CBCS SCHEME

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15EC562

Fifth Semester B.E. Degree Examination, Dec.2019/Jan.2020
Object Oriented Programming Using C++

Time: 3 hrs. Max. Marks: 80

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

Module-1

1 a. Explain the structure of C++ program. List the applications of C++. **(08 Marks)**

b. How dynamic memory allocation and freeing the memory performed with the help of new and delete operators? Explain with suitable examples. **(08 Marks)**

OR

2 a. What is reference variable in C++? Explain with suitable program. **(06 Marks)**

b. Describe, with examples, the uses of enumeration data types and also mention differences in the implementation of enum data type in ANSI C and C++. **(06 Marks)**

c. Explain selection control structure statements of C++. **(04 Marks)**

Module-2

3 a. Define recursion? Write a C++ program to calculate factorial of a given number using recursive function. **(06 Marks)**

b. What are the parameter techniques supported by C++? Explain the call by reference with reference arguments with swaping of two integer program. **(05 Marks)**

c. What is a class? Explain the class specification with an example. **(05 Marks)**

OR

4 a. What is an object? List the salient features of an object. **(03 Marks)**

b. What are access specifiers? How many access specifiers are used in C++? Explain with examples. **(06 Marks)**

c. What is a friend function? What are the characteristics of friend function, explain with an example program. **(07 Marks)**

Module-3

5 a. Define constructor? What are the characteristics of constructor, explain with an example program. **(08 Marks)**

b. What is operator overloading? What are the steps involving in operator overloading, write a C++ program to add two complex numbers by overloading '+' operator. **(08 Marks)**

OR

6 a. Define destructor? What are the characteristics of destructors? Explain with an example program. **(07 Marks)**

b. Mention the operators that cannot overloaded in C++. **(02 Marks)**

c. Explain the overloading of unary operators with an example program. **(07 Marks)**

Module-4

7 a. What is inheritance? Explain the different types of inheritance and syntax of defining derived classes. **(07 Marks)**

b. What is virtual function? What are the rules for virtual functions? **(05 Marks)**

c. Define pure virtual function. Explain the pure virtual function with an example program. **(04 Marks)**

OR

8 a. Explain the single inheritance with an example program. **(08 Marks)**

b. Explain the concept of polymorphism is incorporated in C++, explain with an example. **(08 Marks)**

Module-5

9 a. What is Stream? List and explain the classes used for console I/O stream operations. **(05 Marks)**

b. Explain the ios class functions and flags used for formatting output. **(05 Marks)**

c. Write a program in C++ to copy content of one file into another file until end of file is reached display the copied content on the output screen. **(06 Marks)**

OR

10 a. Describe the various clsses available for file operations. **(06 Marks)**

b. Explain how while (fin) statement detects the end of a file that is connected to fin stream. **(03 Marks)**

c. Explain opening a file with constructor function and opening a file with open ( ) function with suitable examples. **(07 Marks)**

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