

Roll No. 

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Total No. of Pages : 02

Total No. of Questions : 09

**MCA (2012 & Onward) (Sem.-3)**  
**JAVA PROGRAMMING**  
Subject Code : MCA-304  
Paper ID : [B1160]

Time : 3 Hrs.

Max. Marks : 100

**INSTRUCTION TO CANDIDATES :**

1. SECTIONS-A, B, C & D contains TWO questions each carrying TWENTY marks each and students has to attempt any ONE question from each SECTION.
2. SECTION-E is COMPULSORY consisting of TEN questions carrying TWENTY marks in all.
3. Use of non-programmable scientific calculator is allowed.

**SECTION-A**

- Q1: a) What is Inheritance? Write a Program in Java to illustrate the concept of Multilevel Inheritance.
- b) Broadly explain the concept of Constructors in Java with a program.
- Q2: a) Discuss the role of Finalize method in Java.
- b) Compare and contrast Method Overloading and Overriding.

**SECTION-B**

- Q3: a) What is Interface? How Multiple Inheritance can be achieved using Interface? Explain with suitable example.
- b) What is Package? Write a Program in Java to explain the concept and use of Package.
- Q4: a) What is Exception? How Exceptions can be created and handled in Java? Explain with suitable examples.
- b) Broadly discuss the concept of String Tokenizer in Java with suitable examples.

### SECTION-C

- Q5: a) Discuss the different stages in the life cycle of an applet. Distinguish between init() and start() method.
- b) What is an Applet? How do applets differ from application programs? How arguments can be passed to an applet?
- Q6: a) What is a Swing? Explain the concept and role of swings briefly with a program in Java.
- b) What is the use of JDBC? Explain with suitable examples.

### SECTION-D

- Q7: a) Compare and contrast TCP and UDP Sockets.
- b) What is Servlet? Explain different types of servlets with suitable examples.
- Q8: a) What is JSP? Explain its usage with suitable examples.
- b) Write a short note on Socket Programming?

### SECTION-E

**Q9: Write short notes on following with help of example/diagram if needed :**

- a) Final Class
  - b) Frames
  - c) Popup Menus
  - d) Scanner class
  - e) Abstract Class
  - f) Static Class
  - g) Servlet Life Cycle
  - h) Enumerated data-type
  - i) User defined Exceptions
  - j) Keywords
-