

Roll No. ....

Total Pages : 03

**MCAE/D-23**

**24020**

PROGRAMMING IN JAVA

MCA-20-11

Time : Three Hours]

[Maximum Marks : 75

**Note :** Attempt *Five* questions in all. Question No. **1** is compulsory. Attempt *four* more questions, selecting exactly *one* question from each Unit.

**(Compulsory Question)**

1. (a) How can you create and use finalize() method ?  
(b) Give an example of nested try block.  
(c) What is an Applet ?  
(d) Enlist the various keyboard events along with their listeners.  
(e) Comment on the purpose of Grid layout. **5×3=15**

**Unit I**

2. (a) Explain Java Run-Time Environment in detail. **7.5**  
(b) Describe various data types in java. **7.5**

3. (a) How can you implement multiple inheritance in java ? Explain with suitable example. 7.5  
(b) Write a program in Java to multiply two matrices. 7.5

### Unit II

4. (a) How can you create a user-defined package in Java ? Explain by creating a package and using that package. 7.5  
(b) What is meant by wrapper classes ? Explain in brief. 7.5
5. (a) What are the various ways to implement multithreading in Java ? Explain. 7.5  
(b) How can you create and use a user-defined exception in Java ? Explain. 7.5

### Unit III

6. What are the various methods associated with DataInputStream and DataOutputStream classes ? Explain each by writing a program in java. 15
7. (a) Create an applet in Java that receives a string as input and check whether the string is palindrome or not and displays the result in Applet. 7.5  
(b) Explain various methods in Graphics class using suitable examples. 7.5

### Unit IV

8. (a) What is Card layout ? Write a program in java using Card layout. 7.5  
(b) Write a program in Java to handle various mouse events such as click, move, double click, etc. 7.5
9. Write a program in Java to create a menu driven text-editor in Java. 15