Reg No.:_____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

Fifth Semester B.Tech Degree Regular and Supplementary Examination December 2022 (2019 Scheme)

Course Code: CST 309

Course Name: MANAGEMENT OF SOFTWARE SYSTEMS

Max. Marks: 100 Duration: 3 Hours

PART A

(Answer all questions; each question carries 3 marks) Marks

1		Discuss the factors which are considered during the Components selection and design process.	3
2		How does an agile approach help software developers to capture and define the user requirement effectively?	3
3		How do you prepare a software requirement specification?	3
4		Compare functional and non-functional requirements.	3
5		Differentiate between GPL and LGPL.	3
6		Compare White Box testing and Black box testing.	3
7		List out and explain the fundamental project management activities.	3
8		Discuss the role of using Backlogs and Sprints in SCRUM frameworks.	3
9		Explain cloud software characteristics.	3
10		Discuss software quality dilemma.	3

PART B

(Answer one full question from each module, each question carries 14 marks)

Module -1

11	a)	Design Boehm's Spiral model and its importance.	7
	b)	Illustrate how the process differs in agile software development and traditional software development with a socially relevant case study.	7
12	a)	Incremental model is better than water fall model for most business, e-commerce and personal systems. Justify the statement.	7
	b)	Describe the relevance of using Pair programming and Refactoring during Agile development process.	7

Module -2

13	a)	Describe the various activities under Requirements engineering process.	7
	b)	Outline the concept of traceability matrix and Requirements management planning.	7
14	a)	What are Use cases? Draw the Use case diagram for an ATM.	7
	b)	Explain Personas, Scenarios and Feature identification.	7

Module -3

15	a)	What are design patterns? What are the essential elements of design patterns?	7
	b)	Differentiate between Formal and Informal review techniques.	7
16	a)	Differentiate between Top-down and Bottom-up Integration testing methods with suitable diagrams.	7
	b)	Explain System testing and its variants.	7

Module -4

17	a)	Explain plan driven development and project scheduling.	7
	b)	Explain the Software Risk management process with the help of neat diagram.	7
18	a)	What is algorithmic cost modelling? What problems does it suffer from when compared with other approaches to cost estimation?	7
	b)	What is a critical path? Demonstrate its significance in a project schedule with the help of a sample project schedule.	7

Module -5

19	a)	Compare CMMI and ISO 9001:2000.	7
	b)	How is Software Quality achieved during Software engineering process?	7
20	a)	Explain elements of Software Quality Assurance and SQA Tasks.	7
	b)	Describe in detail about the Software Process Improvement (SPI) process.	7

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