



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:2022
Name of Course:Object Oriented Programming	Course Code:MCA222001
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 Object-Oriented Programming and its advantages over procedural programming. (6) CO1

Question No. 2

- 2a) Differentiate between function overloading and function overriding with examples. (6) CO3

Question No. 3

- 3a) Write a Java program to define a class Student with data members and methods to display student details. (8) CO5

OR

- 3b) Define an interface Printable and implement it in a class Document with a method to print content. (8) CO5

- 3c) Define a constructor in Java. Illustrate the different types of constructors used to initialize object data, and demonstrate the concept of constructor with suitable examples. (8) CO5

OR

- 3d) Create an inner class within a Java class and access its members from the outer class. (8) CO5

Question No. 4

- 4a) Write a Java program using inheritance where a class Employee is extended by a class Manager (8) CO2

OR

- 4b) Implement a multithreaded Java application using Runnable interface to simulate two threads printing numbers. (8) CO2

- 4c) Illustrate the synchronization method in Java using a shared resource accessed by multiple threads. (8) CO2

OR

- 4d) Create a user-defined exception InvalidAgeException and use it in a program to validate age input. (8) CO2

Question No. 5

5a) Illustrate applet life cycle in detail. (8) CO4

OR

5b) Create a GUI application using AWT that includes a label, text field, and button to display user input. (8) CO4

5c) Design a Swing-based form using JLabel, JTextField, JButton, and JComboBox to collect user data. (8) CO4

OR

5d) Compare and contrast Swing and AWT in terms of performance, look and feel, and flexibility. (8) CO4

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