



Fifth Semester B.E. Degree Examination, July/August 2021
Object Oriented Programming Using C++

Time: 3 hrs.

Max. Marks: 80

Note: Answer any FIVE full questions.

1. a. Explain the structure of C++ program. Write a C++ program to find area of circle. (05 Marks)
b. With neat diagrams explain insertion (<<) and Extraction (>>) operators present in C++. (05 Marks)
c. List out various operators present in C++ and explain the below operators with example:
i) Scope Resolution Operator (::) ii) endl iii) setw. (06 Marks)
2. a. List out different datatypes used in C++ and explain user defined datatypes present in C++. (06 Marks)
b. Explain conditional branching statements with their syntax and examples. (05 Marks)
c. Explain looping statement with their syntax and examples. (05 Marks)
3. a. What is inline function? List out the characteristics of inline function and give an example. (05 Marks)
b. Define function overloading? Write a program to demonstrate function overloading. (05 Marks)
c. What is class? Explain creation of class and objects to find factorial of a given number. (06 Marks)
4. a. Write a C++ program to read two marks, Name, roll_no of 'n' students and find average of 2 marks of all 'n' students and display the avg_marks, Name and roll_no of all 'n' students. Using class and object array of objects. (06 Marks)
b. Define Friend Function. Write a C++ program to swap 2 numbers. One is present in XYZ class and another number is present in ABC class. Consider a Friend Function to swap the numbers. (04 Marks)
c. Explain pointers to members with examples. (06 Marks)
5. a. Define constructor. List out characteristics of constructor give an example. (05 Marks)
b. Explain copy constructor with example. (05 Marks)
c. Define operator overloading. Write a C++ program to overload Binary '+' operator to add two complex numbers. (06 Marks)
6. a. What is operator over loading? Explain overloading of unary operator with an example. (05 Marks)
b. Define Destructor. Explain the use of Destructor with example. (05 Marks)
c. Write a C++ program to illustrate overloading of insertion (<<) and Extraction (>>) operator to perform Read and Write operations. (06 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

- 7 a. What is Inheritance? Explain various types of inheritance. How inheritance is done using multiple base classes? Demonstrate. (10 Marks)
b. Explain the use of "this" pointer with example. (04 Marks)
c. Define base class and derived class. (02 Marks)
- 8 a. Define Inheritance. Compare and differentiate different types of inheritance. (06 Marks)
b. What is Virtual Function? Explain with an example. (05 Marks)
c. Explain pure virtual Function with example. (05 Marks)
- 9 a. List and explain the classes used for file stream operations. (08 Marks)
b. Explain the working of formatted and unformatted functions used in C++. (08 Marks)
- 10 a. Write a program to copy content of one file into another file until end of file is reached. Display the copied content on the output screen. (08 Marks)
b. How file opening and closing is done? What are the functions required for reading and writing data in a file. Explain in brief EOF. (08 Marks)
