(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
a.   What is project charter in software project management? What are the elements of project charter.
b.   Define business case. Specify the content of business case document.
c.   What is project portfolio management. Explain the key aspects of project portfolio management.
d.   Define the following terms:
     i) Net profit ii) Return of Investment iii) Payback period iv) Net present value
     v) Internal rate of return
e.   Explain the change control process.
f.   Discuss in brief about risk evaluation and management.

2.   Attempt *any three* of the following: 15
a.   What is Waterfall model? Explain with advantages and disadvantages.
b.   State Capers Jones rules of thumb for software estimation.
c.   Write a note on COCOMO II model.
d.   What is a work breakdown structure (wbs)? Explain.
e.   Explain the five major components of Albrecht Function Point Analysis.
f.   Write notes on Spiral Model.

3.   Attempt *any three* of the following: 15
a.   Draw AOA Network and calculate total project duration. Show critical critical path. Calculate EST, EFT, LST.

Activity	Duration days
1-2	4
2-3	5
2-4	7
2-5	4
3-10	15
4-6	7
4-7	Dummy
5-10	10
6-8	6
7-8	7
8-9	12
9-10	10

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b. Describe Monte Carlo simulation.
c. Explain Boehm's top ten software project risks and the different strategies for reducing it.
d. Write notes on risk identification process.
e. Explain Boehm's top ten risks and counter measure.
f. Explain the nature of resources and their scheduling.

4. Attempt *any three* of the following: 15
a. Describe the Monitoring and Controlling process for software projects.
b. What is fixed price contract? List the advantages and disadvantages of fixed price contract.
c. Explain Taylor's model of motivation.

d. What is meant by software configuration management? Explain the two principle activities of configuration management.
e. Explain in detail Old-Hackman job satisfaction Model.
f. What is stress? Explain the causes of organizational stress.

5. Attempt *any three* of the following: 15
a. Enumerate McCall's Quality Criteria.
b. Explain different leadership styles.
c. Discuss Boehm's Quality Model.
d. What are the steps of conducting a post implementation project review?
e. Discuss in brief Matrix organization.
f. Write short note on Project Closeout Report.