

(7 pages)

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M.C.A. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2024.

Second Semester

Computer Applications – Core

ADVANCED SOFTWARE ENGINEERING

(For those who joined in July 2023 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (15 × 1 = 15 marks)

Answer ALL questions.

Choose the correct answer :

1. _____ is to develop software applications for improving quality, budget and time efficiency.
(a) Software
(b) Software Process
(c) Software Engineering
(d) Software Testing

2. _____ is a software development activity that is not a part of software processes.
(a) Validation (b) Specification
(c) Development (d) Dependence
3. What is the first step in the software development lifecycle?
(a) System design
(b) Coding
(c) Testing
(d) Requirements analysis
4. What is a Functional Requirement?
(a) Specifies the tasks the program must complete
(b) Specifies the tasks the program should not complete
(c) Specifies the tasks the program must not work
(d) Specifies the tasks the program must work
5. What does SDLC stands for?
(a) System Design Life Cycle
(b) Software Design Life Cycle
(c) Software Development Life Cycle
(d) System Development Life cycle

6. _____ is not suitable for accommodating any change.
- (a) RAD model (b) Waterfall model
(c) Build and Fix (d) Prototyping
7. Which one of the following is not a software process quality?
- (a) Visibility (b) Timeliness
(c) Productivity (d) Portability
8. _____ is an indirect measure of software development process.
- (a) Cost (b) Effort
(c) Efficiency (d) Quality
9. _____ specification is also known as SRS document.
- (a) White box (b) Black box
(c) Grey box (d) Silver box
10. Software Debugging is known as _____.
- (a) Identifying the task to be computerized
(b) Creating program code
(c) Creating the algorithm
(d) Finding and correcting errors in the program code

11. The incorrect activity among the following for the configuration management of a software system is _____.
- (a) Version management
(b) System management
(c) Change management
(d) Internship management
12. Who designs and implement database structures?
- (a) Programmers
(b) Project managers
(c) Technical writers
(d) Database administrators
13. Coupling is a qualitative indication of the degree to which a module _____.
- (a) Can be written more compactly
(b) Focuses on just one thing
(c) Is able to complete its function in a timely manner
(d) Is connected to other modules and the outside world
14. What is Cyclomatic complexity?
- (a) Black box testing (b) White box testing
(c) Yellow box testing (d) Green box testing

15. White Box techniques are also classified as

- (a) Design based testing
- (b) Structural testing
- (c) Error guessing technique
- (d) Unstructured testing

PART B — (5 × 4 = 20 marks)

Answer ALL questions, choosing either (a) or (b).
Each answer should not exceed 250 words.

16. (a) Categorize the characteristics of Software Process.

Or

(b) Enumerate the problem domains of software engineering.

17. (a) Identify the usage of requirements elicitation.

Or

(b) How will you identify a good SRS?

18. (a) How will you apply the staffing level estimation?

Or

(b) Enumerate the functions of Halstead's software science.

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19. (a) Identify the usage of modularity in software design.

Or

(b) Classify the cohesiveness in software design.

20. (a) Demonstrate the white box testing strategies.

Or

(b) Illustrate the concept of software reverse engineering.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).
Each answer should not exceed 600 words.

21. (a) Explain the prototyping software process model with suitable example.

Or

(b) How will you compare the various software process models?

22. (a) How will you do the formal system specification?

Or

(b) Determine the requirements analysis for library management software.

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23. (a) Demonstrate the working procedure of empirical estimation techniques.

Or

(b) Illustrate the working procedure of software project management.

24. (a) How will you implement the object oriented software design?

Or

(b) Explain how the principles of abstraction and decomposition are used to arrive at a good design.

25. (a) Describe the strategic approaches of software testing.

Or

(b) Demonstrate the various kinds of software maintenance activities.