payment of a prescribed fee.
3. **Supplementary Examinations:** A student who has failed in an end semester examination can

   appear for a supplementary examination, as per the schedule announced by the College/Institute.
4. **Malpractices in Examinations:** Disciplinary action shall be taken in case of malpractices during Mid/ End-examinations as per the rules framed by the Academic Council.
5. **Academic Requirements:**
   a. A student shall be deemed to have secured the minimum academic requirements in a subject if he / she secures a minimum of 40% of marks in the Semester-end Examination and a minimum aggregate of 50% of the total marks in the Semester-end examination and Internal Evaluation taken together.
   b. In order to qualify for the award of M.Tech Degree, the student shall complete the academic requirements of passing in all the Courses as per the course structure including Seminars and Projects
   c. In case a Student does not secure the minimum academic requirements in any course, he/she has to reappear for the Semester-end Examination in the course, or re-register for the same course when next offered or re-register for any other specified course, as may be required. However, one more additional chance may be provided for each student, for improving the internal marks provided the internal marks secured by a student are less than 50% and he/she failed finally in the course concerned. In the event of taking another chance for re-registration, both the internal and external marks obtained in the previous attempt are nullified. In case of re-registration, the student has to pay the re-registration fee for each course, when next offered.
6. **Award of Class:** After a student satisfies all the requirements prescribed for the completion of the Degree and becomes eligible for the award of M. Tech Degree by JNTUH, he/she shall be placed in one of the following three classes:

Class Awarded	% of Marks Secured
First Class With Distinction	Marks >70%
First Class	60% ≤ Marks < 70%
Second Class	50% ≤ Marks < 60%

7. **Withholding of Results:** If the student has not paid dues to the Institute/ University, or if any case of indiscipline is pending against him, the result of the student (for that Semester) may be withheld and he/she will not be allowed to go into the next Semester. The award or issue of the Degree may also be withheld in such cases.
8. **Transfer of students from the Constituent Colleges of JNTUH or from other Colleges/ Universities:** Transfer of students from the Constituent Colleges of JNTUH or from other Colleges/ Universities shall be considered only on case-to-case basis by the Academic Council of the Institute.
9. **Transitory Regulations:** Students who have discontinued or have been detained for want of attendance, or who have failed after having undergone the Degree Programme, may be considered eligible for re-registration to the same or equivalent subjects as and when they are offered.
10. **General Rules**
    a. The academic regulations should be read as a whole for the purpose of any interpretation.
    b. In the case of any doubt or ambiguity in the interpretation of the above rules, the decision of the Academic Council is final.
    c. In case of any error in the above rules and regulations, the decision of the Academic Council is final.

The college may change or amend the academic regulations or syllabi at any time and the changes or amendments made shall be applicable to all the students with effect from the dates notified by the Institute/ University

7.2 Evaluation Process: Project Work / THESIS (25) Total Marks : 25.00

Details of Thesis Allocation, Evaluation and Presentation

Year	Name of Candidate	Name of Supervisor/ Joint Supervisor	Title of Thesis	Whether Evaluation Committee was Constituted (Yes/No)	Name of the External Member	Thesis Presentation Dates
2012-14	A.Sarika	Anitha Laxmi	Manufacturing of preside wall by customizing post processor of Heidenhaiw collector	Yes	MT Nayak	12-13 Dec2014
2012-14	K.Vijaya sivasrithi	Anitha Laxmi	Optimized of Machining of a Pro bare plate by developing virtual machine tool kit	Yes	MT Nayak	12-13 Dec2014
2012-14	L.K. Bezerjee shiva krishna	Dr.L.Jayhari	Experimental investigation on wear behavior of GFRP composites	Yes	PAPN Verma	12-13 Dec2014
2012-14	M.Sunil Kumar	Dr.Swadesh Kumar singh	Forming and earing prediction of Austenitic stainless steel 304	Yes	MT Nayak	12-13 Dec2014
2012-14	K.Ravikumar	Dr.A.Adama RamaRao	Modeling and analysis of transformer tank	Yes	PAPN Verma	12-13 Dec2014
2012-14	N.Ravikanth	Dr.N.Sateesh	Design and Modeling and analysis of dynamic load sensor for fatigue testing machine	Yes	PAPN Verma	12-13 Dec2014
2012-14	J.Ravindra babu	K.Ratna babu	Static and Dynamic analysis of aircraft stiffed panel	Yes	-	--
2012-14	S. Ranjith Kumar	Prashanth Reddy	Minimization sink mark defects in injection molding process	Yes	-	-
2012-14	E. Sudhakar goud	Prashanth Reddy	Injection mould tool design and mould flow analysis of exaust fan	Yes	-	-
2012-14	V.K. Chaitanya	Anitha Laxmi	Modeling and analysis of contra rotating air craft propeller	Yes	-	-

