

**BACHELOR OF TECHNOLOGY (CBCS - 2023)**  
**B. Tech. Sem-IV Information Technology : WINTER: 2025**  
**SUBJECT: SOFTWARE ENGINEERING**

Day : Friday  
Date : 21/11/2025

**W-29317-2025**

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** Discuss waterfall model with neat labeled diagram. Differentiate between waterfall model and agile model. (10)

**OR**

**Q. 1** Discuss prototyping model and spiral model with neat labeled diagram. (10)

**Q. 2** Explain feasibility study in software engineering. Describe different types of feasibility that must be assessed before starting a software project. (10)

**OR**

**Q. 2** Define Software Engineering. Explain different types of software requirements with suitable example. (10)

**Q. 3** Draw class diagram and sequence diagram for ATM system. (10)

**OR**

**Q. 3** Explain the role of single responsibility principle and open-closed principle in agile software design. How do these principles help in managing changing requirements? (10)

**Q. 4** Discuss Software Configuration Management. Explain its objectives and importance in modern software development. (10)

**OR**

**Q. 4** Explain the change control process in Software Configuration Management. How does it help in maintaining software quality? (10)

**Q. 5** Define White box testing. Enlist and explain various white box testing techniques with suitable example. (10)

**OR**

**Q. 5** Define Defect. Explain defect lifecycle with suitable diagram. (10)

**Q. 6** Define the term software quality. Discuss the key concepts and attributes that define software quality. Also explain how these attributes impact the development process. (10)

**OR**

**Q. 6** Explain Software Quality Assurance. Discuss its key components and how it ensures the delivery of high quality software. (10)

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