

Program/Sem: T.Y.B.Sc IT – Sem - V Course: Software Project Development

Program Code: IS00255 Course Code: USIT501

Duration: 2 ½ Hour **03 NOV 2025** Max. Marks: **75**

Instructions:

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.

**Q. 1 Attempt ANY THREE from the following:** [15]

- a) What is Project Portfolio Management? Explain key aspects of project portfolio management.
- b) Define the term Project and give the importance of Software Project Management.
- c) Define Business Case and specify the contents of the Business Case.
- d) Explain the phases of the project management life cycle and W5HH Principle.
- e) Define the following terms:
  1. Net Profit
  2. Return on Investment
  3. Payback Period
  4. Net Present Value
  5. Internal Rate of Return
- f) What do you mean by scope & objectives of the Project? List the activities involved in identifying project scope and objectives.

**Q. 2 Attempt ANY THREE from the following:** [15]

- a) State Caper Jones rules of thumb for Software estimation.
- b) Explain the core principles of the Dynamics Systems Development method
- c) Explain the major components of the Albrecht Function Point analysis.
- d) What do you understand by ceremonies in a scrum Project? Explain different types of ceremonies that are observed in a scrum project and their significance.
- e) Explain different approaches used for the fast delivery of the project.
- f) Write a note on the COCOMO II model

**Q. 3 Attempt ANY THREE from the following:** [15]

- a) Describe Monte Carlo simulation.
- b) Define the term Risk and discuss the ways to deal with them.
- c) Explain Boehm's top ten software project risks & different strategies for reducing it.
- d) Write a note on the Project evaluation and review technique.

- e) Define activity. Discuss three approaches to identify activities.
- f) Discuss the factors to be taken into account while allocating individuals to tasks.

**Q. 4 Attempt ANY THREE from the following:**

**[15]**

- a) What do you mean by software configuration management? Explain the two principal activities of configuration management.
- b) Explain the general recruitment process.
- c) Discuss the factors of job satisfaction given by Oldman-Hackman. Also state the methods of improving motivation.
- d) Write a note on Change Control
- e) Give the benefits of review in the process of project monitoring and control.
- f) Explain the advantages and disadvantages of fixed price contracts.

**Q. 5 Attempt ANY THREE from the following:**

**[15]**

- a) What do you mean by team structure? Explain different types of team structure.
- b) Describe a virtual team & the advantages of forming a virtual team.
- c) State and explain different levels of the Capability Maturity Model (CMM)
- d) Define the term quality. Explain McCall's quality model.
- e) Discuss the reasons for the Project closure
- f) What is the importance of Software quality? Discuss major external Software Quality characteristics identified by ISO 9126.

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