

MCA/ M11
Programming in JAVA
Paper : MCA 403

Time: Three Hours

Maximum Marks: 80

Note: Students will be required to attempt FIVE questions in all. Question No. 1 is compulsory. In addition to compulsory question, students will have to attempt Four more questions, selecting One question from each Unit.

1.
 - (a). Java is termed both as portable and platform independent. How and why/
 - (b) Differentiate between String and String Buffer Class
 - (c) Differentiate between abstract, final and static keyword.
 - (d) Differentiate between the keywords throw and throws.
 - (e) Discuss Applet life cycle in brief.
 - (f) What is the purpose of Stream Tokenizer class?
 - (g) Draw the class hierarchy for AWT windows. Also explain in brief the purpose of each class in the hierarchy.
 - (h) List any three swing class and write down the constructors of each.

UNIT-I

2.
 - (a) Write a short note on wrapper classes.
 - (b) What is a package? Explain the procedure to create a user-defined package with the help of an example.
 - (c) Differentiate between interface and class.
3.
 - (a) Write a program in Java to sort a given list of strings.
 - (b) Discuss the various data types in Java
 - (c) Explain the scope and purpose of various types of access qualifiers in Java.

UNIT-II

4. What do you understand by multithreading? How it can be achieved in Java? Explain life-cycle of a thread. How interthread communication can take place in Java? Explain with appropriate examples.
5.
 - (a) How can you create and use a user defined exception? Explain with the help of an example?
 - (b) Explain various types of inheritances with the help of examples.

UNIT-III

6.
 - (a) What is delegation event model? Explain in brief. Write a program to handle various mouse events
 - (b) Name and explain various interfaces and classes in the collection framework in brief.
7.
 - (a) Differentiate between character stream and byte stream. Write a program in have to read the contents of a file and encrypt them and store the encrypted data in another file. The name of the input and output filename is not valid appropriate error message must be displayed.
 - (b) How can we pass parameters to an applet at run time?

Unit-IV

8.
 - (a) What is a servlet? Discusses its life-cycle. Explain the procedure to create and compile a simple servlet
 - (b) What is a Java bean? Write its major advantages.
9.
 - (a) Write a program to create a smiley face using graphics.
 - (b) Write a program to create a grid with the help of GridLayout and fill the grid with numbers from 1 to 15