CBCS SCHEME

USN | | | | | | | | | | |

15CS45

Fourth Semester B.E. Degree Examination, Aug./Sept.2020
Object Oriented Concepts

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 differences between object oriented programming and procedure oriented programming. **(06 Marks)**

b. Explain the following with example :
i) Console I/O
ii) Reference variable
iii) Function prototyping. **(04 Marks)**

c. Write a C++ program with class student with data members : name, usn, marks, perc and member functions : readDetails( ), printDetails( ), calcPercentage( ) and read 50 student details and print all details. **(06 Marks)**

OR

2 a. Compare C and C++ and list the differences. **(04 Marks)**

b. Write a C++ program to overload a function volume( ) to calculate volume of a box, cylinder and cube. **(06 Marks)**

c. Define a class A with data members : int a, float b and int *ptr. Define a constructor to initialize a, b and ptr to point to a dynamically allocated variable and define a destructor to deallocate the dynamically allocated variable and deinitialize a, b and ptr. **(06 Marks)**

Module-2

3 a. Explain the java buzzwords. **(06 Marks)**

b. Explain declaration and initialization of one dimensional and two dimensional arrays in java with examples. **(04 Marks)**

c. Write a java program with a class employee with data members : name, id, basic and net. And methods : read( ) calcnet( ) – to calculate net salary and print details( ). **(06 Marks)**

OR

4 a. Explain data abstraction and the pillars of OOP. **(06 Marks)**

b. Write a java program to print all prime number from 2 to 100. **(06 Marks)**

c. Write for each loop to calculate sum of 10 integers and print. **(04 Marks)**

Module-3

5 a. Explain the following with an example :
i) Use of "this" keyword in java
ii) finalize( ) method. **(04 Marks)**

b. With example explain two uses of "super" keyword. **(06 Marks)**

c. Explain how to define a package and import a package in to a program. **(06 Marks)**

OR

6 a. Define a class box with data members : width, height and length and define three overloaded constructions to :
   i) Pass values for all 3 members
   ii) Initialize all members to – 1
   iii) Assign same value to all three. **(06 Marks)**

b. Illustrate order of calling the constructors in a multilevel inheritance hierarchy. **(04 Marks)**

c. Explain the exception handling keywords in java with example. **(06 Marks)**

Module-4

7 a. With an example explain how to create a new thread using runnable interface. **(06 Marks)**

b. Explain hour one thread can wait for another thread to finish using is Alive( ) and join( ) methods. **(04 Marks)**

c. Explain the MouseListener and WindowListener interfaces with methods and their prototype. **(06 Marks)**

OR

8 a. With an example explain how to create a new thread using thread class. **(06 Marks)**

b. Write a program for producer – consumer problem using wait( ), notify( ) and notifyall( ) methods. **(06 Marks)**

c. Write a program to handle any three keyboard events. **(04 Marks)**

Module-5

9 a. Explain the methods and their use of the Applet class. **(04 Marks)**

b. Write an Applet program to display font name and font size by passing parameters to an Applet. **(06 Marks)**

c. Create a swing Applet with two buttons "OK" and "EXIT" and display a message which button is pressed. **(06 Marks)**

OR

10 a. Explain the Applet tags with example. **(04 Marks)**

b. Write an Applet program to create a Banner Applet that displays "Java makes the web move!". **(06 Marks)**

c. Explain the usage of JLabel, ImageIcon and JButton swing components. **(06 Marks)**

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