17CS561

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Fifth Semester B.E. Degree Examination, Aug./Sept.2020
Programming in Java

Time: 3 hrs.   Max. Marks: 100

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

Module-1

1   a. With a simple Java program explain the steps involved in compiling and running a Java program. **(04 Marks)**
    b. List and explain the primitive data types of Java. **(10 Marks)**
    c. Explain scope and lifetime of variables with the help of a Java program. **(06 Marks)**

OR

2   a. Explain widening and narrowing conversion with an example. **(05 Marks)**
    b. What is an array? How do you declare and initialize two dimensional arrays in Java? **(05 Marks)**
    c. Write Java programs using arrays to display the following :

      (i)   0   1   2   3   4   (ii)   0
           5   6   7   8   9   1   2
          10   11   12   13   14   3   4   5
          15   16   17   18   19   6   7   8   9

                                                (10 Marks)

Module-2

3   a. Explain the following operators:

      (i) $\ll$ (ii) $\gg$ (iii) $\ggg$ (iv) &&   **(08 Marks)**

    b. Explain ternary operator with syntax. Write a Java program to find the largest of three numbers using ternary operator. **(08 Marks)**
    c. Evaluate :

      (i) $(5 \gg 2) + 3$ (ii) $5 \mid 4 + 2 \gg 1 \& 7$ **(04 Marks)**

OR

4   a. Explain for each version of for loop. Write a Java program to find the sum of 1, 2, 3, 4, 5 using for each loop. **(06 Marks)**
    b. Write a Java program to display prime numbers between 1 and 100. **(08 Marks)**
    c. Write a Java program to display the days of a week as per the valid selection using switch statement. **(06 Marks)**

Module-3

5   a. What is constructor? Write a Java program to describe the types of constructor. **(06 Marks)**
    b. Explain inheritance with the help of a Java program. **(06 Marks)**
    c. Explain method overloading and method overriding with the help of Java programs. **(08 Marks)**

OR

6   a. Write a Java program to find the factorial of a number using recursion. **(06 Marks)**
    b. Mention and explain the uses of the keyword final with the help Java programs. **(08 Marks)**
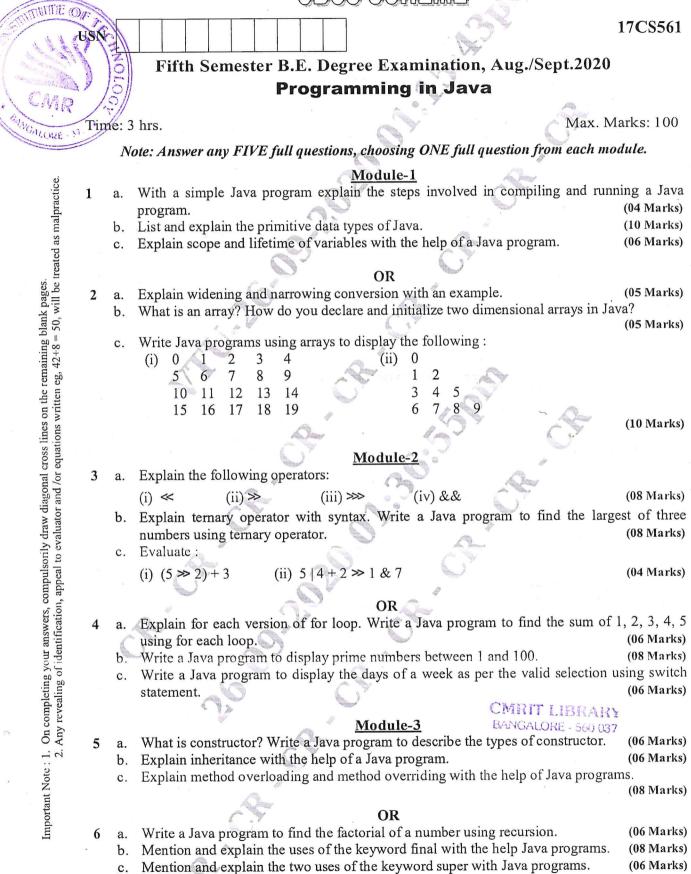   c. Mention and explain the two uses of the keyword super with Java programs. **(06 Marks)**

Module-4

7 a. Define package. Describe the various levels of access protection for packages and their implication. **(06 Marks)**

b. What is interface? Explain how to define, implement and assign variable in interface. **(08 Marks)**

c. Explain how to create user defined exceptions with the help of a Java program. **(06 Marks)**

OR

8 a. Explain the role of interface in implementing multiple inheritance in Java. **(08 Marks)**

b. Define Exception. Explain how Java exception handling is managed by the five keywords with the help of Java programs. **(12 Marks)**

Module-5

9 a. What is enum? Write a Java program to demonstrate values( ) and valueOf( ) methods. **(06 Marks)**

b. Write a Java program to sort string elements using bubble sort. **(08 Marks)**

c. Explain the following with syntax:
   (i) charAt( )
   (ii) toCharArray( )
   (iii) concat( ) **(06 Marks)**

OR

10 a. What is an Applet? Write a Java program to create a simple Applet and explain the two ways in which you can run an Applet. **(10 Marks)**

b. Write a Java program to copy a file called FIRST.TXT to a file called SECOND.TXT. Use the following command line
   java CopyFile FIRST.TXT SECOND.TXT **(10 Marks)**

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