

(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:

1. Which of these is supported by method overriding in Java?
 A) Abstraction
 B) Encapsulation
 C) Polymorphism
 D) Inheritance
2. Which of these have highest precedence?
 A) ()
 B) ++
 C) *
 D) >>
3. Which of these keywords is used to manually throw an exception?
 A) try
 B) finally
 C) throw
 D) catch
4. 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
5. 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)

1. JVM stands for _____.
2. _____ method of class String is used to compare two String objects for their equality.
3. When we close window _____ events will be generated.
4. _____ keyword is used by method to refer to the object that invoked it.
5. 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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