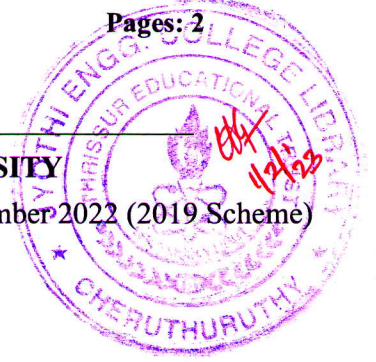Reg No.:_____   Name:_____

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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