

**BACHELOR OF TECHNOLOGY (CBCS - 2023)**  
**B. Tech. Sem-III Computer Science & Business Systems : WINTER: 2025**  
**SUBJECT: SOFTWARE ENGINEERING**

Day : Friday  
Date : 19/12/2025

**W-29215-2025**

Time : 10:00 AM-01:00 PM  
Max. Marks : 60

**N.B.:**

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Draw neat and labelled diagrams **WHEREVER** necessary.
- 4) Assume suitable data, if necessary.

**Q. 1** How does an engineering approach to software develop help in managing complex projects? (10)

**OR**

What is software engineering? Explain SDLC in detail. (10)

**Q. 2** What are software cost estimation models? Discuss key concepts of software engineering economics. (10)

**OR**

What are software life cycle models? Explain different models key milestones in each. (10)

**Q. 3** What is the Capability Maturity Model (CMM)? Describe its purpose in software development. (10)

**OR**

What is FURPS+ model? How does it extend the basic FURPS model? Explain in detail (10)

**Q. 4** What is UML and what are its primary uses in software design? (10)

**OR**

What are petri nets and how are they used in modeling system requirements? (10)

**Q. 5** What is the significance of object-oriented construction principles in software development? (10)

**OR**

Define the principles of abstraction modularity in object-oriented design. (10)

**Q. 6** Describe the role of transaction-based testing and give an example of where it might be used. (10)

**OR**

Briefly explain code coverage, condition coverage and branch coverage in white box testing. (10)

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