Roll No. ☐☐☐☐☐☐☐☐☐☐☐          Total No. of Pages : 02

Total No. of Questions : 18

## MCA (2015 to 2018)  (Sem.–3)
## JAVA PROGRAMMING
### Subject Code : MCA-304
### M.Code : 74076

Time : 3 Hrs.          Max. Marks : 60

**INSTRUCTIONS TO CANDIDATES :**
 1.  SECTIONS-A, B, C & D contains TWO questions each carrying TEN marks each and students have to attempt any ONE question from each SECTION.
 2.  SECTION-E is COMPULSORY consisting of TEN questions carrying TWENTY marks in all.

### SECTION-A

1) What is meaning of access control of variables and functions in java? Explain the different access control mechanisms in java with the help of a suitable program.

2) Why is the need of JVM in execution of any java program? Discuss the structure of any Java program.

### SECTION-B

3) What are packages? How packages are created and accessed in java and also briefly discuss the naming conventions used in packages?

4) What are different types of exceptions in java? Explain the exception handling mechanism in particular to handling multiple exceptions with the help of a suitable program.

### SECTION-C

5) Define applet. How applet is different from application? Write a java program to create an applet which will have a line, an Oval & a Rectangle using different graphics class functions.

6) What is JDBC? Write a pseudo code program in java for connecting front end application with the backend database.

## SECTION-D

7) What are java sockets? Discuss the different methods of creating connection and connectionless sockets in java with the help of suitable program.

8) What are servlets? Discuss Servlet life cycle along with compilation and deployment of servlet with the help of a simple program.

## SECTION-E

9) What are advantages of Java programming over C++?

10) What is byte code?

11) Give one example of type casting in java.

12) Define Runnable Interface.

13) What are characteristics of static members in java?

14) Define Generic Servlet.

15) Why do we use JSP?

16) Which function is used for rotation transformation in JAVA?

17) Define Event Handling.

18) Which tag in HTML is used to pass the parameters in applet?

**NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student**.