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(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 calculators is allowed.

1. Attempt any three of the following:

15

- Briefly explain the different phases of project management life cycle.
- What is project charter in software project management? What are the elements of project charter?
- What is project portfolio management? Explain the key aspects of project portfolio management.
- Define the following terms:  
i) Net profit    ii) Return on Investment    iii) Payback period    iv) Net present value  
v) Internal rate of return
- What is a project product? Explain Product Breakdown Structure with the help of example.
- 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

- What do you understand by the term 'ceremonies' in a scrum project? Explain the different types of ceremonies that are observed in a Scrum project and their significance.
- List the advantages and disadvantages of software prototyping.
- Explain the five major components of Albrecht Function Point Analysis.
- What are effort multipliers in COCOMO II model? List the effort multipliers used at early design.
- Explain eight core principles of Dynamic Systems Development Method.
- State Capers Jones rules of thumb for software estimation.

3. Attempt any three of the following:

15

- With the help of example explain forward pass and backward pass to calculate activity duration in network diagram.
- Define the following terms  
i) Critical path    ii) Float    iii) Free float    iv) Interfering float    v) Hammock activity
- Explain Boehm's top ten software project risks and the different strategies for reducing it.
- Write short note on Project Evaluation and Review Technique.
- Explain the different categories of cost incurred in a software project.
- What is resource smoothing? Explain two different ways of prioritizing activities for resource allocation.

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4. Attempt **any three** of the following:

15

- a Explain review process model with the help of diagram.
- b What is meant by software configuration management? Explain the two principal activities of configuration management.
- c Explain the main sections in a requirement document for contract placement.
- d What is fixed price contract? List the advantages and disadvantages of fixed price contract.
- e What are three important categories of stress management techniques?
- f Explain Vroom's expectancy theory of motivation.

5. Attempt **any three** of the following:

15

- a. Explain the advantages of a functional organization over project organization.
- b. List the obstacles to good group decision making. Also explain Delphi decision making process.
- c. Write short note on SEI capability maturity model.
- d. What is reliability growth model? Explain any two reliability growth models.
- 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.