

M.C.M. - II CBCS Pattern Semester-IV  
**PMCMT402 - Paper-II : Java Concepts**

P. Pages : 2

Time : Three Hours



**GUG/S/24/10779**

Max. Marks : 80

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- Notes :
1. All questions are compulsory and carry equal marks.
  2. Draw neat and labelled diagrams wherever necessary.
  3. Avoid vague answers and write answers relevant and specific to questions only.

**Either:**

1. a) Define the Java Virtual Machine (JVM) and explain its role in executing Java Programs. **8**
- b) Explain the concept of garbage collection in Java and how it helps in memory management. **8**

**OR**

- c) Demonstrate the usage of the Math class in Java to perform mathematical operations. **8**
- d) Explain the conditional statement and also Demonstrate true if else statement. **8**

**Either:**

2. a) Define pass-by-value and explain how it works in Java when passing objects as method arguments. **8**
- b) Write a program to create an abstract class and implement it in a subclass. **8**

**OR**

- c) Describe the relationship between super class objects and subclass objects. **8**
- d) Write a java program to demonstrate constructor overriding. **8**

**Either:**

3. a) What are the types of exceptions in Java? Discuss with examples. **8**
- b) Explain the thread life cycle in Java. What are the different stages of a thread's life cycle? **8**

**OR**

- c) Can you create your own exception in Java? If yes, explain how and provide an example. **8**
- d) Write a detail note on Thread Synchronization. **8**

**Either:**

4. a) Discuss the components and graphics in the Abstract Window Toolkit (AWT) in Java. 8
- b) Explain the life cycle of an applet in Java. How is it different from a regular Java application. 8

**OR**

- c) Discuss the process of serialization and deserialization in Java. Why is it useful? 8
- d) Define the event delegation model in AWT. What is the role of event sources and event handlers in AWT? 8
5. Attempt all the questions.
- a) Discuss the arrays and its methods in brief. 4
- b) Write a short note on User Defined Packages in Java. 4
- c) Explain the concept of multithreading in Java. 4
- d) Explain the different stream classes available in java. 4

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