

CSE 181302

Roll No. of candidate

| | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|
| | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|

22/2/22 2021

BINA CHONDRAJEE CHITRA V. VEDARAJ
2021 & 2022
APRIL 2021
EXAMINER - 2021

B.Tech. 3rd 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)