

**OBJECT ORIENTED PROGRAMMING
(INFO 2204)**

Time Allotted : 3 hrs

Full Marks : 70

Figures out of the right margin indicate full marks.

*Candidates are required to answer Group A and
any 5 (five) from Group B to E, taking at least one from each group.*

Candidates are required to give answer in their own words as far as practicable.

**Group - A
(Multiple Choice Type Questions)**

1. Choose the correct alternative for the following: **10 × 1 = 10**
- (i) Which of the following is not a class associated with Java Exception Handling?
 (a) Throwable (b) Error
 (c) Exception (d) Throw.
- (ii) What is an example of polymorphism?
 (a) Method overloading (b) Method overriding
 (c) Interface (d) None of the above.
- (iii) Inside a method, 'this' keyword refers to
 (a) the caller object which is presently calling the method
 (b) the variables sent to the method
 (c) the class that contains the method
 (d) the method itself.
- (iv) Which is a valid declaration in JAVA?
 (a) int a=new int(10) (b) int a[]=new int[10]
 (c) int a[]=new int(10) (d) none of the above.
- (v) Import statement can be written
 (a) as first statement in the program
 (b) anywhere in the program
 (c) both (a) and (b)
 (d) none of the above.
- (vi) If an user tries to write Java program and executes it on a computer, then that computer should have
 (a) only JRE (b) JRE and JVM both
 (c) only JDK (d) both JDK and JRE.

- (vii) Java Applet can run on
 (a) Web Browser (b) AppletViewer
 (c) Both are true (d) None of the above.
- (viii) All classes created in Java have to implement _____ method which executes a thread.
 (a) suspend (b) notify
 (c) run (d) isAlive.
- (ix) What is the full phrase of AWT?
 (a) Absolute Window Toolkit
 (b) Abstract Window Toolkit
 (c) Absolute Window Tools
 (d) Abstract Window Tools.
- (x) Under what situation default constructor is used?
 (a) If there is constructor overloading
 (b) If no constructor is defined
 (c) If there is only one constructor
 (d) None of the above.

Group - B

2. (a) "Aggregation is a special type of Association"-Justify your answer. Explain Generalization.
 (b) What are the relative advantages and disadvantages of OOP over procedural programming language? Describe the concept of Multiple Inheritance with example (Java code not required).
(3 + 3) + (4 + 2) = 12
3. (a) What do you mean by Link and Association? Explain their differences. What is meta class?
 (b) Describe different types of inheritance with example and proper diagram. What do you mean by state, behaviour and identity of a class?
(2 + 2 + 2) + (3 + 3) = 12

Group - C

4. (a) Write a program to show how objects can be passed as parameter. Declare a class vehicle. From this class derive two_wheeler, three_wheeler and four_wheeler class. Display properties of each type of vehicle using member methods of the class.

- (b) Differentiate between abstract class and interface with an example. How does dynamic method dispatch supports run time polymorphism?

(3 + 3) + (3 + 3) = 12

5. (a) Discuss different types of access protection in package with example.
- (b) "Java is a platform independent language" – Justify this statement. What is method overloading? How is a user benefitted using method overloading?

6 + (3 + 3) = 12

Group – D

6. (a) Distinguish between (i) FileInputStream and FileReader (ii) FileOutputStream and FileWriter.
- (b) Write a program in Java which will copy the content of one file to another file. Take filename as user input.

(3 + 3) + 6 = 12

7. (a) What is wrapper class? Explain with example. Explain the use of finally block with example.
- (b) What is the use of BufferedReader? State the differences between String and Stream in Java. Explain the statement Integer.parseInt.

(3 + 3) + (2 + 2 + 2) = 12

Group – E

8. (a) Draw and explain Thread life cycle. What are the different procedures to create a child thread?
- (b) Write a program to
- (i) Print the name, priority, and Thread group of the thread.
 - (ii) Change the name of the current thread to "MyThread".
 - (iii) Display the details of current thread.

(4 + 2) + 6 = 12

9. (a) Draw and describe Applet Life cycle. Can init() method be called more than once? Justify your answer.
- (b) Write an applet program which will take two numbers in text box and will display the summation result in third text box.

(4 + 2) + 6 = 12