

GBCS SCHEME



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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)



15CS45

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 how 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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