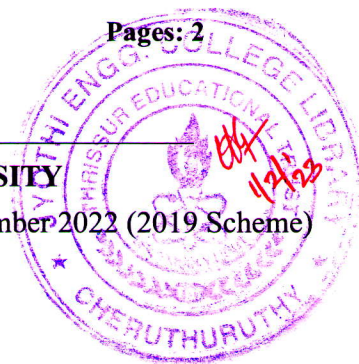


Reg No.: \_\_\_\_\_

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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