

(2½ Hours)

[Total Marks: 75]

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

Q. 1 Attempt All (Each of 5Marks)

(a) Multiple Choice Questions:

- Which of these is supported by method overriding in Java?
 A) Abstraction B) Encapsulation
 C) Polymorphism D) Inheritance
- Which of these have highest precedence?
 A) () B) ++
 C) * D) >>
- Which of these keywords is used to manually throw an exception?
 A) try B) finally
 C) throw D) catch
- Which of these access specifiers can be used for a class so that it's members can be accessed by a different class in the different package?
 A) Public B) Protected
 C) Private D) No Modifier
- Which of these class object can be used to form a dynamic array?
 A) ArrayList B) Map
 C) Vector D) ArrayList & Vector

(b) Fill in the blanks:

(equalsTo(), WindowClosed, Java Virtual Machine, equals(), abstract, final, Java Visual Machine, this, WindowEvent)

- JVM stands for _____.
- _____ method of class String is used to compare two String objects for their equality.
- When we close window _____ events will be generated.
- _____ keyword is used by method to refer to the object that invoked it.
- It is not possible to instantiate the _____ class.

(c) Answer in ONE-TWO sentences:

1. What is a use of throws keyword?
2. What do you mean by operator precedence?
3. State TRUE or FALSE-“void is a default return type of constructor”
4. What is the default value of the local variables?
5. What is constructor?

Q. 2 Attempt the following (Any THREE)

(15M)

- (a) Explain different features of Java in detail.
- (b) Write a java program to reverse the digit of a number. Number is passed using the method.
- (c) What is interface? Explain its significance in java.
- (d) Difference between method Overloading and Overriding.
- (e) What do you mean by final variables, final methods, and final classes? Explain it.
- (f) 'Subclassing an interface'- Explain it with suitable program.

Q. 3 Attempt the following (Any THREE)

(15M)

- (a) Explain the difference between byte stream classes and character stream classes.
- (b) What is thread? Explain the Thread Life Cycle.
- (c) Explain how multiple catch can be used in exception handling mechanism?
- (d) Discuss the importance of network programming.
- (e) Write a program for copying chars from one file to another.
- (f) Discuss various methods of Socket class.

Q. 4 Attempt the following (Any THREE)

(15)

- (a) Write a short note on GridLayout Layout manager.
- (b) What are inner classes? Discuss its types.
- (c) Explain List interface and its classes.
- (d) What is radio button? Discuss its usage in java.
- (e) What is role of map interface? Explain its working with suitable program.
- (f) Design a GUI application that accepts Principle Amount, No. of Years and Rate of Interest from 3 text fields, when you click “Calculate Interest” button, the data is sent to a function that returns the simple interest. When you click on “Final Amount” button, the final amount by adding principle amount and interest should be displayed.

Q. 5 Attempt the following (Any THREE)

(15)

- (a) Describe abstract class called Shape which has three subclasses say Triangle, Rectangle, Circle. Define one method area() in the abstract class and override it in its three subclasses to calculate area for specific object.
 - (b) List and explain the methods used in inter-thread communication.
 - (c) Write a short note on MouseListener interface.
 - (d) Write an application that generates custom exception if any value from its command line arguments is negative.
 - (e) What are the major differences between an interface and a class?
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