

GUJARAT TECHNOLOGICAL UNIVERSITY
B.E. SEMESTER : VIII
MANUFACTURING ENGINEERING

Subject Name: Project – II

Subject Code:183406

Teaching Scheme				Evaluation Scheme			
Theory	Tutorial	Practical	Total	University Exam(E)	University Exam(P)	Mid Sem Exam(Theory) (M)	Practical (Internal)
0	0	8	8	0	100	0	50

The objective of the project work is to enable the students to work in convenient groups of not more than four members in a group on a project involving theoretical and experimental studies related to Manufacturing Engineering. Every Project Work shall have a Guide who is a member of the faculty of Manufacturing Engineering of the college where the student is registered. The hours allotted for this course shall be utilized by the students to receive directions from the Guide, on library reading, laboratory work, computer analysis or field work and also to present in periodical seminars/reviews about the progress made in the project.

The student shall take up a suitable project, the scope of the project shall be such as to complete it within the time schedule. The project work shall consist of,

1. Fabrication of models, machines, prototypes based on new ideas, robots and machine based on hi-tech systems and automation, experimental set-up, fabrication of testing equipment, renovation of machines, etc. Above work shall be taken up individually or in groups. The group shall not be more than 4 students.

OR

Extensive analysis of some problems done with the help of a computer individually or in a group not exceeding two students.

2. A detailed report on the work done shall include objective, literature survey, background information, problem statement, work methodology, work done details, relevant data, drawings/models/photographs, results, etc. and conclusion and future scope.

Project may be of the following types:

1. Manufacturing / Fabrication of a prototype machine including selection, concept, design, material, manufacturing the components, assembly of components, testing and performance evaluation.
2. Improvement of existing design / machine / equipment / process / system.
3. Design and fabrication of Jigs and Fixtures, dies, tools, special purpose equipment, inspection gauges, measuring instruments for machine tools.
4. Computer aided design, analysis of components such as stress analysis.

5. Problems related to Productivity improvements/Value Engineering/Material Handling Systems
6. Energy Audit of an organization, Industrial evaluation of machine devices.
7. Design of a test rig for performance evaluation of machine devices.
8. Design and development of laboratory equipment.
9. Product design and development.
10. Analysis, evaluation and experimental verification of any engineering problem encountered and proposal of optimized solution.
11. Total Quality Management or new implementation of Quality systems.
12. Quality improvements, In-process Inspection, Online gauging.
13. Low cost automation, Computer Aided Automation in Manufacturing.
14. Time and Motion study, Job evaluation and Merit rating.
15. Ergonomics and safety aspects under industrial environment
16. Management Information System.
17. Market Analysis in conjunction with Production Planning and Control.
18. Industry/user defined problems and proposal of optimized solution.
19. Experimentation and optimization of any manufacturing process.
20. Development computer codes/algorithms/programmes/software in related area.

OR

Computer based design / analysis or modeling / simulation of product(s), mechanism(s) or system (s) and its validation or comparison with available benchmarks / results.

When a group of students is doing a project, names of all the students shall be included on every certified report copy. Two copies of Project Report shall be submitted to the college. The students shall present their Project before the examiners. The Viva voce, shall be based on the project work submitted and jointly conducted by an internal and an external examiner from institute/ industry, at the end of the semester.