ST JOSEPH ENGINEERING COLLEGE, MANGALURU

An Autonomous Institution

Fifth Semester B.E. Degree (Autonomous) Examinations January-2025

USN: | | | | | | | | | | |

22CSE51

Duration: 3 Hrs **Maximum Marks: 100**

SOFTWARE ENGINEERING AND PROJECT MANAGEMENT

Note:

1. **Part-A** is mandatory.
2. Answer any five full questions from **Part-B** choosing at least one from each module.
3. Missing data may be suitably assumed.

PART-A

Q.No.	Question	BL	CO	PO	Marks
1	Identify the difference between generic software product development and custom software development?	L3	CO1	PO3	02
2	List out phases of software development life cycle (SDLC).	L1	CO1	PO7	02
3	Explain stages of software testing.	L2	CO2	PO	02
4	Explain Agile manifesto.	L2	CO2	PO	02
5	Explain key elements of a sequence diagram.	L2	CO3	PO	02
6	Outline differences between aggregation and generalization.	L2	CO3	PO	02
7	Outline common implementation challenges in software design.	L2	CO4	PO	02
8	Explain how test-driven development (TDD) helps in software quality.	L2	CO4	PO	02
9	List two challenges in managing legacy systems.	L1	CO5	PO	02
10	Explain risk identification with the help of risk item checklist.	L2	CO5	PO	02
	PART-B				
	Module-1				
1	a) What is Software Engineering? Outline the need for Software Engineering.	L2	CO1	PO1	06
	b) With sketch, explain the activity model of the insulin pump control system.	L2	CO1	PO7	05
	c) Compare and contrast Incremental Model and waterfall model.	L4	CO1	PO1	05
	OR				
2	a) Outline the four important attributes of good software and the ethical responsibilities of all software professionals.	L2	CO1	PO1	06
	b) Explain Reuse oriented software engineering.	L2	CO1	PO7	05
	c) With sketch explain the water-fall model. Critically analyze advantages and disadvantages of the water-fall model.	L4	CO1	PO1	05
	Module-2				
3	a) Explain the difference between Functional and Non-Functional requirements.	L2	CO2	PO1	06

Q.No.		Question	BL	CO	PO	Marks
	b)	Explain Scrum and demonstrate the sprint cycle of a development process with suitable example.	L2	CO2	PO4	05
	c)	Explain phases of requirement elicitation.	L2	CO2	PO8	05
		OR				
4	a)	Outline the principles of agile methods.	L2	CO2	PO10	06
	b)	Discuss Requirement Engineering and illustrate the steps involved in its process with suitable example.	L6	CO2	PO4	05
	c)	Demonstrate the extreme programming and its release cycle.	L2	CO2	PO7	05
		Module-3				
5	a)	Bring out the difference between a context model and a use case model. Explain how do they complement each other?	L2	CO3	PO3	08
	b)	Identify the key elements of a sequence diagram, and how do they contribute to understanding system behavior?	L3	CO3	PO4	08
		OR				
6	a)	Explain the difference between aggregation and generalization.	L2	CO3	PO3	08
	b)	What are UML Diagrams? Outline the main components of an use case diagram.	L2	CO3	PO4	08
		Module-4				
7	a)	Explain five different stages in an object-oriented design process.	L2	CO4	PO3	08
	b)	Illustrate how design models are the bridge between the system requirements and the implementation of a system. Draw a sequence diagram describing data collection of weather information systems and state diagram for the weather station.	L3	CO4	PO4	08
		OR				
8	a)	What is design pattern? Explain four essential elements of design pattern.	L2	CO4	PO4	08
	b)	Illustrate the object-oriented design process with an emphasis on its phases as outlined in UML.	L3	CO4	PO5	08
		Module-5				
9	a)	With appropriate block diagram, explain the software evolution process.	L2	CO5	PO4	08
	b)	What is the need of risk management and explain various activities connected to risk management?	L2	CO5	PO5	08
		OR				
10	a)	What are legacy systems? Explain the components of legacy system with neat diagram.	L2	CO5	PO4	08
	b)	Explain the factors considered to assess technical quality of an application system of legacy system management.	L2	CO5	PO5	08