b.	Illustrate the steps to represent a typical task set for component level design, when it is applied to an object-oriented system.	12	3	2	3
30. a.	Elaborate in detail about quality control.	12	1	3	1
	(OR)				
b.	Discuss in detail about		1	3	1
	(i) Pair programming	4			
	(ii) Test-driven development	4			
	(iii) Object oriented programming	4			
31. a.i.	List out the problems with traditional development model with neat diagram.	6	2	4	1
ii.	Describe verification and validation. Give suitable example.	6	2	4	1
	(OR)				
b.	Explain in detail the techniques used for testing software.	12	1	4	1
32. a.	Design a software maintenance life cycle.	12	2	5	2
	(OR)				
b.i.	Explain the software maintenance types.	8	1	5	2
ii.	Classify the financial reasons for software maintenance.	4	2	5	2

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Reg. No.														

B.Tech. DEGREE EXAMINATION, MAY 2023

Fourth Semester

18CSC206J – SOFTWARE ENGINEERING AND PROJECT MANAGEMENT

(For the candidates admitted during the academic year 2018-2019 to 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. Define software (A) Software is a set of programs (B) Software is the documentation and configuration of data (C) Software is a set of programs, documentation and configuration of data (D) Software is an application	1	1	1	1
2. Identify one of the following models that are not suitable for accommodating any change. (A) Build and fix model (B) Prototyping model (C) RAD model (D) Waterfall model	1	2	1	2
3. Staff turnover and poor communication with the customers are the risks that are extrapolated from post experience are called _____. (A) Business risk (B) Predictable risk (C) Project risk (D) Technical risk	1	2	1	9
4. In COCOMO model, if project size is typically 2-50 KLOC then which mode is to be selected? (A) Organic (B) Semidetached (C) Embedded (D) Non-organic	1	2	1	2
5. _____ represent architecture as an organized collection of program components. (A) Structural models (B) Framework models (C) Dynamic models (D) Process models	1	1	2	1
6. A program should not have any bugs that inhibit its function is called _____. (A) Commodity (B) Delight (C) Firmness (D) Analysis	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 design is used to represent the structure of data and program components that are required to build a computer-based system? 1 2 2 11
(A) Pattern-oriented design (B) Web application design
(C) Architectural design (D) Component level design

9. _____ is the formal code review initiated by developer. 1 2 3 1
(A) Desk check (B) Walk through
(C) Inspection (D) Code review

10. Which technique is used in test driven development? 1 2 3 1
(A) SOA (B) Extreme programming
(C) Scrum (D) Reuse

11. _____ phase is one of the most labor-intensive phases in the software development cycle. 1 1 3 1
(A) Software construction (B) Code generation
(C) Automatic code generation (D) Coding

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

13. Verification and validation use _____. 1 1 4 1
(A) Internal and external resources respectively (B) Internal resources only
(C) External resources only (D) External and internal resources respectively

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

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

16. A minimum of four test data is available in _____. 1 1 4 1
(A) Boundary value analysis (B) Equivalence class portioning
(C) Regression testing (D) Smoke testing

17. If the software has some defects, then it will take a _____ to rectify it. 1 2 5 2
(A) Convective maintenance (B) Adaptive maintenance
(C) Preventive maintenance (D) Perfective maintenance

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

19. _____ is necessary to do so that the software product becomes reusable. 1 1 5 1
(A) Corrective maintenance (B) Adaptive maintenance
(C) Preventive maintenance (D) Perfective maintenance

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

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

21. Mention the uses of the prototyping paradigm. 4 1 1 1

22. What are the different technique to estimate the size of a program? 4 1 1 1

23. Compare data-centered and data-flow architectures. 4 2 2 3

24. Narrate the characteristics of good software design. 4 2 2 1

25. List the coding standards in software construction. Explain any two. 4 1 3 1

26. Describe defect tracking. 4 1 4 1

27. Analyze the reasons for maintenance in software products. 4 2 5 3

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

28. a. Assume that you are a software developer of a company. A client has approached you for a better solution to the problem faced by their side. The client stated that risks/uncertainties will lead to loss if not properly planned and solve. Justify with a next pictorial representation, which model will you opt for software development and mention its merit and demerits in detail. 12 3 1 3

(OR)

b. Given Covid-19 in early 2019, you have been asked to support as an IT person to an APP as quickly as possible before the situation gets worsen and disastrous, drugs and other crucial essentials between patients, hospitals and pharmacy. Propose which traditional model would you adopt, why did you adopt this, what are the advantages, do identity the stake holders. Also, list if there are any challenges that exist in this model as well. 12 3 1 3

29. a. You are a WebApp designer for future learning corporation, a distance learning company. You intend to implement an internet-based "learning engine" that will enable you to deliver course content to a student. The learning engine provides the basic infrastructure for delivering learning content on any subject (content designers will prepare appropriate content). Develop a prototype interface design for the learning engine. 12 3 2 3

(OR)