MCA 4th Semester Examination, 2016

JAVA PROGRAMMING

PAPER—MCA - 402

Full Marks : 100

Time : 3 hours

Answer Q.No 1 and any **four** from the rest

The figures in the right-hand margin indicate marks

Candidates are required to give their answers in their own words as far as practicable

Illustrate the answers wherever necessary

1. Answer the following questions (any *five*) :   2 × 5

   (*a*) Define Encapsulation.

   (*b*) What is an abstract class ?

   (*c*) What is the purpose of 'final' keyword ?

(d) What is polymorphism ?

(e) What is interface and mention its use.

(f) What is byte code ?

(g) What is an exception ?

(h) Name five standard packages in JAVA.

2. (a) What is platform independent ? Why java is called so ?   1 + 2

(b) What is JVM ? Write the execution steps of a java program through JVM.   1 + 2

(c) What is message passing ? Write its importance in execution of java program.   2 + 2

(d) What is the difference between constructors and normal methods ? Discuss with an example.   5

3. (a) What is inheritance ? What are the types of inheritance ?   2 + 2

(b) How Inheritance can be implemented in java? 2

(c) Why we need to use Inheritance ? 2

(d) What is Multiple inheritance ? Why Java Doesn't Support multiple Inheritance ? 2 + 3

(e) Can a class extend itself ? 2

4. (a) Describe dynamic method dispatch with an example. 4

(b) Write the differences between Static binding and Dynamic binding in java. 4

(c) Write the function of *super* keyword. 2

(d) "Abstract class cannot be declared as final" — Discuss. 2

(e) What is shadowing ? Give an example. 3

5. Write short notes on following topics (any *three*) :

(i) Applet 5 × 3

(ii) Command Line Input

(*iii*)Default constructor

(*iv*) Wrapper class

(*v*) Multi-level Inheritance.

6. (*a*) What is a constructor ? What are the different types of constructor available ? 2 + 2

(*b*) What is constructor overloading ? 3

(*c*) Write a program to illustrate copy constructor. 8

7. (*a*) What do you mean by exception ? Describe with an example. 3

(*b*) Write the differences between error and exception. 3

(*c*) Write different types of exceptions with examples. 3

(*d*) Define an exception called "MyException" that is thrown when a String value is not equal to "University". Write program that uses the above user defined exception. 6

[*Internal Assessment* : 30 Marks]

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