2018

MCA 4th Semester Examination

JAVA PROGRAMMING LAB.

PAPER—MCA-407

Subject Code—32

(Practical)

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 any *two* questions. 35×2

1. Write a Jave program to check whether a given number is a prime number or not.

2. Write a Java program to calculate GCD of two given numbers.

3. Write a Java program to print the following figure. Give the number of rows as an input :

```
1
2  3
4  5  6
7  8  9  10
...  ...  ...  ...
```

4. Write a Java program to print Fibonacci series up to a range given as an input.

5. Write a Java program to calculate and print the average of numbers passed through command line argument.

6. Write a Java program to calculate the following statistics from a given String :

   (a) Number of uppercase characters

   (b) Number of digits

   (c) Number of spaces.

7. Create a class called Time. It has three instance variables – hour, min and sec. The class contains two methods called add ( ) and print ( ). The add ( ) method takes one Time object as parameter. The print ( ) method prints the time of the Time object in hour, minute and second. In the main method, declare two Time objects and assign values using constructor and call the add ( ) and print ( ) methods. In the main method, declare and Account object and use the methods whenever required to show different types of transactions.

8. Write a package called Maths. This contains a class called Math. The class Math contains the methods add, sub, mul and div. Use the Math class from the Maths package in a program and use its methods.

9. Write a Java program that creates an abstract class called Shape having a method area ( ). Create three subclasses Triangle, Rectangle and Circle. Implement are ( ) method in all the classes. Calculate and display the area of a Triangle, Rectangle and Circle object.

10. Write a multihreaded program in Java that shows thread synchronization. Create at least two threads in your application. Create necessary classes and add variables and member functions in the classes.

11. Write a program in Java to create your own Exception class. Use this exception class in your program. Use try, catch and finally block in the program.

12. Write an Applet program in Java. Implement all necessary functions of the applet to show their functionality. Draw any two figures and some text in the applet using different colors.

Viva-voce : 20

PNB : 10

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