22MCA23

USN

Second Semester MCA Degree Examination, Dec.2024/Jan.2025
Software Engineering

Time: 3 hrs.

Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M : Marks , L: Bloom's level , C: Course outcomes.

		Module – 1	M	L	C
Q.1	a.	Define Software Engineering. Elaborate on software diversity and explain the different types of applications.	10	L2	CO1
	b.	Software Engineers should possess "Professional Responsibilities". Discuss briefly.	4	L1	CO2
	c.	Analyze the components of Insulin pump controller system. Discuss the high level requirements of the same.	6	L2	CO1
		OR			
Q.2	a.	Differentiate between waterfall model and incremental development.	4	L2	CO1
	b.	Explain the requirement engineering process along with a neat diagram.	8	L2	CO1
	c.	Discuss the advantages and disadvantages of prototyping.	8	L2	CO1
		Module – 2			
Q.3	a.	Explain extreme programming practices.	10	L2	CO4
	b.	Explain scrum management process along with a neat diagram.	7	L2	CO4
	c.	Write Non-functional requirements for MHC-PMS.	3	L1	CO3
		OR			
Q.4	a.	Develop a test case description for "close checking task".	3	L2	CO4
	b.	Explain the structure of requirement document.	10	L1	CO3
	c.	Discuss the types of interviews along with advantages and disadvantages.	7	L2	CO4
		Module – 3			
Q.5	a.	Explain object oriented themes.	6	L2	CO4
	b.	Design a class model to explain the concepts of values, attributes, operation and methods.	10	L2	CO4
	c.	Design a class model to explain N-ary association.	4	L2	CO4

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			M	L	C
		OR			
Q.6	a.	Discuss the purposes served by object model.	4	L2	CO4
	b.	Differentiate between association, aggregation and composition along with a neat diagram.	10	L2	CO4
	c.	List the elements which can be shown at the association ends.	6	L2	CO4
		Module – 4			
Q.7	a.	Develop a context model for patient information system. Write an activity diagram to show involuntary detention of MHC-PMS.	10	L2	CO4
	b.	Explain structural model. Develop necessary diagrams for MHC-PMS for the same.	10	L2	CO4
		OR			
Q.8	a.	Develop a use case for weather station. Along with a neat diagram, explain "State diagram for weather station system".	10	L2	CO4
	b.	Explain the different levels where software can be reused. Discuss the cost associated with the same.	10	L2	CO4
		Module – 5			
Q.9	a.	Explain component testing in detail.	10	L4	CO5
	b.	Explain Test-Driven development.	10	L4	CO5
		OR			
Q.10	a.	Briefly explain software evolution process.	10	L4	CO5
	b.	Discuss the factors to be used in environment assessment.	10	L4	CO5

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