Course Code: : D251BAA3

BONAM VENKATA CHALAMAYYA INSTITUTE OF TECHNOLOGY & SCIENCE

(AUTONOMOUS)

I – M. Tech I - Semester Regular Examinations (BR25), Feb - 2026

ADVANCED SOFTWARE ENGINEERING (CSE)

Time: 3 hours Max. Marks: 60

Answer any Five Questions One Question from One UNIT
ALL the Questions Carry Equal Marks

	UNIT-I	**Marks**	**CO**	**BL**
1.a)	Summarize the concept of the nature of software to explain how software differs from hardware with respect to development, wear, and maintenance.	5M	CO1	2
b)	Discuss the role of the software process in achieving quality software products. How does an inappropriate process impact project outcomes?	7M	CO1	3
	OR			
2.a)	Compare and analyse prescriptive process models and perspective process models with respect to flexibility and risk management.	6M	CO1	3
b)	Apply the principles of agility to explain how an agile process addresses changing customer requirements during development.	6M	CO1	3
	UNIT-II	**Marks**	**CO**	**BL**
3.a)	Examine various requirements monitoring and validation techniques to ensure consistency between customer needs and system requirements.	6M	CO2	4
b)	Analyse the requirements modelling process by comparing behavioural models and class-based models in terms of clarity and completeness.	6M	CO2	4
	OR			
4.a)	Relate core software engineering principles that guide effective software engineering practice across different development activities.	6M	CO2	4
b)	Demonstrate how principles guiding framework activities can be applied during the planning and execution of a software project.	6M	CO2	4
	UNIT-III	**Marks**	**CO**	**BL**
5.a)	Describe different architectural styles and justify their suitability for various types of software systems.	6M	CO3	3
b)	Categorize different techniques for assessing alternative architectural designs to select the most appropriate solution for a given problem.	6M	CO3	3
	OR			
6.a)	Infer user interface design rules to design an effective interface for a mobile or desktop application.	6M	CO3	3
b)	Interpret the significance of user interface evaluation and usability analysis in improving user experience.	6M	CO3	3

	UNIT-IV	Marks	CO	BL
7.a)	Explain the concept of software quality to explain how quality attributes can be ensured throughout the software development life cycle.	5M	CO4	3
b)	Analyse the quality dilemma in software engineering and discuss how time, cost, and quality constraints affect decision-making.	7M	CO4	4
	OR			
8.a)	Apply the principles of Software Quality Assurance (SQA) to design an SQA process for a medium-scale software organization.	5M	CO4	3
b)	Illustrate the goals and metrics of SQA and explain how they contribute to continuous quality improvement.	7M	CO4	4
	UNIT-V	**Marks**	**CO**	**BL**
9.a)	Write about regression testing techniques to ensure software stability after changes are introduced.	6M	CO5	3
b)	Discuss the role of integration testing in an object-oriented context and mention the challenges involved.	6M	CO5	3
	OR			
10.a)	Describe the validation testing principles to verify whether a software product meets user requirements.	6M	CO5	3
b)	Demonstrate the need for mobile testing guidelines when testing applications across different mobile devices and platforms.	6M	CO5	3

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