



### VII SEMESTER B.TECH (MECHANICAL/IP ENGG.) END SEMESTER

EXAMINATIONS, November/December 2018

SUBJECT: PROJECT MANAGEMENT [MME 4032] (PE-VI)

REVISED CREDIT SYSTEM

Time: 3 Hours

MAX. MARKS: 50

#### Instructions to Candidates:

- ❖ Answer **ALL** the questions.
- ❖ Missing data may be suitably assumed.
- ❖ All answers must be brief.
- ❖ Use of Normal distribution tables is allowed.

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|-----|---|---|
| 1A. | List and briefly explain the advantages and limitations of a functional organization  | 5 |
| 1B. | List the types of Project Closure and explain any two of them.  | 3 |
| 1C. | In Risk Response Development, explain Avoiding Risk   | 2 |
| 2A. | Explain the following types of Feasibility Study:<br>Technical feasibility; b) Managerial feasibility; c) Economic feasibility;<br>d) Financial feasibility e) Cultural feasibility | 5 |
| 2B. | Explain the following steps of Feasibility study.<br>a) Determining the actual need to conduct feasibility study<br>b) Description of technology<br>c) Analysis of competition      | 3 |
| 2C. | Explain how Review and Analysis is carried out during project closure.  | 2 |
| 3A. | Explain the various methods for Estimating Project Times and Costs.   | 5 |
| 3B. | Explain the following types of Costs while Estimating costs<br>Direct costs, b) Labor, c) Materials   | 3 |
| 3C. | In the Bottom-Up Approaches for Estimating Project Times and Costs,<br>explain the Range Estimating method.   | 2 |
| 4A. | Explain the three steps in Risk Management Process  | 5 |
| 4B. | Explain the different types of Matrix Forms of Organizing Projects within a<br>Matrix Arrangement.  | 3 |
| 4C. | Briefly discuss Time Buffers  | 2 |

- 5A. A project consists of nine activities whose time estimates (in weeks) and other characteristics are given below:

Activity	Preceding activity(ies)	Time estimates (weeks)		
		a	m	b
A	---	4	6	2
B	---	6	6	6
C	---	12	24	6
D	A	5	8	2
E	A	14	23	11
F	B,D	10	12	8
G	B,D	6	9	3
H	C,F	15	27	9
I	E	10	16	4

- (i) Show the PERT network for the project and identify the critical activities. What is the expected project completion time and its variance?
- (ii) What is the probability of completing the project one week before the expected time?
- (iii) If the project is required to be completed by December 31 of a given year and the manager wants to be 95% sure of meeting the deadline, when should he start the project work?
- (iv) A penalty of Rs 15,000 per week is to be imposed on the contractor if the project is not completed in 36 weeks. What is the probability that he has to pay a penalty? A penalty of Rs 45,000?

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- 5B. A Mini Case Study:

Leading a Project as a New Project Manager

Best Practices for a New Project Manager to Establish Themselves and Build Relationships Quickly.

**Background:**

Sydney was a newly hired project manager at a consulting firm. She has previous experience working on project teams, but had never led a project on her own. She has only been with the firm for two weeks and has spent a week of that time in onboarding. Her manager, the head of operations, has just assigned her to a rather large project. The project is to evaluate the current processes in use within the organization specifically focused in two areas: new service development and client engagement. Sydney was told to select who she needed to work on the project and reach out to the managers of both groups to get the project started.

**The Problem:**

While excited about the opportunity, Sydney realized she had a few challenges ahead:

- She has had no time to establish relationships within the organization
- She realized that it may be difficult to engage the departments in

the initiative given the project she was asked to lead

- She was concerned about selecting team members when she did not yet know much about the others in the organization (their skills and knowledge and expertise)
- She knew very little about the organization outside of what she learned in the onboarding program and her research when she was applying for the project manager role.

Sydney needed to start the project fairly soon. She didn't have the luxury of taking time to build relationships and get to know people before the project had to begin.

What do you recommend Sydney does to ensure her first large project is a successful one?

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