7.2.1 Allocation of Students to Eligible Faculty Members (supervisors) (10) Institute Marks : 10.00

Year	Name of Candidate	Name of Supervisor/Joint supervisor
2012-14	A.Sarika	Anitha Laxmi
2012-14	K.Vijaya sivasrithi	Anitha laxmi
2012-14	L.K. Bezerjee shiva krishna	Dr.L.Jayhari
2012-14	M.Sunil Kumar	Dr.Swadesh Kumar singh
2012-14	K.Ravikumar	Dr.A.Adama RamaRao
2012-14	N.Ravikanth	Dr.N.Sateesh
2012-14	J.Ravindra babu	K.Ratna babu
2012-14	S. Ranjith Kumar	Prashanth Reddy
2012-14	E. Sudhakar goud	Prashanth Reddy
2012-14	V.K. Chaitanya	Anitha laxmi

7.2.2 Constitution of Evaluation Committee with at least One External Member (10) Institute Marks : 10.00

Year	Name Of Candidate	Name of the External Member	Evaluation Committee
2012-14	A.Sarika	MT Nayak	Bch Nukaraju Dr N.Sateesh Anitha Laxmi
2012-14	K.Vijaya sivasrithi	MT Nayak	Bch Nukaraju Dr N.Sateesh Anitha Laxmi
2012-14	L.K. Bezerjee shiva krishna	PAPN Verma	Bch Nukaraju Dr N.Sateesh Anitha Laxmi
2012-14	M.Sunil Kumar	MT Nayak	Bch Nukaraju Dr N. Sateesh Anitha Laxmi
2012-14	K.Ravikumar	PAPN Verma	Bch Nukaraju Dr N.Sateesh Anitha Laxmi

2012-14	N.Ravikanth	PAPN Verma	Bch Nukaraju Dr N.Sateesh Anitha Laxmi
2012-14	J.Ravindra babu	-	Bch Nukaraju Dr N.Sateesh Anitha Laxmi
2012-14	S. Ranjith Kumar	-	Bch Nukaraju Dr N.Sateesh Anitha Laxmi
2012-14	E. Sudhakar goud	-	Bch Nukaraju Dr N.Sateesh Anitha Laxmi
2012-14	V.K. Chaitanya	-	Bch Nukaraju Dr N.Sateesh Anitha Laxmi

7.2.3 Schedule Showing Thesis Presentation at least twice during the semester (5) Institute Marks : 5.00

The following Academic calendar for MTech project thesis presentation twice in the semester

Gokaraju Rangaraju Institute of Engineering & Technology

(Autonomous)

Bachupally, Kukatpally, Hyderabad-500 090, India. (040) 6586 4440

GRIET/DAA/2A/G/14-15 10 Nov 14

ACADEMIC CALENDAR

Academic Year 2014-15

M. TECH - FIRST SEMESTER

S.No	EVENT	PERIOD	DURATION
1	Orientation Program	17-11-2014	
2	Commencement of Class work	17-11-2014	
3	I Unit of Instructions	17-11-2014 to17-01-2015	9 Weeks
4	I Mid Examinations	19-01-2015 to 24-01-2015	1 Week
5	II Unit of Instructions	27-01-2015 to 21-03-2015	8 Weeks
6	II Mid Examinations	23-03-2015 to 28-03-2015	1 Week
7	Preparation and Practical Examinations	30-03-2015 to 04-04-2015	1 Week
8	End Semester Examinations	06-04-2015 to 18-04-2015	2 Weeks
9	Commencement of Class Work	20-04-2015	

M. TECH - SECOND SEMESTER

S.No	EVENT	PERIOD	DURATION
1	I Unit of Instructions	20-04-2015 to 16-05-2015	4 Weeks
2	Summer Vacation	18-05-2015 to 13-06-2015	4 Weeks

3	I Unit of Instructions	15-06-2015 to 18-07-2015	5Weeks
4	I Mid Examinations	20-07-2015 to 25-07-2015	1 Week
5	II Unit of Instructions	27-07-2015 to 19-09-2015	8 Weeks
6	II Mid Examinations	21-09-2015 to 26-09-2015	1 Week
7	Preparation and Practical Examinations	28-09-2015 to 03-10-2015	1Week
8	End Semester Examinations	05-10-2015 to 17-10-2015	2 Weeks

