

THE KAVERY ENGINEERING COLLEGE*(An Autonomous Institution)***UG/PG DEGREE END SEMESTER THEORY EXAMINATIONS, APRIL-MAY 2026****Second Semester****Computer Science and Engineering****PCST2424 - ADVANCED SOFTWARE ENGINEERING****Regulations - 2024****Duration: 3 Hrs.****Maximum: 100 Marks****PART – A (ANSWER ALL QUESTIONS) (Marks 10*2=20)**

Q.No	Questions	BLT	CO	Marks
1.	How do behavioral models contribute to understanding the system functionality?	L1	1	2
2.	Identify the functional requirements for developing an Online Tourism management system development.	L3	1	2
3.	Outline the purpose of design model.	L2	2	2
4.	Why do we need the user interface design principles to be followed in a software project?	L1	2	2
5.	How does fault tolerance contribute to mitigate the impact of system failures and ensuring continuous operation?	L2	3	2
6.	Define redundancy and diversity in software systems.	L1	3	2
7.	Illustrate the characteristics and challenges of real-time systems.	L2	4	2
8.	How does the occurrence of deadline misses impact the reliability and effectiveness of real-time systems?	L2	4	2
9.	Is software configuration management having a greater impact for WebApps rather than for conventional software? Justify your answer.	L4	5	2
10.	Differentiate black-box testing and white-box testing.	L2	5	2

PART – B (ANSWER ALL QUESTIONS) (Marks 5*16 = 80)

Q.No	Questions	BLT	CO	Marks
11.	a i Write the purpose of Software Requirement Specification and list its components? Explain in detail the various components of SRS for functional requirements?	L2	1	8
	i Explain with suitable examples, the types of software development for which the spiral model is suitable. Is the number of loops of the spiral fixed for different development projects? If not, explain how the number of loops in the spiral is determined.	L2	1	8
	Or			
	b i Explain the merits and demerits of Agile methodology.	L2	1	8
	i Discuss different modelling techniques in detail.	L2	1	8
	i			

12.	a	Examine the various architectural styles used in software design. Also, discuss how the styles impact the software architecture and system performance.	L4	2	16
Or					
	b	Analyze how user experience design is differ from traditional interface design and its importance in creating successful software products.	L4	2	16
13.	a	Explain the processes involved in safety engineering. How do safety requirements and safety cases contribute to building dependable and secure systems?	L5	3	16
Or					
	b	Explain the significance of secure system design and testing in ensuring system dependability. Explain the description of security engineering practices and assurance techniques.	L5	3	16
14.	a	Elucidate the perception of Restful services. How do they fit within a service-oriented architecture, and what are the key design principles involved in these services?	L2	4	16
Or					
	b	Explain the stages of system development, from requirements specification and design to implementation, testing and deployment.	L2	4	16
15.	a	How are integration testing, validation testing, and system testing applied to the overall software testing process? Examine.	L4	5	16
Or					
	b	Inspect SCM and its role in controlling and managing changes to software artifacts.	L4	5	16
