13141

3 Hours/100 Marks   Seat No.

Instructions : (1) **All** questions are **compulsory**.
(2) Answer **each** next main question on a **new** page.
(3) Illustrate your answers with neat sketches **wherever** necessary.
(4) **Assume** suitable data, if **necessary**.
(5) Mobile Phone, Pager and any other Electronic Communication devices are **not permissible** in Examination Hall.

MARKS

1. A) Attempt **any three** of the following :   **12**

   a) State four features of Java.

   b) Define an exception. How it is handled ?

   c) Explain any two logical operators and any two bitwise operators.

   d) How multiple inheritance is achieved in Java ? Give example.

   B) Attempt **any one** of the following :   **6**

   a) Describe the following methods related to vector.

      i) addElement ( )

      ii) removeElement ( )

      iii) elementAt ( )

   b) Write a program to check whether the entered number is prime or not.

2. Attempt **any two** of the following :   **16**

   a) Describe access control parameters with suitable example.

   b) Define thread. Why it is used ? Explain life cycle of thread in detail.

   c) Write a program to throw a user defined exception "String Mismatch Exception" if two strings are not equal (ignore case).

3. Attempt **any four** of the following : 16

   a) What is garbage collection in Java ? Explain.

   b) What is Byte-code ? Explain any two tools available in JDK.

   c) Distinguish between class and interface.

   d) Explain how user defined packages are created and accessed in Java.

   e) Write any two methods of file and file input stream class each.

4. A) Attempt **any three** of the following : 12

    a) Explain applet life cycle with suitable diagram.

    b) Explain serialization in relation with stream classes.

    c) Define a class 'employee' with data members as empid, name and salary. Accept data for 5 objects and print it.

    d) Write a program to accept a number and print its factorial.

  B) Attempt **any one** of the following : 6

    a) Explain the substring ( ), concat ( ), replace ( ) methods of class string.

    b) Write a program to implement vector class and its method for adding and removing elements.

5. Attempt **any two** of the following : 16

   a) What is interface ? Describe syntax, features and need of an interface.

   b) Describe any four methods from graphics class.

   c) Create an applet which accepts user name as a parameter for html page and displays numbers of character from it.

6. Attempt **any four** of the following : 16

   a) Explain thread priority and method to get and set priority values.

   b) Explain method overloading with respect to inheritance.

   c) Explain <applet> tag with all its major attributes.

   d) Write a program to calculate percentage of marks of 4 subjects and print in suitable format.

   e) Write a program to accept first name, middle name and surname in three different strings and then concatenate the three strings to make full name.

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