II Year - I Semester: 19-10-2015 to 05-03-2016 (20W)

ject work Registrations 19-10-2015 to 24-10-2015

Seminar/ Comprehensive Viva Dates 04-01-2016 to 09-01-2016

II Year - II Semester: 07-03-2016 to 23-07-2016 (20W)

Thesis Submission duration 25-07-2016 to 07-01-2017 (24 W)

Thesis submission with late fee after 09-01-2017

Copy to: Director, Principal, All Deans, HODs, A.O **Dean of Academic Affairs**

7.3 Teaching Evaluation and Feedback System (10) **Total Marks : 10.00**

7.3.1 Guidelines for Student Feedback System (3) Institute Marks : 3.00

Assessment is based upon the effectiveness of the guidelines for student feedback system. The design and effective implementation of the guidelines are essential for student feedback system.

Guidelines :

1. Feedback form consists of 10 questionnaires
2. Each questionnaire consists of the grading 4-1
3. Cumulative analysis is done taking help of the feedback form for every faculty
4. Based on the analysis the teaching /learning process in improved

7.3.2 Analysis of Feedback by HOD and the Faculty (2) Institute Marks : 2.00

Assessment is based upon the methodology being followed for analysis of feedback and its effectiveness.

Assessment is based upon the methodology being followed for analysis of feedback and its effectiveness.

Feedback collected for all courses (Yes/No) : Yes

- Specify the feedback collection process:

1. Feedback is collected through structured forms from students, parents, employees and alumina.
2. Student's feedback on faculty is collected twice in semester once at the beginning of the course and one at the end.
3. Same feedback can also be taken through online

4. Parents, Employers, Alumina as and when they visit the institute, every effort is made to collect feedback.

(a) Organization 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 midcourse corrections, provide a mechanism to monitor and reward the good performers at the same time make the lagging behind to improve. Also to ensure an effective feedback and corrective mechanisms

(b) Feedback forms are carefully designed for the following stake holders with responsibility indicated in brackets.

i. Students (Head of Individual Dept)
ii. Faculty (Dean of Faculty Development)
iii. Parents (HOD of Individual Dept)
iv. Employers (Dean of Training &Placements)
v. Alumni (GRIET Alumni Association)

- Percentage of students participating : 60%
- Specify the feedback analysis process :

1. Feedback form consists of 10 questionnaires
2. Each questionnaire consists of the grading 4-1
3. Cumulative analysis is done taking help of the feedback form for every faculty
4. Based on the analysis the teaching /learning process in improved

Periodicity

The Periodicity is chosen to form a valuable and appropriate input

a. Student: Twice in a academic session once after a month of subject coverage and second after the subject completion.
b. Faculty: Twice a year in the month of May and November.
c. Parent: Once on Institute Parent Interaction Day and as and when a parent visits the institution.
d. Employer: Once a year at least.
e. Alumni: Once on Alumni Day i.e. on 15th August of each year.

7.3.3 Corrective Measures and Implementation Followed (5) Institute Marks : 5.00

Assessment is based upon the effectiveness of the implementation of the corrective measures and subsequent follow-up.

- 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 : 3

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.

7.4 Self-learning beyond syllabus and outreach activities (15) Total Marks : 15.00

7.4.1 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.)

- The Co-curricular calendar is published at the beginning of each year which helps students to time their activity and involvement in self-learning.

- College timings are much wider than student working hours, giving students the time to refer and research, consult and learn.
- Time table is framed and provides for adequate leisure time to focus on self- learning.
- Two electives in fourth year I Semester and three electives in fourth year II Semester gives ample flexibility to probe into advanced topics in the discipline concerned.
- Each Laboratory curriculum is augmented by one to three experiments beyond curriculum supplementing the syllabus and giving additional skills.
- Students are encouraged to utilize facilities to promote synthesis of knowledge by research while choosing topics for seminars, industry-oriented mini projects or Main project/Dissertation.
- The Programme centers introduce from time to time, innovative ways of combining Certification courses with the curriculums to give a professional touch to the learning process.
- College is created a digital class room as a remote center of IIT Bombay with facilities such as specialized internet 2mbps bandwidth to watch programmes through Aview software. Computers, LCD projector and sound system is provided in the digital to see special video classes from the web.
- Digital library access is given to all the students through wifi internet where they can read latest research papers from the IEEE, Elsevier, Science Direct, McGraw Hill and ACM in the college campus.
- Professional Society Events are conducted in the college through American Society of Mechanical Engineers(ASME), Indian Society of Mechanical Engineers(ISME), Society of Automotive Engineers(SAE), Indian Society of Technical Education(ISTE), The Institute of Electronics and Telecommunication Engineers (IETE),Institute of Engineers (India)(IEI) and Computer Society of India (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.

