18CS45

Fourth Semester B.E. Degree Examination, Jan./Feb. 2021
Object Oriented Concepts

Time: 3 hrs.   Max. Marks: 100

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

Module-1

1   a. List the differences between procedure oriented programming and object oriented programming. **(05 Marks)**
    b. Explain how one can bridge two classes using friend function. Write a C++ program to find sum of two numbers in two different class using friend function add( ). **(08 Marks)**
    c. Write a C++ program to demonstrate default arguments and explain its merits compared to function overloading. **(07 Marks)**

OR

2   a. Define a class. Explain the syntax of class declaration in C++ with suitable example. **(07 Marks)**
    b. Implement a C++ program to find area of rectangle (Area = base $*$ height), area of circle (Area = $\pi * r^2$) and area of triangle (Area = 1/2 $*$ base $*$ height) using function overloading concept. Call these function from main( ) with suitable inputs. **(07 Marks)**
    c. With an example program, explain the use of constant member function and mutable data member. **(06 Marks)**

Module-2

3   a. Can you overload constructor and destructor? Justify your answer with suitable example. **(07 Marks)**
    b. Implement a C++ program to create a class called 'Employee' which contains 'name', 'designation', 'empid' and 'basicSalary' as data members and read( ) and write( ) member functions. Using this class, read and write five employee information from main( ) method. **(07 Marks)**
    c. List and explain Java buzzwords. **(06 Marks)**

OR

4   a. Explain namespace in C++ with suitable example. How do name space help in preventing pollution of global name space? **(06 Marks)**
    b. Write a Java program to read n elements using array and a key elements to search. Perform linear search operation using 'for each' statement and print suitable message for successful and unsuccessful search. **(06 Marks)**
    c. Write a note on:
        i)   Type casting
        ii)   Short circuit operator
        iii) >> and >>> **(08 Marks)**

Module-3

5   a. Define inheritance. List and explain different types of inheritance available in Java. **(07 Marks)**
    b. Distinguish between over loading and method overriding in Java with example. **(06 Marks)**
    c. Write a Java program to implement a stack operation that holds 5 integer elements. **(07 Marks)**

OR

6   a. Define exception. Explain exception handling in Java with example program. **(06 Marks)**
    b. Discuss following terms with suitable example: i) this   ii) super. **(06 Marks)**
    c. Explain dynamic method dispatch in Java with example program. **(08 Marks)**

Module-4

7   a. Define a package. Explain how to create user defined package with example. **(05 Marks)**
    b. Write a Java program to create two threads, one thread displays "VTU" and other thread displays "Belagavi" on the screen continuously. **(07 Marks)**
    c. Illustrate with an example the use of isAlive( ) and join( ) method. **(08 Marks)**

OR

8   a. Define a thread. List out the differences between multiprocess and multithread concepts. **(05 Marks)**
    b. Write a Java program to implement Producer-Consumer problem using thread. **(10 Marks)**
    c. Discuss the different use of synchronization in Java with example. **(05 Marks)**

Module-5

9   a. Explain delegation event model in Java. **(06 Marks)**
    b. Write a Java program to handle mouse event. **(07 Marks)**
    c. Create a swing applet that has two buttons named as "CSE" and "ISE". When either of the button is pressed, it should display "CSE" is pressed" and "ISE is pressed" respectively. **(07 Marks)**

OR

10 a. Explain briefly the components and containers used in swings. **(06 Marks)**
    b. Write a swing program to create a table with column heading as StudentName, USN, Address and insert 5 records into the table and display on screen. **(10 Marks)**
    c. Explain KeyEvent class. **(04 Marks)**

* * * * *