MASTER OF COMPUTER APPLICATION
Third Semester
SOFTWARE ENGINEERING
(MCA - 12)

Duration: 3Hrs. **Full Marks: 70**

Part-A (Objective) =20
Part-B (Descriptive) =50

(PART-B: Descriptive)

Duration: 2 hrs. 40 mins. **Marks: 50**

Answer any *five* of the following questions:

1. Describe the linear sequential model with the help of a diagram. Write down its benefits and limitations. (7+3=10)
2. Describe the project metrics its categories: size oriented, function oriented and extended function point. (4+6=10)
3. Write down the objectives of software project planning. What models are used for empirical estimation techniques? (3+7=10)
4. Explain the various characteristics of software. (10)
5. Explain the following models- (5×2=10)
   a. Prototyping
   b. Spiral
6. List out the various design concepts. Write down the types of user interfaces. (5+5=10)
7. Write short notes on any *two*- (5×2=10)
   a. Unit testing
   b. Integration testing

c. System testing

d. White box testing

e. Black box testing

8. Explain CASE tools. Write down the different types of taxonomy of CASE tools. (2+8=10)

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REV-00
MCA/35/40 2015/12

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Duration: 20 minutes **Marks – 20**

(PART A - Objective Type)

I. Answer the following: **1×20=20**

1. _____is a set of application programs that are built by software engineers.
   a. Hardware b. Software c. Firmware d. Models

2. _____is concerned with the practicalities of developing and delivering useful software.
   a. System b. System Software
   c. Software Engineering d. Software

3. RAD is the abbreviation of_____.
   a. Rapid Application Design b. Rapid Application Development
   c. Random Application Design d. Random Application Development

4. Glass box testing is_____ and behavioral testing is _____.
   a. Black box, white box b. White box, black box
   c. White box, alpha box d. Alpha testing, beta testing

5. In _____testing, the entire software system is tested.
   a. unit b. integration
   c. system d. black box

6. Software is a_____ rather than_____.
   a. physical, logical b. logical, physical
   c. both d. none

7. _____is software metric that provides a quantitative measure of the logical complexity of a program.
   a. Basis path testing b. Cyclomatic complexity
   c. White box testing d. Black box testing

8. The_____ of software component is "a description of what the component does" and_____ places the reusable software component within its domain of applicability.
   a. Concept, content b. Context, content
   c. Content, context d. Concept, context

9. "Are we building the right product?" is _____ and "Are we building the product right?" is _____.
   a. Verification, validation b. Validation, verification
   c. Both d. Alpha testing, beta testing

10. The_____ is a direct outgrowth of modularity and the concept of abstraction and information hiding.
   a. Cohesion b. Coupling
   c. Functional independence d. Data structure

11. Data objects are connected to one another in different ways is called-
   a. Relationships b. Entity
   c. Cardinality d. Attributes

12. The_____ model suggests a systematic, sequential approach to software development that begins at the system level and progresses through analysis, design, coding, testing and support.
   a. Linear sequential b. Classic life cycle
   c. Waterfall d. All of them

13. The_____ is an incremental development process model that emphasizes an extremely short development cycle with "high speed" adaptation using component based construction.
   a. RAD b. Spiral c. CBSE d. Incremental

14. Risk analysis is one of the major region of _____model.
   a. RAD b. Spiral c. CBSE d. Incremental

15. _____provides the software engineer with the ability to automate manual activities and to improve engineering insight and also ensure that quality is designed in before the product is built.
   a. CBSE b. CASE c. Both d. None of these

16. POFOD, ROCOF, MTTF and AVAIL_____, _____and_____ respectively.
   a. POFOD-_____.
   b. ROCOF-_____.
   c. MTTF-_____.
   d. AVAIL-_____.

17. In UML, the filled diamond drawn at one end is the symbolic representation of-
   a. Aggregation b. Composition
   c. Inheritance d. Dependency

18. Basic COCOMO estimation model is given by the following expression of effort, where-
   a. Effort=a_1x (KLOC)^{b1} month b. Effort= a_1x (KLOC)^{a1} month
   c. Effort= b_1x (TDEV)^{b2} PM d. Effort= a_1x (KLOC)^{a2} PM

19. A module having high_____ and low_____ is said to be functionally independent of other modules.
    a. Coupling, cohesion
    b. Cohesion, coupling
    c. Scope of reuse, error isolation
    d. Understandability, error isolation

20. One of the most important advantages of using_____ metric is that it can be used to easily estimate the size of a software product directly from the problem specification.
    a. LOC
    b. ROCOF
    c. Function point metric
    d. Feature point metric

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