7.4.2 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 (Institute of Electicals and Electronics Engineers(IEEE), Association of Computing Machinery(ACM), National Program on Technology Enhanced Learning(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 ASME, SAE, ISME, ISTE, IETE, CSI,
- Availability of course material from Indo-US Colloboration for Engineering Education(IUCEE)
- Interaction with eminent academic personalities through Guest lectures.
- Interaction with industry experts through academic alliance events.
- Organizing and take 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.

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.

7.4.3 Career Guidance, Training, Placement, and Entrepreneurship Cell (5) Institute Marks : 5.00

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

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

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

Career Guidance and Counseling Cell (CG &C):

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

- The Dean CG &C is assisted by 32 Counselors (8 Branches x 4 Batches each) who are faculty from respective Programme/Branch/Discipline.
- The cell reaches out to the students both professionally and personally.
- All eligible and employable graduates are transformed into competent employees for prospective industrial houses both in India and overseas with the help of CG&C
- In its service CG&C apart from career guidance, it also organizes seminars on career planning, soft skills development and campus recruitments and also interacts proactively with Industry HRD cells to facilitate campus placements.

- The Dean CG&C and his counselors are accessible to the students and it makes adequate arrangements for the guidance of students during admissions. They are counseled on choice of careers, and show empathy to their state of confusion and anxiety. They are also given psychological and social counseling apart from academic and career counseling.
- CG&C share a common facility created with the training and placement cell. Facilities available includes: One air conditioned Seminar hall with seating capacity for 250 persons with Wi-Fi and LCD projectors and screens, stage lighting and audio equipment. This is used for seminars on soft skills and technical subjects and for free placement seminars by companies.
- Air conditioned cabins are available for conducting interviews and one to one discussions.
- There are 19 discussion rooms provide the necessary accommodation for any information exchange.
- Dean Career Guidance and Counseling also assists the Training and Placement cell on the vital aspect of higher education.
- 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)

UG

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

Batch	Higher Studies Students in Abroad	Higher Studies Students In India	Total
2012 -2013	15	10	25
2013 - 2014	21	9	30
2014 - 2015	32	8	40

PG

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

Batch	Higher Studies Students in Abroad	Higher Studies Students In India	Total
2012 - 2013	0	1	1
2013 - 2014	0	1	1
2014- 2015	0	1	1

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.

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

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

- One Air conditioned Conference Hall is available with capacity of 250 students at a time. This is being used for giving training to the students of all academic years for soft skills development and technical subjects. This is also being used for the Pre-placement Talk by companies during Campus Placements.
- Air-conditioned rooms are available to simultaneously conduct a number of panels of Group Discussions (GDs), with each panel accommodating up to about 12 students.
- Air-conditioned cabins are available to simultaneously conduct interviews for a large number of students.
- Rooms are available to simultaneously conduct written test for a large number of students during Campus Placements.

- Online test can be conducted for about 200 students at a time.
- E-mail groups are formed every year for each batch of final year students for effective communication with the final year and passed out students.

Impact:

UG

Batch	Placements
2012- 2013	28
2013 - 2014	32
2014 -2015	30

PG

Batch	Placements
2012- 2013	4
2013 - 2014	3
2014 - 2015	3

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
2014-15	1.Faculty Development programme in Entrepreneurship sponsored by NSTEDB ,organized by center for Entrepreneurship Development (CED). 2. Conducted Guest lecture on "Industrial opportunities,Entrepreneurship and soft skills" 3. Constituting managing committee for implementation of the scheme support for Entrepreneurial and managerial Development of SMEs through Incubators.	1. Establishment of Incubation center 2. Students actively joining family business. 3. process and practice of entrepreneurship development, communication and inter-personal skills, creativity, problem solving, achievement motivation training.
2013-14	1. conducted a competition on exhibiting and product development. 2. Organized a guest lecture on Creativity and innovation. 3. Conducted Round table discussion on Employability initiatives in life sciences segment.	
2012-13	1. conducted a CEO speak Session on "The Entrepreneurial Journey". 2. Conducted a guest lecture on "Entrepreneur opportunities and challenges " 4. Submitted propoasl for implementation of the scheme "support support for Entrepreneurial and managerial Development of SMEs through Incubators".	

