



**K. K. Wagh Institute of Engineering Education & Research, Nashik**  
(An Autonomous Institute From A.Y. 2022-23)

WINTER-2024	
Exam Seat No.:	
Academic Year:2024-2025	Semester:I
Class:PG-I	Program:MCA
Branch Code:M.C.A.	Pattern:2024
Name of Course:Software Engineering and Testing	Course Code:2409503
Max. Marks:60	Duration:2.30 Hrs.

**Instructions:** Candidates should read carefully the instructions printed on the Question Paper and on the cover page of the Answer Book, which is provided for their use.

1. This question paper contains TWO page(s).
2. Answer to each new question is to be started on a new page.
3. Assume suitable data wherever required, but justify it.
4. Draw the neat labelled diagrams, wherever necessary.
5. The last columns indicates the Course Outcome and level of Blooms Taxonomy of the Question/sub-question.

**Marks CO**

**Question No. 1**

- 1a) Explain the key characteristics of Evolutionary Process Models and compare them with the Waterfall Model. (6) CO1

**Question No. 2**

- 2a) Develop a use case diagram for an online shopping system, highlighting the behavioral requirements involved in the checkout process. (6) CO2

**Question No. 3**

- 3a) Explain the cohesion and coupling and Types of cohesion and coupling with suitable diagram. Provide suitable examples to illustrate their differences (8) CO3

**OR**

- 3b) Describe the role of software metrics in assessing software quality. Explain different types of Metrics. (8) CO3
- 3c) Explain the role of design models and Types of Design Model in software engineering and also Provide examples where each model is most suitable. (8) CO3

**OR**

- 3d) Explain the following terms: 1) Feasibility Study 2) Decomposition Techniques (8) CO3

**Question No. 4**

- 4a) Explain Software Testing Life Cycle (STLC). Illustrate key activities in each phase with examples (8) CO4

**OR**

- 4b) Develop a test plan for an e-commerce website (8) CO4
- 4c) Explain the key stages of the Defect Management Life Cycle (DMLC) and create defect Repository for any defect. (8) CO4

**OR**

- 4d) Explain the concept of Black Box Testing. What are the main techniques used in Black Box Testing? Discuss how each technique can be applied to test a software application and give examples of scenarios where each technique is most effective. (8) CO4

**Question No. 5**

- 5a) Explain Terms: 1) Essential skills for automation testers 2) Scope and benefits of automation testing. 3) Steps of selecting the Right Test Automation Tool. (8) CO5

**OR**

- 5b) Illustrate Automation Testing with Design and architecture considerations for automation. (8) CO5
- 5c) Describe the purpose and functionality of Selenium IDE. How does Selenium IDE differ from Selenium WebDriver, and in what scenarios would it be more beneficial to use Selenium IDE for automation testing? (8) CO5

**OR**

- 5d) What is Selenium Grid, and how does it enable parallel test execution? Explain the architecture of Selenium Grid and discuss its benefits for large-scale test automation. (8) CO5

**..... End of question paper.....**