



(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 140752

Roll No.

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**B. Tech.**

(SEM. VII) (ODD SEM.) THEORY  
EXAMINATION, 2014-15

**PROJECT MANAGEMENT**

(MECHANICAL ENGG)

Time : 3 Hours]

[Total Marks : 100

1. Attempt any FOUR parts : 5×4=20
- a) Explain the major project characteristics in detail.
  - b) Write short notes on project direction related to project management.
  - c) Describe the different phases of project planning in detail.
  - d) Indicate various stages of project formulation and explain about the functional studies.
  - e) Express the various sources for project identification.
  - f) Give the step by step procedure for implementation of project management.

2 Attempt any TWO parts : **10×2=20**

- a) Summarize the ten step procedure involved in critical study of technical appraisal.
- b) Describe the various demand forecasting techniques involved in predicting the demand for product in commercial appraisal.
- c) Name the various components which constitute the capital cost of a project and explain them.

3 Attempt any TWO parts **10×2=20**

- a) Discuss the matrix organization structure, benefits and drawbacks.
- b) List out the various types of contract and explain them in brief.
- c) Analyze the characteristics and evaluating components of functional organization in project management

4 Attempt any TWO parts **10×2=20**

- a) Write short notes on following
  - I. Project Scheduling
  - II. Total ,free and Independent Float
- b) Scheduling departmental manpower for a project is a very difficult task, even if slack time is available. Many managers would prefer to supply manpower at a constant rate rather than continually shuffle people in and out of a project.
  - I. Using the information shown below, construct the PERT network, identify the critical path, and determine the slack time for each node.

II. The network you have just created is a departmental PERT chart. Construct a weekly manpower plot assuming that all activities begin as early as possible. (Table 1)

Activity	Weeks	Personnel Required Activity Weeks (Full-time)
A-B	5	3
A-C	3	3
B-D	2	4
B-E	3	5
C-E	3	5
D-F	3	5
E-F	6	3

**Table 1**

- c) List the guidelines for project network construction and support your answer with flowchart.

5 Attempt any TWO parts : **10×2=20**

- a) Explain the steps involved in resource leveling algorithm
- b) The details of project are shown in Table (2). If the peak manpower requirement is 12, perform the steps of resource allocation technique to obtain the best schedule of the activities of the project.

Activity	Duration (months)	Manpower Requirement
1-2	5	12
1-3	6	4
2-3	8	6
2-4	4	3
3-4	4	8

**Table 2**

- c) List the need of computer aided project management and explain usage of spread sheets for financial projections.