



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

WINTER-2025	
Exam Seat No.:	
Academic Year:2025-2026	Semester:I
Class:FYMCA	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 concept of Software Engineering and differentiate between various types of software with suitable examples. (6) CO1

**Question No. 2**

- 2a) Demonstrate the Kano Diagram by classifying customer requirements into its categories with suitable examples. (6) CO2

**Question No. 3**

- 3a) Use the concepts of cohesion and coupling to evaluate the quality of a software design. (8) CO3

**OR**

- 3b) Apply software project estimation and Explain decomposition techniques in detail. (8) CO3

- 3c) Demonstrate a) Size Oriented Metrics b)Halstead's Software. (8) CO3

**OR**

- 3d) Demonstrate the classification of software metrics. (8) CO3

**Question No. 4**

- 4a) Given a software module, demonstrate the Software Testing Life Cycle by creating a diagram and explaining each phase. (8) CO4

**OR**

- 4b) Illustrate code coverage testing and code complexity testing. (8) CO4

- 4c) Demonstrate Positive and Negative Testing on a login module of a sample application. (8) CO4

**OR**

- 4d) Illustrate different types of Black box Testing with examples. (8) CO4

**Question No. 5**

5a) Demonstrate the use of Cypress, Test Cafe, and Protractor. (8) CO5

**OR**

5b) Apply tool selection criteria to compare any two automation Testing tools. (8) CO5

5c) Apply and explain different Selenium tools (IDE, WebDriver, Grid, RC) demonstrate their usage with examples. (8) CO5

**OR**

5d) Illustrate the benefits and scope of automation testing. (8) CO5

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