8 Governance, Institutional Support and Financial Resources (75) **Total Marks : 80.00**

8.1 Campus Infrastructure and Facility (5) Total Marks : 5.00

8.1.1 Maintenance of academic infrastructure and facilities (2) Institute Marks : 2.00

(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 (1) Institute Marks : 1.00

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 (2) Institute Marks : 2.00

(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	Sri. A. Ravindra Babu	Member	
		University Nominee	Dr. A. Damodaram	Member	
		Principal of Institute	Dr. Jandhyala N Murthy	Member-Secretary	
		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			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

Academic Council	Principal	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 Member Secretary.	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. 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 Committee	Chairman of Governing Body or his nominee	1. Principal / Director of the institute. 2. Two nominees of the Vice Chancellor of the affiliating University. 3. Two subject experts 4. Head of the concerned programme of Professor Cadre.	1. To prepare a detailed list of vacant posts in all the programmes of the institute based on consultations with the Institute development committee, the HOD's of various programmes and guidelines from various agencies like UGC, AICTE, Parent University and the State Government. 2. To oversee notification, publication and scrutiny of the applications received before scheduling the tests, interviews and demo lectures. 3. To involve in the pro-active recruitment periodically of high quality faculty with exceptional qualifications from India or overseas. 4. To facilitate highly qualified personnel from both industry and R & D institutions as adjunct or visiting faculty for short durations to undertake teaching / research assignments. **Committee Scheduled Meetings:** Two time a year
		1. Heads of all Departments/ Programme	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. 5. Taking suggestions from all stake holders and its subcommittees -Academic Affairs Committee, Departmental Development and Monitoring Committee, Class Coordinators

Institutional Development Monitoring Committee (IDMC)	Principal- IDMC Coordinator	coordinators. 2. Two external members, 3. The administrative officer, 4. Two deans/senior Professors. 5. Student Representative from UG and PG programmes.	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)
Programme Assessment Committee (PAC)	Programme Coordinator	1. Module Coordinators 2. Faculty of a particular course 3. Class Coordinators	1. To monitor feed backs from stake holders and taking action thereafter on academic matters 2. To monitor assessment and attainment of COs, POs and PEOs. 3. Evaluate Programme effectiveness and propose necessary changes for continuous improvement. 4. Motivate faculty and students to attend workshops, developing projects, working models, paper publications and research. 5. Interact 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.

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 enquiry.
- The Anti Sexual Harassment Cell arbitrates sexual harassment cases, complete with provisions to recommend suitable punishment of the guilty to the Grievance Cell for further action.
- The guidelines have provisions depending on the different degrees of fault or offence-Minor, Moderate or Major, there are different degrees of "punishment" to deal with such offences

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

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

IV. Women's Development Cell

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

(i) History & Inception

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

(ii) Scope

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

(iii) Objectives

- Create awareness on equal opportunity for women that will ultimately lead to improved attitude and behavior.
- To raise awareness vide lectures/ workshops for GRIET women students and staff members on different aspects of women's welfare.
- Bring about attitudinal and behavioral change in adolescent youth of the female gender.
- To discuss and suggest methods to promote gender amity amongst all GRIET women employees and students.
- Conduct 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

Item	Budgeted in 2014-2015	Expenses in 2014-2015	Expenses in 2013-2014	Expenses in 2012-2013
Infrastructure built-up	10000000	600000	12572000	2109000
Library	3000000	1772000	1844000	2654000
Laboratory equipment	25000000	25891000	11448000	10620000
Laboratory consumables	20000000	13714000	975000	1537000
Teaching and non-teaching staff salary	180000000	177394000	144049000	116452000
R&D	15000000	10237000	6989000	2841000
Training and Travel	5000000	3760000	1957000	2205000
others	60000000	47703000	52599000	41222000
Total	318000000	281071000	232433000	179640000

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

Items	Budgeted in 2014-2015	Actual Expenses in 2014-2015	Budgeted in 2013-2014	Actual Expenses in 2013-2014	Budgeted in 2012-2013	Actual Expenses in 2012-2013
Laboratory equipment	300000	208000	200000	53000	300000	5000
Software	100000	46000	50000	5000	50000	8000
R&D	100000	123000	200000	88000	300000	70000
Laboratory consumables	100000	11000	50000	7000	50000	17000
Maintenance and spares	100000	99000	200000	28000	100000	22000
Training and Travel	100000	13000	100000	9000	150000	85000
Miscellaneous expenses for academic activities	100000	18000	50000	5000	50000	2000
Total	900000	518000	850000	195000	1000000	209000

