

MASTER OF COMPUTER APPLICATION
THIRD SEMESTER [SPECIAL REPEAT]
ADVANCED SOFTWARE ENGINEERING
MCA-301

**SET
A**

Duration: 3 hrs.

Full Marks: 70

Time: 30 mins.

Marks: 20

(Objective)

Choose the correct answer from the following:

1 × 20 = 20

- Software reengineering encompasses a series of activities that include:
 - Inventory analysis
 - Document restructuring
 - Reverse engineering
 - All of these
- What is Software Engineering?
 - Designing a software
 - Testing a software
 - Application of engineering principles to design a software
 - None of the these
- How is generalization implemented in Object Oriented Design?
 - Inheritance
 - Polymorphism
 - Encapsulation
 - All of the above
-coupling is the worst type of coupling.
 - Data
 - Content
 - Control
 - Stamp
- Model selection is based on.....
 - Requirement
 - Development team and users
 - Project type & associated risk
 - All of the above
- Which of the following serves as metrics for project size estimation?
 - Lines of code
 - Function point
 - Number of persons
 - Only a and b
- System Development Life Cycle (SDLC) is..... used by the system experts to design a system.
 - A processor
 - A process
 - A system
 - None of the above
- During which of the following phases, the requirement analysis is performed?
 - System design phase
 - System development phase
 - System analysis phase
 - System investigation phase
- Top Management is more interested in.....
 - Day-to-day operations
 - Strategic decisions
 - Tactical decisions
 - All of these
- Which one of the following is not a software process quality?
 - Efficiency
 - Portability
 - Timeliness
 - Reliability

11. The model remains operative until the software is retired.
 - a. Waterfall
 - b. Incremental
 - c. Spiral
 - d. None of these
12. COCOMO stands for.....
 - a. COnsumed COst estimation MOdel
 - b. COnstructive Cost estimation Model
 - c. COmmon Control Model
 - d. COmposite COst estimation Model
13. Data dictionary contains details of.....
 - a. Data structures
 - b. Data flows
 - c. Data stores
 - d. All of these
14. Which of the following graph theoretic concept will be useful in software testing?
 - a. Cyclomatic number
 - b. Hamiltonian circuit
 - c. Eulerian cycle
 - d. None of these
15. For which estimation software size should be known?
 - a. Time estimation
 - b. Effort estimation
 - c. Cost estimation
 - d. All of these
16. User interface design involves following issues:
 - a. Error message handling
 - b. System response time
 - c. Command Labeling
 - d. All of these
17. FP-based estimation techniques require problem decomposition based on:
 - a. Project schedule
 - b. Software functions
 - c. Process activates
 - d. None of these
18. Risk management consists of.....
 - a. Risk identification
 - b. Risk assessment
 - c. Risk containment
 - d. All of the above
19. Which of the following is not part of the Test document?
 - a. Test Case
 - b. Requirements Traceability Matrix [RTM]
 - c. Test strategy
 - d. Project Initiation Note [PIN]
20. Alpha and Beta Testing are forms oftesting.
 - a. Unit
 - b. Acceptance
 - c. Integration
 - d. System

(Descriptive)

Time : 2 hr. 30 mins.

Marks : 50

[Answer question no.1 & any four (4) from the rest]

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| 1. What do you mean by software testing? Define unit testing and integration testing. Discuss white box testing and black box testing. | 1+4+5=10 |
| 2. What do you mean by prototype? Explain Prototyping model with diagram. Mention the situations when this model is suitable. | 2+5+3=10 |
| 3. What are the different phases of Classical Waterfall Model? Explain the feasibility study phase of this model. Discuss the shortcoming of this model. | 2+4+4=10 |
| 4. What are the characteristics of a good software design? What do you mean by cohesion and coupling in the context of software design? Explain different types of cohesion. | 3+2+5=10 |
| 5. What is DFD? What is UML? Discuss various characteristics of good interface. | 2+2+6=10 |
| 6. List the five desirable characteristics of a good Software Requirements Specification (SRS) documents. Why SRS document also known as the black-box specification? Who are the different categories of users of the SRS document? | 5+2+3=10 |
| 7. a) What is software reverse engineering? When does software reverse engineering is applicable?
b) What are the benefits of software reuse? Briefly discuss the basic issues of software reuse. | 5+5=10 |
| 8. What are the different metrics for software project size estimation? What is COCOMO model? Discuss the basic COCOMO model. | 2+4+4=10 |

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