2019

MCA

4th Semester Examination

JAVA PROGRAMMING

PAPER – MCA-402

Full Marks : 100

Time : 3 Hours

The figures in the right-hand margin indicate full marks.

Candidates are required to give their answers in their

Own words as far as practicable.

Illustrate the answers wherever necessary.

Answer Question no 1 and any *FOUR*(4) from the rest .

1. Answer the following questions (any Five)   2x5=10

   a) What is the output of this code fragment ?

      1. int x = 3 ; int y = 10 ;

      2. System .out. println (y % x) ;

   b) Give an example of Polymorphism *with proper justification.*

c) Switch (i) {

    default :

    System .out. println ("Hello") ;

    What is the acceptable type (s) for the variable i ?

d) What is byte code ?

e) Why is java called compiler – interpret language ?

f) What is late binding ?

g) What is an interface ?

h) What is multi - threading ?

2. a) What are the main characteristics of OOP Language ? Explain   5

  b) Explain different access specifiers in Java .   5

  c) Explain the static Keyword with suitable Java Code segment .   5

3. a) What do you mean by final , finalize and finally ?   3

  b) What do you mean by garbage Collection in java ?   2

  c) Explain Inner class in java with a simple code .   5

  d) What are Wrapper classes ? Why do we need Wrapper classes ?   2+3

4. a) Describe the Concept of multiple inheritance with an example .   5

  b) What are the rules for method Overriding ? Explain dynamic method dispatch   2+4

    in method Overriding with proper example .

  c) Compare between constructor overloading Vs method overloading .   4

5. a) How many types of Inheritance are in java ? What are those ?   (5)

   b) There are three classes : Box , Box weight and Box shipment . (10)

   The member Variables of the Box class are height , width and depth . There is a method

   Volume () which will calculate the volume of the box .

   The Box weight class also contain the above variables (height , width and depth) and

   also contain an extra variable that is ' weight ' which denotes the weight of the box .

   The Box shipment class contain the above variables (height , width and depth , weight)

   and also contains an extra variable that is ' cost ' – Which denotes the cost for shipment .

   Write a program in Java that will calculate the volume of the box and print the value of the

   weight and cost of that box using concept of multilevel Inheritance .

6. a)What are exceptions ? Explain the user defined exceptions and system defined exceptions

   with suitable examples . (2+6)

b)How do we define try and catch block? Is it essential to catch all types of exceptions ? Explain (3)

c) Briefly explain the use of " this " and "super" Key words ?   (4)

7. Write short notes on following topics (any three) :   3X5=15

   a) Strctfp

   b) Abstract class

   c) Applet

   d) User defined Package

   e) Import statement

   f) Shadowing

[Internal Assessment – 30]