

Date: 14.10.2019

Time : (2 ½ Hours)

Total Marks: 75

- N.B. (1) All questions are compulsory.  
(2) Figures to the right indicate marks for respective sub questions.  
(3) Illustrations, in-depth answers and diagrams will be appreciated.  
(4) Mixing of sub-questions is not allowed.

**Q.1) Attempt All (Each of 5 Marks)**

**(a) Multiple Choice Questions.**

**(5)**

- (i) Static variables are also called as----- .  
(a) Global variables (b) Instance variables  
(c) Local variables (d) Object variables
- (ii) Which of the following class can be used to read characters from a file?  
(a) FileReader (b) InputStreamReader  
(c) FileWriter (d) OutputStreamReader
- (iii) Which of these packages contains all the classes and methods required for event handling in Java?  
(a) java.awt (b) java.util  
(c) java.lang (d) java.awt.event
- (iv) The ArrayList class in java.util package implements ----- interface.  
(a) Java.util.List (b) java.util.Set  
(c) java.util.SortedList (d) java.util.Map
- (v) Which of these keywords is used to manually throw an exception?  
(a) try (b) catch  
(c) throw (d) finally

**(b) Answer in One Sentence**

**(5)**

- (i) What is a use of super keyword?  
(ii) What is the purpose of static key word?  
(iii) What is inner class in Java?  
(iv) Define event.  
(v) Define abstract class.

**(c) Fill in the blanks :**

**(5)**

- (this, ActionEvent,Java Visual Machine,interface, new ,Java Virtual Machine,abstract,class, ItemEvent,)**
- (i) JVM stands for \_\_\_\_\_.  
(ii) \_\_\_\_\_ contains all abstract methods.  
(iii) To create an interface,\_\_\_\_\_ keyword is used.  
(iv) \_\_\_\_\_event is generated when an item from a choice control is selected.  
(v) \_\_\_\_\_ operator is used to allocate memory for an object.

- Q.2)** Attempt **any THREE** of the following. **(15)**
- (i) What do you mean by final variables, final methods, and final classes? Explain it.
  - (ii) Explain different features of Java in detail.
  - (iii) Differentiate between classes and interfaces
  - (iv) What is type casting? Why is it required? How it is achieved in Java?
  - (v) Create a class Box with fields for storing height, width and depth of a box. Write parameterized constructor with three parameters for accepting values of height, width and depth. Add a method Show () for calculating and displaying the volume of the Box. Create a main class that creates object of Box class and invokes its Show() method.
  - (vi) Explain the concept of Dynamic Method Dispatch technique.
- Q.3)** Attempt **any THREE** of the following. **(15)**
- (i) What is thread? Explain the Thread Life Cycle.
  - (ii) Explain five keywords of exception handling in java.
  - (iii) Explain any two byte-stream classes that can be used for reading content from a file.
  - (iv) What is custom exception? Explain with code sample how to create and use custom exceptions.
  - (v) Discuss the importance of java.net.ServerSocket class with its constructors and methods.
  - (vi) Write a TCP client-server program; the client accepts a number from the user and sends it to the server, the server returns the factorial of that number to the client.
- Q. 4** Attempt **any THREE** of the following. **(15)**
- (i) What are anonymous inner classes? Explain with suitable example.
  - (ii) Explain Text Entry components in AWT.
  - (iii) Explain WindowListener interface in detail.
  - (iv) Write a program that displays names of any four operating systems in a list box, and the selected operating system should get displayed in a label.
  - (v) Explain Set interface and any one of its implementation class.
  - (vi) What is a checkbox? How to create and use a checkbox using AWT
- Q 5** Attempt **any THREE** of the following. **(15)**
- (i) Write a program for copying chars from one file to another.
  - (ii) Explain Main Thread with its purpose. Also explain how to operate it?
  - (iii) Explain StringTokenizer class in java.
  - (iv) Explain Thread Class with its methods and constructors.
  - (v) Explain method overloading concept with proper example.

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