Reg. No.															

B.Tech. DEGREE EXAMINATION, NOVEMBER 2023

Fourth Semester

18CSC268J – SOFTWARE DESIGN WITH UNIFIED MODELING LANGUAGE

(For the candidates admitted from the academic year 2020-2021 & 2021-2022)

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 & Part - C** should be answered in answer booklet.

Time: 3 hours | Max. Marks: 100

PART – A (20 × 1 = 20 Marks)

Answer **ALL** Questions

		Marks	BL	CO	PO
1.	A collection of statement that perform some specific task and return the result to the caller is called (A) Methods (B) Messages (C) Procedures (D) States	1	2	1	2
2.	What does the study of an existing system refer to? (A) Requirement analysis (B) Feasibility study (C) System analysis (D) System planning	1	1	1	1
3.	Alpha and beta testing are forms of (A) System testing (B) Unit testing (C) Acceptance testing (D) Integration testing	1	1	2	1
4.	If the objects focus on the problem domain then we are concerned with (A) Object oriented design (B) Object oriented analysis and design (C) Object oriented programming (D) Object oriented analysis	1	1	2	1
5.	The standard class diagram is composed of _____ sections. (A) Five (B) Two (C) Four (D) Three	1	1	1	1
6.	_____ shows a full or partial view of the structure within a precise time for a modeled system. (A) State diagram (B) Object diagram (C) Component diagram (D) Class diagram	1	3	2	2
7.	The design pattern can (A) Be transformed directly into source code (B) Not be reused to solve a problem (C) Be a complete design (D) Help the designer in getting to the right design faster	1	2	2	2
8.	Which is not a valid design pattern? (A) Structural (B) Creational (C) Functional (D) Behavioral	1	1	2	1

9. _____ represent the interaction of the user with the software but tells nothings about the internal working of the software — 1 2 2 2
   (A) State diagram (B) Use case diagram
   (C) Activity diagram (D) Class diagram

10. In a distributed system, the degree to which new resource sharing services can be made available to the user's, is known as — 1 2 1 1
   (A) Concurrency (B) Resource sharing
   (C) Openness (D) Fault tolerance

11. Use case modelling is used to describe the _____ requirements. — 1 1 3 1
   (A) Dynamic (B) Functional
   (C) Non-functional (D) Data

12. _____ describes the relationship between use cases, where a use case is another use case functionality if certain conditions are met — 1 1 3 2
   (A) Generalization (B) Include
   (C) Extend (D) Association

13. A _____ is the method by which the user and the computer exchange information and instructions — 1 1 3 1
   (A) User interface (B) Use case model
   (C) User relationship (D) User scenario

14. In component diagram, components communicate with each other using which of the following? — 1 1 3 1
   (A) Components (B) Port
   (C) Interface (D) Dependency

15. Which of the following is not a UML diagram? — 1 1 5 1
   (A) Class diagram (B) Object diagram
   (C) Interface diagram (D) Use case model

16. UML _____ gives an overview of a software system. — 1 1 4 1
   (A) Class diagram (B) List of attributes
   (C) List of operations (D) List of objects

17. An UML diagram which has a static view — 1 1 4 2
   (A) Use case (B) Class diagram
   (C) List (D) Array

18. Sequence diagram is _____ oriented — 1 1 4 1
   (A) Time (B) Class
   (C) Activity (D) Object

19. Documentation is prepared — 1 1 5 2
   (A) At every stage (B) At system design
   (C) At system analysis (D) At system developments

20.	Problem analysis is done during (A) System design phase (B) Systems analysis phase (C) Before system test (D) Test	1	1	5	1

PART – B (5 × 4 = 20 Marks)
Answer **ANY FIVE** Questions

		Marks	BL	CO	PO
21.	Draw the classical spiral model and discuss the importance of each step.	4	2	1	2
22.	You have been given with a ATM transaction system. Construct a use case diagram for the system with at least 3 actors and uses cases.	4	2	1	1
23.	List out the patterns in event handling.	4	3	2	1
24.	List out different design issues of distributed system.	4	4	2	2
25.	Explain use case relationships.	4	3	3	1
26.	Describe interface and class with comparison.	4	3	4	1
27.	Describe class diagram with access specfieir.	4	4	5	2

PART – C (5 × 12 = 60 Marks)
Answer **ALL** Questions

		Marks	BL	CO	PO
28. a.	Explain the object oriented programming concepts with examples that are related to UML.	12	2	1	2
	(OR)				
b.	Explain about the software process life cycle and the quality software characteristics.	12	2	1	2
29. a.	Analyze and explain various types of design pattern.	12	3	2	1
	(OR)				
b.	Explain about state diagram and activity diagram with a case study.	12	4	3	2
30. a.	Illustrate in detail about all components in an use case diagram.	12	4	4	2
	(OR)				
b.	Develop an component diagram for email management system and explain all the components.	12	3	3	3
31. a.	Explain about the collaboration diagram and its components with an example.	12	2	4	2
	(OR)				
b.	Illustrate all components of the sequence diagram with an case study.	12	4	4	1

32. a.	Draw a deployment diagram for cloud based web application system with explanation.	12	3	5	3
	(OR)				
b.	Draw a UML class diagram for memory management (Ex: Copying a file from a hard disk to USB flash drive) with proper attributes and justify your choice.	12	3	6	3

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