27. a.	Illustrate the steps to represent a typical task set for component-level design, when it is applied for an object – oriented system.	10	4	2	4
	(OR)				
b.	With neat diagram explain architectural content diagram (ACD) for a ATM system.	10	4	2	4
28. a.	Compare and contrast unit testing and integration testing with appropriate scenario.	10	4	3	3
	(OR)				
b.	Classify the different kinds of reviews done at difficult stages in software code writing.	10	4	3	3
29. a.	Elaborate in detail test project monitoring and control with neat sketch.	10	4	4	11
	(OR)				
b.	Illustrate software testing process with a relevant case study.	10	4	4	9
30. a.	Distinguish in detail about software maintenance process model.	10	4	5	11
	(OR)				
b.	Elaborate the project release management process with a scenario.	10	4	5	11

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Reg. No.														

B.Tech. DEGREE EXAMINATION, MAY 2022

Fourth Semester

18CSC206J – SOFTWARE ENGINEERING AND PROJECT MANAGEMENT

(For the candidates admitted from the academic year 2018-2019 to 2019-2020)

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** should be answered in answer booklet.

Time: 2½ Hours Max. Marks: 75

PART – A (25 × 1 = 25 Marks)

Answer **ALL** Questions

		Marks	BL	CO	PO
1.	Which one of the following is not an activity in software management life cycle? (A) Proposal writing (B) Risk management (C) Customer management (D) People management	1	1	1	1
2.	If you want to develop a solution of support during floods, which model would you adopt preferably. (A) V-model (B) Waterfall (C) Spiral (D) RAD	1	2	1	2
3.	How is the productivity calculated in COCOMO model? (A) KLOC/ Effort (B) KLOC/ Schedule (C) 2.4 (KLOC)* Effort (D) Effort * Schedule	1	2	1	2
4.	In COCOMO model, when you have medium sized team member and average experienced developer, what is the model that should be used? (A) Organic (B) Semidetached (C) Embedded (D) Semi-embedded	1	1	1	2
5.	_____ threaten the quality and timeliness of the produced software. (A) Business risks (B) Potential risks (C) Technical risks (D) Known risks	1	2	1	1
6.	_____ is assessed by evaluating the feature set and capabilities of the program. (A) Functionality (B) Usability (C) Reliability (D) Performance	1	1	2	1
7.	Which is an indication of the relative functional strength of a module? (A) Cohesion (B) Coupling (C) Elaboration (D) Refactoring	1	2	2	2

8. Which is a reorganization technique that simplifies the design (or code) of a component without changing its function or behavior? 1 2 2 2
(A) Cohesion (B) Coupling
(C) Elaboration (D) Refactoring

9. Which coupling occurs when operation A( ) invokes operation B ( ) and passes a control flag to B? 1 2 2 2
(A) Control coupling (B) Layer
(C) Communicational (D) Congestion

10. _____ focus on problems and solutions associated with how classes and objects are organized and integrated to build a larger structure 1 2 2 3
(A) Creational pattern (B) Structural pattern
(C) Behavioural pattern (D) Object pattern

11. _____ increases software code reuse and enhances productivity of developers. 1 2 3 2
(A) Modularity (B) Simplicity
(C) Clarity (D) Reliability

12. In object-oriented programming, abstraction and information hiding can be used to add _____. 1 1 3 2
(A) Degree of modularity (B) Degree of simplicity
(C) Degree of clarity (D) Degree of reliability

13. To ensure safety, the software product must have the error less than _____. 1 2 3 2
(A) 0.00001 % (B) 0.01 %
(C) 0.000001 % (D) 0.001 %

14. _____ is the formal code review initiated by developer. 1 1 3 1
(A) Desk check (B) Walkthrough
(C) Inspection (D) Code review

15. _____ is the quality driven development technique employed in the extreme programing. 1 2 3 5
(A) Structured programming (B) Object oriented programming
(C) Automatic code generation (D) Pair programming

16. Which testing is performed first? 1 1 4 4
(A) Black box testing (B) White box testing
(C) Dynamic testing (D) Static testing

17. Testing beyond normal operational capacity is _____. 1 2 4 2
(A) Load testing (B) Performance testing
(C) Stress testing (D) Dynamic testing

18. Which testing is an integration testing approach that is commonly used when "Shrink-Wrapped" software products are being developed? 1 2 4 5
(A) Regression testing (B) Integration testing
(C) Smoke testing (D) Validation testing

19. Which is not true in case of unit testing? 1 2 4 8
(A) It decreases the software development speed (B) It can't be expected to catch every error in a program
(C) In this, tester evaluates if individual units of source code are fit for use (D) It is usually conducted by the development team

20. Cyclomatic complexity cannot be applied in _____. 1 2 4 4
(A) Re-engineering (B) Risk management
(C) Test planning (D) Reverse engineering

21. A _____ analysis can be done, to see if it is more profitable to conduct a maintenance program on the software or keep using it as it is 1 2 5 11
(A) Profit / loss (B) Test
(C) Maintenance (D) Corrective

22. In which model, there is no planning involved in the whole process and is mostly an adhoc approach? 1 2 5 12
(A) Quick fix model (B) Boehm's model
(C) Osborne's model (D) Iterative enhancement model

23. _____ model is based on economic models and often involves calculating ROI, for any planned maintenance. 1 2 5 11
(A) Quick fix model (B) Osborne's model
(C) Boehm's model (D) Iterative enhancement model

24. A quality assurance plan should accompany the maintenance plan in which model? 1 2 5 7
(A) Quick fix model (B) Boehm's model
(C) Osborne's model (D) Iterative enhancement model

25. _____ type of process is adopted for component-based products. 1 1 5 3
(A) Quick fix model (B) Boehm's model
(C) Osborne's model (D) Reuse oriented model

PART – B (5 × 10 = 50 Marks)

Answer **ALL** Questions

Marks BL CO PO

26. a. Using your knowledge of how an ATM is used, write a set of functional and non-functional requirements for "ATM System" 10 4 1 3

(OR)

b. A project size of 200 KLOC is to be developed. The software development team has a average experience on similar types of projects. The projects schedule is medium. Identify and state which mode will be suitable to calculate the effort, development, time, effort staff size and productivity of the project, also calculate the same. 10 4 1 3

Organic mode : $a_1 = 2.4, b_1 = 1.05, c_1 = 2.5, d_1 = 0.38$

Semi- detachement : $a_1 = 3.0, b_1 = 1.12, c_1 = 2.5, d_1 = 0.35$

Embedded : $a_1 = 3.6, b_1 = 1.20, c_1 = 2.5, d_1 = 0.32$