8.4.1 Adequacy of budget allocation (3) Institute Marks : 3.00

(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 Budget allocation for Research facilities (4) Institute Marks : 4.00

(Instruction:- Articulate the provisions in the budget to carry out the research by post graduate students)

- 35% of budget is allocated for the procurement of equipment which will be useful for research work.
- 40% Budget is further allocated for consumables for the research work which will be useful conducting experiments.
- 10% Budget is allocated for the maintenance of the equipment.
- 10% Budget is allocated for publishing papers and travel.
- 5% is allocated for other expenditure.

8.4.3 Utilisation of allocated funds (3) Institute Marks : 3.00

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

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

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

For example, in the year 2014-15, half of the budget amount was spent towards the laboratory equipment as planned and allocated. This is for continuous improvement of laboratories to enhance the technical skills.

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 (25) Total Marks : 25.00

8.5.1 Library space and ambience, timings and usage, availability of a qualified librarian and other staff, library automation, online access, networking, etc (5) Institute Marks : 5.00

(Instruction: Provide information on the following items.)

• Library Services	Yes
• Carpet area of library (in m2)	1670
• Reading space (in m2)	1355
• Number of seats in reading space	300
• Number of users (issue book) per day	200
• Number of users (reading space) per day	300
• Timings: During working day, weekend, and vacation	8 AM to 8 PM
• Number of library staff	08
• Number of library staff with degree in Library	04

• Management Computerisation for search, indexing, issue/return records Bar coding used

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

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

The following Library services are present on Internet / Intranet.

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

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
2012-2013	318	44	4000
2013-2014	655	475	4764
2014-2015	395	230	1572

Number of Titles : 1368

Number of Volumes : 10336

8.5.3 Scholarly journal subscription specific to the programme (8) Institute Marks : 8.00

(Instruction:- Indicate the journals subscribed/available specifically for this programme)

Year	No. of Technical Magazines / Periodicals	No. of Total Technical Journals subscribed		Scholarly Journal Titles(in originals, reprints)
		In Hardcopy	In Softcopy	
2011-2012	240	240	35	240
2012-2013	300	300	8412	300
2013-2014	300	300	300	300
2014-2015	293	293	6849	6849

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

GRIET Digital Library provides literature search through Internet and provides Online Access to the following e-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-BSE (for Management Sciences)

An Online Public Access Catalogue (OPAC) terminal is kept to the users to facilitate them to search through catalogue to ascertain the availability of documents. It can be searched using various options like title, author, subject, publisher etc

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	
2012-2013	1553000	780000	1630000		
2013-2014	1906000	600000	1620000		
2014-2015	1513000	675000	2020000	200000	

8.6 Incubation facility (5) Total Marks : 5.00

Institute Marks : 5.00

(Instruction: Specify the details of incubation facility in terms of capacity, utilisation terms and conditions, usage by students)

GRIET initiated the culture of establishing Incubation centers in association with industry.

- Bus eye solutions ,a startup company training our students in web technologies and mobile technologies for CSE ,IT, MCA& MBA from 2013-2014.
- EDS Technologies for Mechanical and Civil Engineering and Techno lexis for EEE & ECE from 2014-2015.
- GRIET has been recognized as business Incubation center by (Central Govt.) MSME(Micro small medium) which encourages innovative products through financial support from 2013-2014.
- This year we receive fund of worth Rs. 19.63 lacs.

8.7 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	54Mbps
• Access speed	100Mbps
• 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.

8.8 Safety Norms and Checks (5) Total Marks : 5.00

8.8.1 Checks for wiring and electrical installations for leakage and earthing (1) Institute Marks : 1.00

- Institute buildings are well designed with proper electrical installations.
- Special care is taken at the time of installation by using quality certified components in terms of wiring, switches, plugs and circuit breakers.
- Monthly maintenance is done which includes arrest of any leakage, working condition check for lighting conductor, earthing / grounding system checks and inspection of electrical installations for safety.
- Separate Electrical Maintenance is monitored by the Maintenance & Safety Officer with a dedicated team to deal with routine and emergency maintenance.

8.8.2 Fire-fighting measurements: Effective safety arrangements with emergency / multiple exits and ventilation/exhausts in auditoriums and large classrooms/labs, 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.

