

Total No. of printed pages = 3

**CSE 181302**

Roll No. of candidate

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22/2/22 2021

BINA CHONDIA...  
2021 & ...  
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**B.Tech. 3<sup>rd</sup> Semester End-Term Examination**

**CSE**

**OBJECT ORIENTED PROGRAMMING USING C++**

**(New Regulation & New Syllabus)**

Full Marks – 70

Time – Three hours

The figures in the margin indicate full marks  
for the questions.

Question No. 1 is compulsory and answer any *four* from the rest.

I. Answer the following questions : (10 × 1 = 10)

- (i) #include<userdefined.h>  
Which of the following is the correct syntax to add the header file in the C++ program?
- (a) #include<userdefined>  
(b) #include "userdefined.h"  
(c) <include> "userdefined.h"  
(d) both (a) and (b)
- (ii) Which type of memory is used by an Array in C++ programming language?
- (a) Contiguous (b) None-contiguous  
(c) Both (a) and (b) (d) Not mentioned
- (iii) Features not available in C++ object oriented programming is
- (a) Virtual destructor (b) Virtual constructor  
(c) Virtual function (d) All
- (iv) Features not available in C++ object oriented programming is
- (a) Virtual destructor (b) Virtual constructor  
(c) Virtual function (d) All

[Turn over

- (v) Which of the following is an abstract data type?
- (a) Class (b) Int  
(c) String (d) Double
- (vi) What is default access specifier for data members or member functions declared within a class without any specifier, in C++?
- (a) Private (b) Protected  
(c) Public (d) Depends on Compiler
- (vii) Destructor has a same name as the constructor and it is preceded by?
- (a) ! (b) ?  
(c) ~ (d) \$
- (viii) What is used to read from the console in C++?
- (a) cin (b) scanf  
(c) read (d) getline
- (ix) Which of the following is true?
- (a) All objects of a class share all data members of class  
(b) Objects of a class do not share non-static members. Every object has its own copy  
(c) Objects of a class do not share codes of non-static  
(d) None of these
- (x) Which of the following feature is also known as run-time binding or late binding?
- (a) Dynamic typing (b) Dynamic loading  
(c) Dynamic binding (d) Data hiding
2. (a) What is function overloading? Write a program in C++ to add two integers and two floating point numbers with the help of function overloading. (2+5=7)
- (b) Differentiate between with suitable examples:
- (i) Function overloading and function overriding  
(ii) Static binding and dynamic binding. (2 × 4 = 8)

3. (a) Define a class named 'Bank Account' to represent following members:  
Data members:  
Account Number  
Name of Depositor  
Account Type  
Balance Amount  
Member functions:  
Initialize members  
Deposit Amount  
Withdraw Amount  
Display Balance  
Write a C++ program to test the Bank Account class for 5 customers. (8)
- (b) What is a friend function? Write a program to calculate the sum of two numbers and display the result using friend function. (2+5=7)
4. (a) Write a program in C++ to demonstrate the use of abstract classes. (7)
- (b) What is an interface? Differentiate between class and interface with suitable examples written in C++. (2+6=8)
5. (a) What is an exception? Illustrate how exceptions are handled in C++. (2+5=7)
- (b) What is a design pattern? Explain about the different types of design patterns used in software design. (2+6=8)
6. (a) Explain the use of new and delete operator for memory management with a suitable example in C++. (6)
- (b) Write short notes on (any three):  
(i) Access specifiers  
(ii) Multiple Inheritance  
(iii) Abstract data type (ADT)  
(iv) Virtual function. (3 × 3 = 9)
7. (a) What do you mean by the term generic programming? (2)
- (b) Write a program in C++ to add two numbers using class template. (6)
- (c) What is a stream? Describe briefly the features of I/O system supported by C++. (2+5=7)

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