

2018

MCA 4th Semester Examination

JAVA PROGRAMMING

PAPER—MCA-402

Subject Code—32

Full Marks : 100

Time : 3 Hours

The figures in the 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 Q. No. 1 and any four from the rest.

1. Answer the following questions (any five) : 2×5
- (a) What is class ? How does it accomplish data hiding ?
 - (b) Why is java called a portable language ?
 - (c) What is JVM ?
 - (d) What will happen when you compile and run the following code ?
boolean a = true ;
boolean b = false ;
System.out.println ("a && b" + (a&&b)) ;

(Turn Over)

- (e) When do we declare a member variable method or class final ?
- (f) How many constructors can a class have ?
- (g) Why we need package ?
- (h) Compare and contrast public, protected and private specifiers.
2. (a) Why java does not support multiple inheritance ?
- (b) How does the multiple inheritance achieve in java ?
- (c) Write a program to demonstrate multiple inheritance activity in java through interface. 3+4+8
3. (a) What do you mean by polymorphism ?
- (b) Write its advantages.
- (c) Why does java programming use polymorphism ?
- (d) Describe polymorphism with the help of a java program. 3+2+2+8
4. Write short notes on (any *three*) : 3×5
- (a) Platform independent ;
- (b) Default constructor ;
- (c) Java thread ;

- (d) String Buffer ;
- (e) Shadowing ;
- (f) Constructor overloading.

5. (a) What do you mean by inheritance ? Describe different types of inheritance with schematic diagram.

(b) Differentiate between the following (any *two*) :

- (i) Abstract class and interface ;
- (ii) Object and object reference ;
- (iii) Static and final keyword.

(c) Find the output of the following code :

```
class Vehicle { }
public class CarextendsVehicle {
public static void main (String args[ ]) {
Vehicle a newCar ( );
boolean result a instanceof Car;
System.out.println (result);
}
}
```

(d) Explain "System.out.println (" ") in brief.

$$(2+4)+(2\times 2)+2+3$$

6. (a) Write a program to implement user-defined package.

(b) Why overload a method ?

- (c) How to override a method ?
- (d) What is the difference between constructors and normal methods ? Discuss with an example. 7+2+2+4

7. (a) Design a class to represent a bank account. Include the following members :

Data members :

- Name of the depositor
- Account number
- Type of account
- Balance amount

Methods :

- To assign initial values
- To deposit an amount
- To withdraw an amount after checking balance
- To display the name and balance.

- (b) Write the advantages of using Applet programming.

- (c) How to execute an applet ? 10+3+2

[Internal Assessment : 30]