8.8.3 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

8.8.4 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

8.9 Counselling and Emergency Medical Care and First-aid (5) Total Marks : 5.00

8.9.1 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.

8.9.2 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.

8.9.3 Availability of first-aid unit (2) Institute Marks : 2.00

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

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

9 Continuous Improvement (75) **Total Marks : 67.66**

9.1 Improvement in Success Index of Students (5) Total Marks : 3.53

Institute Marks : 3.53

From 4.2
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	2010-2011(c)	2009-2010(b)	2008-2009(a)	Assessment
Success Index	0.60	0.79	0.92	3.53

9.2 Improvement in Academic Performance Index of Students (5)

Total Marks : 4.06

Institute Marks : 4.06

From 4.3
a, b and c are calculated respectively for LYGm2, LYGm1 and LYG by dividing the API values, obtained from the criterion 4.3 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	2010-2011(c)	2009-2010(b)	2008-2009(a)	Assessment
API	0.83	0.79	0.79	4.06

9.3 Improvement in Student-Teacher Ratio (5)

Total Marks : 3.92

Institute Marks : 3.92

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	2014-2015 (c)	2013-2014 (b)	2012-2013 (a)	Assessment
STR	0.80	0.81	0.65	3.92

9.4 Enhancement of Faculty Qualification Index (5)

Total Marks : 5.00

Institute Marks : 5.00

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	2014-2015 (c)	2013-2014 (b)	2012-2013 (a)	Assessment
FQI	1.00	1.00	1.00	5.00

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

Total Marks : 6.15

Institute Marks : 6.15

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 30 . The maximum value of a, b, and c should not exceed one.
Assessment = (b-a) + (c-b) + (a+b+c)x(10/3)

Items	2014-2015 (c)	2013-2014 (b)	2012-2013 (a)	Assessment
FRP	1.00	1.00	1.00	10.00
FRDC	0.80	0.13	0.00	2.30

9.6 Continuing Education (10)

Total Marks : 10.00

9.6 In this criterion, the institution needs to specify the contributory efforts made by the faculty members by developing the course/laboratory modules, conducting short-term courses/workshops, etc., for continuing education during the last three years (10)

Institute Marks : 10.00

Module Description	Any Other Contributory Institute/Industry	Developed/Organized By	Duration	Resource Persons	Target Audience	Usage and Citation,etc
Workshop on "Engineering Thermodynamics"	GRIET, collaboration with IIT Bombay	BCh. Nookaraju	10 days 11-21 Dec 2012	U N Gaithonde	Faculty	Practical application
Two weeks ISTE work shop on Engineering Mechanics	GRIET, collaboration with IIT Bombay	Sunil Reddy,Lade Jayhari	Two weeks 26/11/13 to 6/12/2013	Phatak	faculty	Practical application
Two weeks ISTE						

mechanics	with IIT Kharagpur		May 2014			application
FDP on Additive Manufacturing	GRIET	Ch Prashanthi	3 days 25-27 June 2014		Faculty and M.Tech students	
FDP on Guide to a passionate teacher	GRIET	Dr.Adapa Ramarao	29June-4th July	Pattabhi Ram	faculty	Improvement in teaching skills
Workshop on sixth serve Ibotz, Android Botox	SME-GRIET	A.Anitha laxmi	8th Feb 2014	ARK Technologies	B.Tech and M.Tech students	Practical applications
Workshop on AutoCAD Training	SME-GRIET	A.Anitha laxmi	11th August 2014	Dr.K.Satyanarayana,RIET	B.Tech and M.Tech students	Training on software
Udyata, Aproduct developed workshop, Animax	SME-GRIET	A.Anitha laxmi	2-3 March 2015	Vishwesh Srinivasan, Jitendhar Bhai (SVP Laser Technologies Pvt Ltd.and Innovations Technologies	B.Tech and M.Tech students	Training
A workshop on Automobiles “Robotryst	SAE-GRIET	US Jyothi	26-27 Sep 2014	Rajvinder Singh,IIT Delhi	B.Tech and M.Tech students	Practical applications
A workshop on Advance Braking System	SAE-GRIET	US Jyothi	24 March 2015	SP Sambasiva Rao Wabco Hyderabad	B.Tech and M.Tech students	Practical applications

9.7 New Facility Created (15)

Total Marks : 15.00

9.7 Specify new facilities created during the last three years for strengthening the curriculum and/or meeting the POs (15)

