Reg. No.															

B.Tech/ M.Tech (Integrated) DEGREE EXAMINATION, MAY 2024
Fourth Semester

21CSE277T – SOFTWARE PROCESS
(For the candidates admitted from the academic year 2022-2023 onwards)

Note:
(i) **Part - A** should be answered in OMR sheet within first 40 minutes and OMR sheet should be handed over to hall invigilator at the end of 40th minute.
(ii) **Part - B** and **Part - C** should be answered in answer booklet.

Time: 3 Hours Max. Marks: 75

PART – A (20 × 1 = 20Marks) | Marks | BL | CO | PO
Answer **ALL** Questions

1. Identify which of the following is not one of the maturity levels in the capable maturity model integration (CMMI)? | 1 | 1 | 1 | 1
   (A) The initial process (B) The repeatable process
   (C) The defined process (D) The agile process

2. _____ is not a fundamental activity for software processes in software development. | 1 | 1 | 1 | 1
   (A) Evolution (B) Design and implementation
   (C) Validation (D) Verification

3. Identify which of the following is a well-known process reference model often used in software engineering? | 1 | 1 | 1 | 1
   (A) Six sigma (B) Total Quality Management (TQM)
   (C) IT Infrastructure Library (ITIL) (D) Capability Maturity Model (CMM)

4. At which maturity level in the Capability Maturity Model (CMM) does an organization focus on continually improving its process based on quantitative feedback? | 1 | 1 | 1 | 1
   (A) The managed process (B) The defined process
   (C) The optimizing process (D) The repeatable process

5. The "Old ways" of software development typically involves | 1 | 1 | 2 | 1
   (A) Heavy reliance on waterfall methodologies and sequential development process (B) Agile methodologies and iterative development cycles
   (C) Continuous integration and deployment practices (D) Dynamic team structures and decentralized decision making

6. Identify which of the following artifact sets typically includes documents like the project plan, and iteration plans? | 1 | 1 | 2 | 1
   (A) Management artifacts (B) Engineering artifacts
   (C) Pragmatic artifacts (D) Model based artifacts

7. What is the main objective of software process assessment? 1 1 2 1

(A) To identify weakness in software hardware
(B) To assess the level of software process maturity
(C) To evaluate the functionality of software applications
(D) To determine the marketability of software products

8. Identify in which artifact set would you typically find user documentation release notes, and installation guides? 1 1 2 1

(A) Management artifacts
(B) Engineering artifacts
(C) Pragmatic artifacts
(D) Model based artifacts

9. Identify what is the purpose of a Work Breakdown Structure (WBS) in software project planning? 1 1 3 1

(A) To ignore project milestones
(B) To estimate costs and schedules
(C) To breakdown project work into manageable components
(D) To eliminate project checkpoints

10. Which if the primary purpose of periodic status assessments in software project management? 1 1 3 1

(A) To ignore project progress
(B) To assess project progress and identify any issues or risks
(C) To assign blame for project delays
(D) To eliminate project check points

11. What is the primary goal of pragmatic planning in software project management? 1 1 3 1

(A) To ignore project milestones
(B) To breakdown project work into manageable components
(C) To estimate costs and schedules
(D) To adapt planning processes to fit project needs

12. What is the purpose of planning guidelines in software project planning? 1 1 3 1

(A) To ignore project progress
(B) To adapt planning processes to fit project needs
(C) To estimate costs and schedules
(D) To breakdown project work into manageable components

13. Identify which of the following best describes software metrics? 1 1 4 1

(A) They are tools used for software development planning
(B) They provide insight into the project progress adequality
(C) They are primarily used for matching software products
(D) They are used event in modern software development practices

14. Which phase of risk management involves assessing the likelihood and impact of identified risks? 1 1 4 1

(A) Risk identification
(B) Risk projection
(C) Risk refinement
(D) Risk mitigation

15. Which of the following is an example of a proactive risk strategy? 1 1 4 1

(A) Developing a contingency plan
(B) Ignoring potential risks
(C) Reacting to risks as they occur
(D) Assigning blame for risk related issues

16. What is the primary purpose of risk identification in software project management? 1 1 4 1

(A) To assign blame for potential risks
(B) To eliminate all potential risks
(C) To identify potential risks and their characteristics
(D) To ignore potential risks until they become issues

17. Identify which of the following metrices is commonly used to assess agile and DevOps practices? 1 1 5 1

(A) Defect density
(B) Lead time
(C) Lines of code
(D) Manual testing effort

18. Which of the following factors is driving the evolution of software economics in the modern era? 1 1 5 1

(A) Traditional waterfall methodologies
(B) Cloud computing
(C) Legacy software systems
(D) Manual software testing

19. Identify which modern software development process emphasizes collaboration, flexibility and adaptability within development teams? 1 1 5 1

(A) Waterfall methodology
(B) Agile methodology
(C) Six sigma
(D) Lean development

20. What role do tools and platforms such as version control systems and continuous integration / continuous development (CI/CD) pipelines play in modern software development. 1 1 5 1

(A) They hinder the adoption of agile methodologies
(B) The facilitate collaboration and automation
(C) They are irrelevant in modern software development
(D) They increase manual intervention in software development

PART – B (5 × 8 = 40 Marks) Marks BL CO PO

Answer **ALL** Questions

21. a. Describe any eight key principles of software process change. 8 2 1 1

(OR)

b. What are all the requirements used in the software process? Write short notes on each requirements? 8 2 1 1

22. a. Explain the key characteristics of the inception phase in the life cycle of software development. How does it differ from other phases in terms of objective and outcomes? 8 3 2 1

(OR)

b. Examine how to staff a software project and explain five staffing principles. 8 2 2 1

23. a. Explain iteration emphasis across the life-cycle phases? 8 2 3 1

(OR)

	b. Explain top level workflows across the life cycle phases with diagram.	8	2	3	1
24.	a. Explain how different stockholders, such as developers, manager and customers may have different perspective on what constitutes quality metrics. Provide strategies for addressing these challenges and ensuring that quality metrics effectively measures the desired aspects of software quality.	8	3	4	1
	(OR)				
	b. Discuss the importance of risk management process. Provide example.	8	3	4	1
25.	a. Explain the generic goals and specific goals of CMMI.	8	2	5	1
	(OR)				
	b. Explain the various CMMI staged representation maturity levels.	8	2	5	1

PART – C (1 × 15 = 15 Marks)
Answer **ANY ONE** Question

		Marks	BL	CO	PO
26.	Discuss the concepts of artifact sets in software engineering. How do artifacts sets contribute to project management and communication with development teams across different phases of the life cycle?	15	3	2	1
27.	Examine the concept of Next Generation Software Economics. Discuss the key factors during the evolution of software economics in the modern era, including cloud computing, (SaaS-Software as a Service) and agile methodologies.	15	3	5	1

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