USN

15CS561

Fifth Semester B.E. Degree Examination, Jan./Feb. 2021
Programming in JAVA

Time: 3 hrs.

Max. Marks: 80

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

1   a. List out the four main differences between Procedure Oriented and Object Oriented Programming. **(04 Marks)**

   b. Explain the following object oriented concepts:
       (i) Polymorphism (ii) Encapsulation (iii) Inheritance **(06 Marks)**

   c. Explain type conversion in JAVA. Write the output of the following statement:
       (i) byte b = 50;
           b = b * 2
       (ii) char chl = 'x'
            chl ++; **(06 Marks)**

OR

2   a. Is JAVA a strongly types language? Justify your answer. **(04 Marks)**

   b. Mention the different integer types supported by JAVA with their memory requirement. Explain how decimal, octal and hexadecimal literal can be initialized. **(06 Marks)**

   c. With proper declaration, explain different types of arrays. Write a simple JAVA program to print 4×5 matrix. **(06 Marks)**

Module-2

3   a. Explain the following operators with example:
       (i) % = (ii) >> (iii) >>> (iv) ? **(08 Marks)**

   b. Explain the difference between the following:
       (i) Logical AND and short circuit AND
       (ii) Forloop and ForEach loop, with suitable examples. **(08 Marks)**

OR

4   a. With suitable example, explain the following jump statements: (i) continue (ii) break. Provide proper output interpretation. **(08 Marks)**

   b. Explain all bitwise logical operators. Consider a = 3 and b = 6. Apply Bitwise logical operators on these operands and print suitable results. **(08 Marks)**

Module-3

5   a. Differentiate between method overloading and overriding. Create a class called Vehicle and a class called Car which extends Vehicle. Illustrate overloading and overriding using the relationship between the classes. **(08 Marks)**

   b. Explain the following keywords: (i) this (ii) super (iii) final (iv) static **(08 Marks)**

OR

6   a. Write a simple program to depict class C extends class B, class B extends class A and explain how constructors are called if an object for class C is created. **(06 Marks)**

   b. Explain the different Access Specifiers supported in Java. **(04 Marks)**

   c. Illustrate dynamic method dispatch. With an example and show how is it achieved? **(06 Marks)**

Module-4

7 a. Design an Interface called Polygon with a method called area. Implement this Interface to create different classes like Square, Rectangle and print the area of Square and Rectangle.
(08 Marks)

   b. Define exception. Write a simple program to generate arithmetic exception and print the description of exception through the program. (04 Marks)

   c. Write a simple program to create a package and import the package to make use of a class declared in the package. (04 Marks)

OR

8 a. What is an Abstract class? Illustrate how can we make use of abstract class and concrete methods written in an abstract class with an example. (08 Marks)

   b. Explain how throw, throws and finally keywords are used with respect to exception. Write a simple program to generate chained exception using throw. (08 Marks)

Module-5

9 a. Explain enumeration and type wrappers with its usage. (04 Marks)

   b. What is an Applet? Write a simple Applet program to print the message "My Simple Applet" with suitable steps to execute on Applet. (08 Marks)

   c. Explain different streams supported to perform input output. (04 Marks)

OR

10 a. Depict the usefulness of static import with the help of a program. Is it advantageous to always make use of static import? Explain. (06 Marks)

   b. Illustrate the invoking of overloaded constructors through this ( ) with a simple example.
(04 Marks)

   c. Explain the difference between String and StringBuffer class. With proper syntax, explain the following methods:
   (i) Method to extract particular character of a string
   (ii) Reverse a string. (06 Marks)

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