Institute Marks : 15.00

Module Description	Any other contributory Inst. /Industry	Developed by	Duration of Development	Resource persons	Target Audience	Usages and citation etc.	PO’s
2014-15							
Wind turbine	-	GRIET	6 months	B.Ch.Nookaraju	B.Tech and M.Tech students	Power development with natural air	b,h,k
Multi storage Building weight lifter	-	GRIET	8 months	Dr. L.Jayhari	B.Tech and M.Tech students	Lift the components to an elevated heights and storage	b,h,k
Critical heat flux apparatus	-	GRIET	6 months	K. Prashanth Reddy	B.Tech & M.Tech students	Finding the heat flux in hot fluid flowing through a pipe	b,h,k
Calibration of Rota meter	-	GRIET	6 months	A. Anitha Laxmi	B.Tech and M.Tech students	Finding flow rate of fluid or gas	b,h,k
Vibration measurement Transducer	-	GRIET	5 months	S. Ravi shekar	B.Tech and M.Tech students	Finding Frequency of Turbine/Compressor vanes	b,h,k
McLeod Pressure gauge	-	GRIET	6 months	A. Anitha Laxmi	B.Tech and M.Tech students	Used for measurement low pressure of gases.	b,h,k
Capacitive transducer	-	GRIET	5 months	S. Ravi shekar	B.Tech and M.Tech students	used to measure the thickness or density of non-conductive materials	b,h,k
Resistance thermometer	-	GRIET	6 months	Banu Teja	B.Tech and M.Tech students	Used to measure temperature by correlating the resistance of the RTD element with temperature.	b,h,k
2013-14							
Vapor absorption refrigeration system	-	GRIET	6 months	US Jyothi	B.Tech and M.Tech students	used for food storage in recreational vehicles.	b,h,k

Power tools in work shop	-	GRIET	4 months	Krishna Mohan	B.Tech and M.Tech students	Used for carpentry, sheet metal work	b,h,k
Pyrometer for temperature measurement	-	GRIET	3 months	Dr.K.Satyanarayana	B.Tech and M.Tech students	Measurement of temperature while machining	b
LS Dyna software	-	GRIET		Dr. Swadesh Kumar Singh	B.Tech and M.Tech students	Simulation of forming process	b,h,k
Presys software	-	GRIET		Dr. Swadesh Kumar Singh	M.Tech students	Simulation of forming process	b,h,k
2012-13							
Electronically Controlled Inverted Microscope	AICTE	GRIET	6 Months	Dr S K Singh	B.Tech and M. Tech Students	Material Testing	b,h,k
Electronically Controlled Micro Hardness Tester	AICTE	GRIET	6 Months	Dr S K Singh	B.Tech and M. Tech Students	Material Testing	b,h,k
Etching Machine	AICTE	GRIET	6 Months	Dr S K Singh	B.Tech and M. Tech Students	Material Testing	a,b,k
Traveling Microscope	AICTE	GRIET	6 Months	Dr S K Singh	B.Tech and M. Tech Students	Material Testing	b
Grinder and Polisher for Microscopy	AICTE	GRIET	6 Months	Dr S K Singh	B.Tech and M.Tech Students	Material Testing	b,h,k
Development of Stretching Die	AICTE	GRIET	1 Year	Dr S K Singh	B.Tech and M.Tech Students	Material Testing	b,h,k
High temperature induction furnace (upto 1100^{o}C)	Funded by A.I.C.T.E	GRIET	1 YEAR	D Ramana Reddy	B.Tech and M.Tech Students	Material Testing	a,b,h,k
Compression test attachment for U.T.M.	Funded by A.I.C.T.E	GRIET	1 YEAR	D Ramana Reddy	B.Tech and M.Tech Students	Material Testing	b,c,k

9.8 Overall Improvements since last accreditation, if any, otherwise, since the commencement of the programme (20)

Total Marks : 20.00

9.8 Specify the overall improvement (20)

Institute Marks : 20.00

Specify the Strenghths/Weakness	Improvement Brought In	Contributed By	List the PO(s), which are strengthened	Comments, if any
2014-2015	Up gradation of computer systems	GRIET	a,b,c	To encourage the scope of research activity in metal forming
2013-2014	Lydyna and Abacus software	GRIET	a,b,c	To encourage the scope of research activity thermal analysis
2012-2013	Heat pipes experiment and ANSYS CFX software	AICTE	a,b,c	To encourage the scope of research activity in Thermal field
2011-2012	Characterization of material at high temperature	GRIET	a,b,c	Students are analyzing and practically doing their project works