

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

Program Code: IS00255 Course Code: USIT501

Duration: 2 ½ Hour Date: 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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