



Gumball

Avinashilingam Institute for Home Science and Higher Education for Women
(Deemed to be University Estd. u/s 3 of UGC Act 1956, Category 'A' by MHRD)
Re-accredited with 'A++' Grade by NAAC. Recognised by UGC Under Section 12B
Coimbatore - 641 043, Tamil Nadu, India
Bachelor's Degree Examination – November 2024
III Semester

Class: II UG
Major: Computer Applications

Time: 3 Hours
Max. Marks: 100

23BCAC06 Programming in Java

Course Outcomes:

- CO1:** Understand the concepts of OOP, Java features, types, control structures and arrays.
CO2: Identify classes, objects, members of a class and relationship among them to solve a specific problem.
CO3: Learned the implementation of packages to solve the complex problems and applying exception handling mechanisms.
CO4: Learned the various methods in string and string buffer class.
CO5: Knows how to develop the client side programming using Applet and AWT.

Part A

10 x 1 = 10

Choose the Correct Answer

1. Which of the following is a characteristic of the Java Virtual Machine (JVM)? CO1 K1
a. Compiles Java code b. Executes C++ programs
c. Converts bytecode to machine code d. Converts machine code to bytecode
2. Which operator is used to concatenate strings in Java? CO1 K2
a. + b. &
c. % d. \$
3. Which method is used to convert a string into a character array? CO2 K1
a. getChars() b. split()
c. charAt() d. toCharArray()
4. What is the main advantage of using the String Buffer class over String in Java? CO2 K2
a. Faster execution b. Mutability
c. Immutability d. Portability
5. What is the main advantage of using method overriding in Java? CO3 K1
a. Faster execution b. Code reusability
c. Dynamic polymorphism d. Compile-time checking
6. Which method in Java is called when an object is garbage collected? CO3 K2
a. finalize b. destroy()
c. destructor() d. finalize()
7. What is the default access level for members of an interface in Java? CO4 K1
a. private b. public
c. protected d. default
8. Which statement is used to include a package in a Java program? CO4 K2
a. include b. using
c. import d. package
9. Which block is always executed, regardless of whether an exception is thrown? CO5 K1
a. finally b. throw
c. catch d. try
10. Which lifecycle method of an applet is called only once? CO5 K2
a. start() b. init()
c. stop() d. destroy()

Part B

5 x 6 = 30

Answer ALL questions

Each answer should not exceed 400 words or two pages

- 11.a. Explain the concept of constants and variables in Java. CO1 K2
(or)
- 11.b. Write a Java program to demonstrate the use of control statements (if-else, switch-case). CO1 K3
- 12.a. Describe the usage of a class and an object in Java. CO2 K4
(or)
- 12.b. How can you convert a primitive data type into its corresponding wrapper class? CO2 K3
- 13.a. Demonstrate the method overriding. CO3 K2
(or)
- 13.b. Describe how visibility control is achieved using access modifiers. CO3 K4
- 14.a. Summarize how an interface is implemented in Java. CO4 K2
(or)
- 14.b. Discuss the role of the import statement in Java with examples. CO4 K3
- 15.a. Write a program on user- defined exceptions in Java. CO5 K4
(or)
- 15.b. How does event handling work in Java applets? Provide an example. CO5 K2

Part C

5 x 12 = 60

Answer ALL questions

Each answer should not exceed 800 words or four pages

- 16.a. Discuss evolution of Java from its inception to its current version. CO1 K6
(or)
- 16.b. Explain the various data types available in Java with example. CO1 K4
- 17.a. Examine the process of creating and using objects in Java, including constructors and method calls. CO2 K5
(or)
- 17.b. Analyze the concept of static members in Java and their impact on memory management and performance. CO2 K4
- 18.a. Illustrate the different types of inheritance supported by java in detail. CO3 K5
(or)
- 18.b. Write a Java program to illustrate the use of final variables, methods and explain their purpose and restrictions. CO3 K4
- 19.a. Discuss the process of creating and extending interfaces in Java. CO4 K5
(or)
- 19.b. Develop a Java program that demonstrates package hierarchy, including the creation of sub-packages and the use of classes across different packages. CO4 K6
- 20.a. Analyze the process of exception handling in Java, including try-catch, throw, throws in detail. CO5 K4
(or)
- 20.b. Write an applet program to receive three numeric values as input from the user and displays the largest of the three on the screen. CO5 K6