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CSE 181404

07/07/23

Roll No. of candidate

2023

B.Tech. 4th Semester End-Term Examination

Computer Science and Engineering

JAVA PROGRAMMING

New Regulation (w.e.f. 2017-18) & New Syllabus (w.e.f. 2018-19)

Full Marks – 70   Time – Three hours

The figures in the margin indicate full marks for the questions.

Answer Question No. 1 and any *four* from the rest.

1. Answer the following : $(10 \times 1 = 10)$

    (i)   The variable declared in a class for the use of all the member methods are called

        (a) Reference variable   (b) Object

        (c) Instance variable   (d) None of these

    (ii)   Which modifier cannot be used with constructors in java?

        (a) Private

        (b) Static

        (c) Protected

        (d) Public

    (iii) The implicit return type of a constructor is

        (a) Void

        (b) A class object in which it is defined

        (c) No return type

        (d) None of these

[Turn over

(iv) What will be the value of "x" after execution of the following program segment?

int $x = 0$, $y = 0$, $z = 0$;

$x = (++x + y--) * z++;$

(a) -2 (b) -1

(c)   0   (d)   2

(v)   Which of the following cannot be used as variable name in java?

(a)   Identifier and keyword   (b)   Keyword

(c)   Identifier   (d)   None of these

(vi)   Which of the following keywords is used for the block to be examined for exception?

(a)   Check   (b)   Catch

(c)   Throw   (d)   Try

(vii)   Which of the methods of thread class is used to find out the priority given to a thread?

(a)   get()   (b)   getThreadPriority()

(c)   getPriority()   (d)   threadPriority()

(viii) Bytecode in Java is

(a)   Code generated by java compiler

(b)   Code generated by java virtual machine

(c)   Name of java source code file

(d)   Block of code written inside a class

(ix)   Which of the following methods of String class is used to remove leading and trailing white spaces of a string in java?

(a)   Trim()   (b)   Do Trim()

(c)   start Trim()   (d)   trim()

(x)   Which type of casting is lossy in java?

(a)   Widening casting   (b)   Narrowing casting

(c)   Manual casting   (d)   All of these

2.   (a)   List out and explain briefly about the various important Object-oriented features exhibited by java.   (10)

(b)   Java is called Machine Independent language. Justify your answer briefly.

(5)

3. (a) What is an interface? How it is different from a class? Write a java program to create an interface to calculate the volume of a shape and implement it with a suitable example in java. (2+3+4=9)

(b) Write program to demonstrate the use of various types of constructors in java. (6)

4. (a) What is an applet? What are the different stages in the life cycle of an Applet? Discuss briefly. (2+3+4=9)

(b) Differentiate between: (2×3=6)

   (i) Method overloading Vs. Method Overriding

   (ii) Application Vs. Applet.

5. (a) What is an exception? What are the different types of exceptions? Discuss briefly about how exceptions are handled in Java. (2+2+4=8)

(b) Define thread. Explain briefly about the different states of the life cycle of a thread with the state transition diagram. (2+3+2=7)

6. (a) Write a simple program in Java where a Client Program requests the Server to find the quare root of an integer which will be supplied by the client program. (8)

(b) Discuss briefly about the differences between AWT and Swings. Also, explain about the Border Layout Manager with an example program. (3+4=7)

7. (a) Write a program to create a simple form using Awt and Swing components to enter the details of customers to a supermarket database and display the information when required using button clicks. (7)

(b) Write a java program using JDBC to store the records of employees of an office with the following operations: (8)

   (i) Insert

   (ii) Delete

   (iii) Update and

   (iv) Search.