



Avinashilingam Institute for Home Science and Higher Education for Women

Deemed to be University Estd. u/s 3 of UGC Act 1956, Category A by MHRD (now MoE)

Re-accredited with A++ Grade by NAAC. CGPA 3.65/4, Category I by UGC

Coimbatore - 641 043, Tamil Nadu, India

Master's Degree Examination – May 2025 II Semester

Class : I M.C.A.
Major : Computer Applications

Time: 3 Hours
Max. Marks: 100

23MCAC09 Software Engineering

Course Outcomes:

CO1: Apply the software engineering concepts into the processes of software development.

CO2: Analyze the problem domain and enable the process of SRS, adoption of a suitable software process model

CO3: Design and analysis of modules using DFD, UML diagrams.

CO4: Compare the product and process performance using various metrics.

CO5: Evaluate the system with various testing techniques and strategies.

Part A

10 x 1 = 10

Choose the Correct Answer

- _____ is a collection of activities, actions, and task that are performed when some work product is to be created. CO1K1
a. Process b. Product c. Planning d. Modelling
- _____ is the application of a systematic, disciplined, quantifiable approach to the development, operation, and maintenance of software. CO1K1
a. Waterfall b. Prototype c. Software Engineering d. CMM
- Which of the following life cycle model lacks iterative product development? CO2K2
a. Spiral Model b. Prototyping model
c. Classical waterfall model d. Evolutionary model
- _____ provides a prioritized list of project requirements or features that provide business value for the customer. CO2K3
a. Demos b. Sprints c. Backlog d. Time-box
- _____ diagram is one method for representing the behaviour of a system by depicting its states and the events that cause the system to change state. CO3K2
a. Flow b. ER c. State d. Object
- _____ elements is a set of tools and process features used by the software team to implement effective SCM. CO3K3
a. Component b. Human c. Process d. Construction
- _____ is a representation of composite information that must be understood by the software. CO3K1
a. Composite b. Data model c. Data object d. ERD
- _____ models that represent the functional elements of the system and how they transform data as it moves through the system. CO4K2
a. Behavioural b. Data c. Scenario-based d. Flow-oriented
- “Are we building the right product”. The statement states about CO3K4
a. Validation b. Verification c. Configuration d. Design
- Expand BPR. CO5K1
a. Business Process Restructuring b. Business Process Reengineering
c. Business Product Restructuring d. Business Product Reengineering

Part B

5 x 6 = 30

Answer ALL questions

Each answer should not exceed 400 words or two pages

11. a. State the CMMI. Sketch and explain the CMMI process area capability profile with various level and its usage. CO1K1
- (or)
11. b. Does a process framework establish the foundation for a complete software engineering process? Justify your answer with various activities involved. CO1K2
12. a. With a neat sketch, explain the waterfall model. CO2K3
- (or)
12. b. With a sketch explain the scrum process flow. CO2K3
13. a. Outline system engineering hierarchy with appropriate diagrams. CO3K4
- (or)
- 13.b. Elaborate on requirement validation. CO3K6
14. a. State the use of requirement analysis and summarize on Arlow and Neustadt rule of thumb for creating the analysis model. CO4K2
- (or)
- 14.b. Define software design and write a note on various quality guidelines and quality attributed to be considered. CO4K4
15. a. Sketch and outline the software test strategy in software testing. CO5K3
- (or)
- 15.b. List the steps applied to derive the basis set test cases in basis path testing. CO5K3

Part C

5 x 12 = 60

Answer ALL questions

Each answer should not exceed 800 words or four pages

16. a. Elaborate on personal and team process models. CO1K3
16. b. Write a detailed note on Agile Process. CO1K3
- (or)
17. a. Elaborate on the prototype paradigm and spiral model in evolutionary process model with appropriate diagrams. CO2K2
- (or)
- 17.b. Write a detailed note on:
(i) DSDM and (ii) Agile Modelling [Each carries 6 Marks] CO2K3
18. a. Outline requirement elicitation with appropriate diagrams. CO3K3
- (or)
18. b Summarize on SCM process with a diagram. CO3K2
- 19.a. Elaborate on flow oriented modelling using appropriate diagrams. CO4K3
- (or)
19. b. Examine the various concepts involved in the design of software engineering. CO4K3
- 20.a. Discuss in detail about system testing. CO5K4
- (or)
- 20.b. Outline control structure testing with necessary diagrams. CO5K3
