

(2½ Hours)

[Total Marks: 75]

N. B.: (1) **All** questions are **compulsory**.(2) Make **suitable assumptions** wherever necessary and **state the assumptions** made.(3) Answers to the **same question** must be **written together**.(4) Numbers to the **right** indicate **marks**.(5) Draw **neat labeled diagrams** wherever **necessary**.(6) Use of **Non-programmable** calculator is **allowed**.**1. Attempt any three of the following:**

15

- Briefly explain the different phases of project management life cycle.
- What is project portfolio management? Explain the key aspects of project portfolio management.
- Define business case. Specify the content of business case document.
- Write a note on risk evaluation and management.
- Consider the cash flows estimates for four projects as shown in the table:
Negative levels represent expenditure and positive values income. Rank the four projects in order of financial desirability and make a note of your reasons for ranking them in that way. Conclusion should be based on Net Profit, and ROI (Return On Investment)

YEAR	PROJECT 1	PROJECT 2	PROJECT 3	PROJECT 4
0	-100000	-100000	-1000000	-120000
1	20000	20000	300000	30000
2	30000	30000	300000	30000
3	10000	20000	300000	30000
4	20000	20000	300000	30000
5	20000	30000	300000	50000
Net Profit	?	?	?	?
ROI	?	?	?	?

- What do you mean by scope and objective of a project? List the activities involved in identifying project scope and objective?

2. Attempt any three of the following:

15

- List the advantages and disadvantage of software prototyping.
- Explain the five major components of Albrecht Function Point Analysis.
- Discuss Caper Jones estimating rules of thumb.
- Explain the top-down approaches associated with parametric models.
- Write a note on COCOMO II Model.
- Explain Waterfall Model with the help of diagram.

3. Attempt any three of the following:

15

- Differentiate between PERT (Program Evaluation Review Technique) and CPM (Critical Path Method).
- Explain network planning model and the concept of backward pass.

- c. Using the data in the following table, answer the questions given below.

Activity	Duration	Predecessors
A	6	-
B	8	-
C	3	A
D	5	B
E	4	C, D

Create a precedence activity network. What is the total project duration? Also, calculate earliest start date, latest start date and float of all the events. Identify the critical path.

- d. Define the following terms
 i) Critical path ii) Float iii) Free float iv) Interfering float v) Hammock activity
 Critical Path.
- e. Explain Boehm's top ten s/w project risks & the different strategies for reducing it.
- f. Suppose four risks namely R1, R2, R3 and R4 have been identified and assigned the probabilities of occurrence of 0.1, 0.2, 0.3 and 0.4 respectively. The likely damages due to the four risks are Rs. 50, 000; Rs. 1, 00,000; 70,000; 60,000 respectively. Calculate the risk exposure of all the risks.

4. Attempt any three of the following:

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- a. What is meant by software configuration management? Explain the two principal activities of configuration management.
- b. What is meant by software configuration management? Explain the two principal activities of configuration management.
- c. Explain the change control process.
- d. Explain the stages in contract placement.
- e. Write a note on ethical and profession concerns as a member of any organization.
- f. Define the any three-term following: -
 i) Schedule Variance ii) Cost Variance iii) Earned Value iv) Schedule performance Index v) Cost performance index.

5. Attempt any three of the following:

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- a. What are the different types of Team Structure?
- b. What is ISO Standard? What are the sub characteristics of Functionality and Reliability of ISO 9126 Software Qualities?
- c. State and explain different levels of Capability Maturity Model (CMM).
- d. Explain the metrics correlated with Software reliability.
- e. What are the steps of conducting a post implementation project review?
- f. Explain the different reason for which a project may need to be terminated.