

Total No. of printed pages = 3

19/5th Sem/DCSE503

2021

ORIENTED PROGRAMMING WITH C++

Full Marks – 100

Time – Three hours

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

Answer any *five* questions.

1. (a) Explain the uses of the following operators with examples : 9

::* , .* , ->*

- (b) Can we use the same function name for a member function of a class and an outside function in the same program file ? If yes, how are they distinguished ? If no, give reasons. 6

- (c) What does the static keyword mean in front of a member variable and a member function ? Explain with examples. 5

[Turn over



2. (a) What is the need of a constructor ? Is it possible to overload the constructor ? Explain with an example. 10
- (b) Write a program to count the number of words in a given string. 10
3. (a) What are the uses of *this* keyword in C++? 10
- (b) What is the difference between member functions defined inside and outside the body of a class ? What are the different mechanisms for protecting data from the external users of a class's object ? 10
4. (a) What is parameter passing ? Explain different parameter passing schemes supported by C++. Give examples. 10
- (b) Write a program in C++ to find the sum of the first N odd numbers using recursion. 10
5. (a) What are the applications of the scope resolution operator (::) in C++ ? Explain with example. 10
- (b) What is encapsulation ? Do friend functions violate encapsulation ? Justify your answer. 10



6. Write short notes on : 4×5=20
- (a) Virtual Base Class
 - (b) Protected Access Specifier
 - (c) Operator Overloading
 - (d) Inline Function.
7. Define a class to store the name, date of birth, an array marks[] which stores marks of five different subjects. Write a method to display the name of the students who have secured less than 40% of aggregate. Make an array of students as illustrated in the above question and write a program to display the details of the student with the given date of birth. 20

