

MCA (Revised) / BCA (Revised)

Term-End Examination

December, 2021

**MCS-024 : OBJECT ORIENTED TECHNOLOGIES AND
JAVA PROGRAMMING**

Time : 3 hours

Maximum Marks : 100

(Weightage : 75%)

Note : *Question no. 1 is compulsory. Answer any three questions from the rest.*

1. (a) Compare data abstraction and data hiding.
Give an example of each. 5
- (b) Compare Inheritance and Polymorphism.
Give an example of each. 5
- (c) Why is Java called machine independent
and architecture neutral ? What is the role
of JVM (Java Virtual Machine) ? 5
- (d) Write a JAVA program to find the factorial
of a given number. Define appropriate class
and methods. 5

- (e) What is an exception ? Write any three actions that can be taken after an exception occurs in a program. 5
- (f) What are threads ? Explain how threads are created by implementing Runnable Interface. 5
- (g) What is serialization ? Differentiate between Transient and Volatile keyword. 5
- (h) Discuss the architecture of Applet, with the help of a suitable block diagram. 5
2. (a) Briefly discuss the methods used by Applet during their life cycle. 5
- (b) What are proxy servers ? When should you use anonymous proxy servers ? 5
- (c) What is RMI ? Which protocol does it use ? Discuss the security problem in RMI. 5
- (d) What is session tracking ? Discuss the role of cookies in session tracking. 5
3. (a) What is Java Bean ? Briefly discuss the features of Java Beans. How does Java Bean differ from an instance of a normal Java class ? 6
- (b) Explain method overloading and method overriding. Give suitable example for each. 8
- (c) What is Synchronization ? Why is it important ? Explain the use of synchronized method in multithreading. 6

4. (a) What is the difference between & operator and the && operator ? Give suitable example for each. 5
- (b) What is a constructor ? Explain the use of constructor with the help of a program. 5
- (c) What is finalize() method ? Write the properties of finalize() method. Write the declaration statement for finalize() method. 5
- (d) Compare checked exceptions with unchecked exceptions. Give an example for each. 5
5. Write short notes on the following : $4 \times 5 = 20$
- (a) Methods Used for Interthread Communication
- (b) Object Serialization and its Working
- (c) Package in Java
- (d) AWT and Swing
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