CBCS SCHEME

USN ☐☐☐☐☐☐☐☐☐☐

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)

* * * * *