17515

12223

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 answer with neat sketches wherever necessary.

(4) Figures to the right indicate full marks.

(5) Assume suitable data, if necessary.

(6) 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

i) State four features of JAVA.

ii) How multiple inheritance is achieved in JAVA? Give example.

iii) Distinguish between class and interface.

iv) Explain the following methods w.r.t. to thread :–

(1) wait( )

(2) notify( )

b) **Attempt any ONE of the following:**   6

i) Write a program to accept a number and find sum of all prime numbers upto that number.

ii) Write a program to accept password from the user and authenticate the user if password is correct.

Marks

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

a) Define a class 'Item' having data member code and price. Accept data for five object and display data using array of object. Also display the total price of all items.

b) Explain the following keywords with respect to exception handling

   i) try

   ii) catch

   iii) finally

   iv) throw

c) Describe compute life cycle of thread.

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

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

b) Explain the use of following methods :–

   i) indexOf( )

   ii) charAt( )

c) Why interface is needed in JAVA? Give one example explaining its use.

d) What is the use of array list class? State three methods with their use from array list

e) Differentiate between java applet and java application

4. **a)** **Attempt any THREE of the following:** **12**

   i) What is JVM? What is byte code?

   ii) What is package? How to create it? Explain with suitable example.

   iii) Write a program to design applet to display three concentric circles.

   iv) What is serialization in java and explain in detail.

Marks

b) **Attempt any ONE of the following:** **6**

i) Write a program to throw a user defined exceptions 'as Invalid Age', if age entered by the user is less than eighteen. Also mention any two common java exceptions and their cause.

ii) Explain applet life cycle with Suitable diagram.

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

a) Describe the procedure for passing parameters through HTML code to an applet.

b) Write a program to copy contents of one file to another using character stream class.

c) Explain the following methods of vector class :–

i) element At ( )

ii) add Element ( )

iii) insert Element At ( )

iv) remove Element ( )

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

a) Design a package containing a class 'Rect' which defines a method to find area of a rectangle. Import it in a java application to calculate area of a rectangle for a given length and breadth.

b) Give the syntax of the following methods of graphics class. Explain their use with suitable program.

i) draw Line

ii) draw Rect ( )

c) What are stream? Write any two methods from character stream classes.

d) Why java is not 100% object oriented language.

e) Differentiate between array and vector.

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