

**322455(22)**

**B. E. (Fourth Semester) Examination, 2020**

**(New Scheme)**

**(Computer Science and Engineering Branch)**

**OBJECT ORIENTED CONCEPTS &  
PROGRAMMING using C++**

***Time Allowed : Three hours***

***Maximum Marks : 80***

***Minimum Pass Marks : 28***

***Note : Attempt all questions. Part (a) of each question is compulsory and carries 2 marks. Attempt any two parts from (b), (c) and (d) which carry 7 marks each.***

**Unit-I**

1. (a) List the basic concepts of object oriented programming. 2

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- (b) Differentiate between object oriented and procedural programming paradigm. 7
- (c) Give the structure of C++ program. Write a program to find prime numbers between 20-50. 7
- (d) Discuss various methods to call the function by giving suitable example. 7

**Unit-II**

- 2. (a) What are the types of classes? 2
- (b) Describe the different operators available in C++. 7
- (c) What is Static Member? Demonstrate the concept with program. 7
- (d) What is friend function? Write its characteristics. 7

**Unit-III**

- 3. (a) What is the this pointer? 2
- (b) What is a Constructor? Explain its working with appropriate program. 7

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- (c) Explain what is dynamic memory management? 7
- (d) What are Pointers? Explain pointer arithmetic. 7

**Unit-IV**

- 4. (a) What is Overloading? 2
- (b) Write a program to demonstrate the conversion between basic data type to class type. 7
- (c) Explain different types of inheritance. Write a program to show any one type. 7
- (d) What is Virtual Base Class? Explain what is object composition and delegation? 7

**Unit-V**

- 5. (a) What are pure virtual function? 2
- (b) What is a file stream? Write a C++ program to read the contents of a file. 7
- (c) What are Exceptions? How does C++ handle exceptions? 7

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(d) What are Templates? Write a program to explain the concept of template. 7