

**JAVA PROGRAMMING**  
(Common to CSE and IT)

Time: 3 hours

Max. Marks: 70

**PART – A**  
(Compulsory Question)

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- 1 Answer the following: (10 X 02 = 20 Marks)
- (a) What is the role of JVM?
  - (b) Compare and contrast equals ( ) versus = .
  - (c) Discuss garbage collection.
  - (d) Demonstrate the usage of super keyword.
  - (e) Explain throws clause.
  - (f) Discuss Byte Array Output Stream.
  - (g) Explicate the life cycle of a thread.
  - (h) Why do we need cookies?
  - (i) Discuss components and containers of swings.
  - (j) What are the two swing key features?

**PART – B**  
(Answer all five units, 5 X 10 = 50 Marks)

**UNIT – I**

- 2 Write a program for matrix multiplication using two dimensional arrays.
- OR**
- 3 (a) Discuss string constructors.  
(b) Differentiate between string and string buffer with an apt example, signifying their usage.

**UNIT – II**

- 4 What is the difference between an abstract class and an interface? What is the use of interface? Write a program in java to illustrate the use of an interface.
- OR**
- 5 Define a package. Why do we need packages? Illustrate with suitable example, class member access with respect to packages.

**UNIT – III**

- 6 Describe the java throwable class hierarchy and the types of exceptions. Can you claim multiple exceptions in a method declaration? Illustrate by means of an example.
- OR**
- 7 (a) What is the difference between the reader and writer classes? Show the stream class hierarchy as defined in java.io.package.  
(b) Discuss the stream benefits.

**UNIT – IV**

- 8 Illustrate with an example, the two ways we can synchronize the code when two or more threads are trying to access it.
- OR**
- 9 Discuss Applet's life cycle methods. Illustrate with an example passing parameters to applets.

**UNIT – V**

- 10 What are swings in java? Write a program in java to illustrate the use of swing controls.
- OR**
- 11 Compare and contrast Java AWT and Java Swing. Give a brief synopsis of methods and their description of component class widely used in swings.