

Faculty of Engineering & Technology  
Fifth Semester B.E. (Mechanical Engineering) (CGS)  
Examination

**PROJECT MANAGEMENT**

**Elective-I**

**Paper—5 FEME 05**

**Sections—A & B**

Time—Three Hours]

[Maximum Marks—80

**INSTRUCTIONS TO CANDIDATES**

- (1) All questions carry marks as indicated.
- (2) Answer **THREE** questions from Section A and **THREE** questions from Section B.
- (3) Due credit will be given to neatness and adequate dimensions.
- (4) Assume suitable data wherever necessary.

**SECTION-A**

1. (a) Compare merits and demerits of non-numeric models and numeric models. 6
- (b) Describe causes of project "over runs". How to avoid "over runs" to complete the project without delay ? 7

**OR**

2. (a) Describe various criteria used for choosing "project selection models". Explain any two non numeric models. 8

(b) Describe internal constraints related with Project Management. 5

3. (a) What are types of conflicts ? Discuss the causes and effects of each. 6

(b) Describe pure matrix organisation structure. Discuss its merits and demerits. 7

**OR**

4. (a) Explain work break down structures. Discuss with suitable example, how codification of tasks are useful for project planning. 8

(b) Why shrewd managers not eliminate conflict fully but confines it on specific area warding off its ill effect on project ? 5

5. (a) Explain earned value concept with neat sketch. Describe, with suitable example, different terms used to measure overall performance of project. 8

(b) What are the objectives of Life Cycle Costing ? Discuss decision variables on LCC. 6

**OR**

6. (a) Describe various project cost reduction methods.

7

(b) What is the project cost escalation ? Describe its reasons and effects on project. 6

**OR**

12. (a) How the feasibility report for the project is prepared ? What various types of feasibility to be checked ? 6

(b) What do you mean by cost-time-value cycle ? How it is used for managing project resource flow ? 7

- (b) Sketch the life cycle phases and explain task associated with each phase. 7

### SECTION-B

7. (a) What do you mean by dummy activities ? Explain with example. 4
- (b) Project activities with time estimates are tabulated as below :

Activity	Depend on	Estimated duration (day)		
		Optimistic	Most likely	Pessimistic
A	-	3	5	7
B	-	3	5	10
C	A	5	7	12
D	C	8	12	16
E	B, C	2	5	8
F	B, C	4	6	10
G	E	3	6	9
H	F	4	6	8
I	H	2	4	6
J	I, G	1	4	7

- (i) Construct PERT network.
- (ii) Find critical path and expected project duration.
- (iii) Find probability of completing project within 35 days.

Given that area under normal distribution curve as below :

Z	0.5	0.67	1	1.33	2.00
Probability	0.6915	0.7486	0.8413	0.9082	0.9772

9

**OR**

8. Explain and compare :

(i) CPM and PERT

(ii) Three time estimates in PERT

(iii) Resource smoothing and resource levelling. 13

9. (a) Explain cybernetic control and its types with specific use of each. 7

(b) What are desirable attributes in project management software ? What errors are encountered in managing PMIS ? 7

**OR**

10. (a) What do you mean by project audit ? Give guidelines for conducting a project audit. 7

(b) Describe fundamental purpose of control. Explain post process control with its application area. 7

11. (a) What components should be considered while appraisal of project proposal ? 7