BACHELOR OF TECHNOLOGY (CBCS - 2023)

B. Tech. Sem-V Computer Science & Engineering AI & ML : WINTER: 2025

SUBJECT: SOFTWARE ENGINEERING

Day : Thursday | Time : 02:30 PM-05:30 PM

Date : 18/12/2025 | **W-30734-2025** | Max. Marks : 60

NB :

1. All questions are COMPULSORY.
2. Figures to the right indicate FULL marks.
3. Draw neat labelled diagrams WHEREVER necessary.

Q. 1	Define Software Engineering and elaborate on its importance in ensuring the development of reliable, efficient, and high-quality software systems.	(10)
	OR	
Q. 1	Explain the Incremental model vs the Evolutionary model. What differentiates them? When would you prefer the evolutionary approach over incremental.	(10)
Q. 2	Explain the steps involved in the Requirement Elicitation and Analysis process. What common difficulties do software engineers face during these phases, and how can they be mitigated?	(10)
	OR	
Q. 2	What is a Brainstorming Session in requirements elicitation? How is it conducted, what are its advantages and limitations? Give an example of when brainstorming is especially useful.	(10)
Q. 3	Explain Risk and its types? Explain the steps involved in setting up or generating RMMM plan.	(10)
	OR	
Q. 3	Explain FP estimation techniques in detail.	(10)
Q. 4	Define Abstraction in the context of software design. Explain how it helps manage complexity and improve the maintainability of large software systems.	(10)
	OR	
Q. 4	Compare and contrast Cohesion and Coupling in software design. Why is it important to achieve high cohesion and low coupling in modular software systems?	(10)
Q. 5	Distinguish between Alpha Testing and Beta Testing. How do these testing methods	(10)

contribute to ensuring software reliability before the final deployment?

OR

Q. 5 Discuss the significance of ISO 9000 Quality Standards and the Capability Maturity Model (CMM) in software quality assurance. How do these frameworks support continuous improvement in software development processes? (10)

Q. 6 Identify and analyze the key challenges in managing large-scale software projects. How do these challenges differ from those encountered in small-scale or product-based development? (10)

OR

Q. 6 Define the Agile Software Development Process. Explain its fundamental principles and discuss how Agile differs from traditional software development methodologies such as the Waterfall model. (10)

* * * * * *