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# **MCA-16/MSC (IT)-13**

## Programming in Java

Master of Computer Application/
Master of Science in information Technology
(MCA/MSc.IT-11/12/16/17)
Examination 2021 (Winter)

Time: 2 Hours Max. Marks:80

Note: This paper is of eighty (80) marks divided into two (02) Sections A and B. Attempt the questions contained in these sections according to the detailed instructions given therein.

#### Section-A

(Long Answer-type questions)

Note: Section 'A' contains Five (05) long-answer-type questions of Twenty (20) marks each. Learners are required to answer any two (02) questions only.

 $(2 \times 20=40)$ 

Q.1 What do you mean by Operator? Explain various Arithmetic Operators. Explain the Operator Precedence and Associativity.

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- Q.2 What is an exception? Discuss with the help of an example how exceptions can be handled in JAVA.
- Q.3 Explain the following terms: Applet viewer, CSS, Super and final, AWT, Swing.
- Q.4 What is inheritance in JAVA? Explain its types. If we need to extend more than one class, how it works?

  Explain it through example.
- Q.5 What do you understand by layout manager? Explain all the types of layout available in JAVA with the help of example.

#### Section-B

(Short Answer-type questions)

Note: Section 'B' contains Eight (08) short-answer-type questions of Ten (10) marks each. Learners are required to answer any four (04) questions only.

 $(4 \times 10=40)$ 

Q.1 Write a program to illustrate the concept of abstract method and abstract class.

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- Q.2 How is a vector different from array? How can you create vector in JAVA?
- Q.3 Write the following terms with suitable example:
  - (i) Type conversion
- (ii) Wrappers class
- Q.4 Explain the concept of polymorphism using suitable example.
- Q.5 Explain the various features of JAVA with suitable example.
- Q.6 Explain the following terms with suitable example: Abstraction, Encapsulation.
- Q.7 What do you mean by constructor? Differentiate between default constructor and parameterized constructor with example.
- Q.8 Define multithreading in JAVA. What are the two ways to create threads in JAVA? Explain with suitable example.

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