

**U.G. 2nd Semester Examination - 2020****COMPUTER SCIENCE****[HONOURS]****Course Code : CMSH/CCL-203-T****(Programming in C++)**

Full Marks : 60

Time :  $2\frac{1}{2}$  Hours*The figures in the right-hand margin indicate marks.**Candidates are required to give their answers in their own words as far as practicable.***GROUP-A**Answer any **ten** questions from the following: $2 \times 10 = 20$ 

- What are the various Arithmetic Operators in C++?
- What is a Constructor and how is it called?
- What are the differences between new and malloc?
- Explain what are Access specifiers in C++ class. What are the types?
- What is the use of default constructor?
- What are the basic concepts of OOP?

*[Turn over]*

- What is a Storage Class? Mention the Storage Classes in C++.
- What is namespace?
- What is the difference between implicit and explicit conversion?
- What is the difference between a Copy Constructor and an Overloaded Assignment Operator?
- What is the difference between class and structure?
- What are Default Parameters?
- What are the types of tokens?
- What is the difference between private and public class?

**GROUP-B**Answer **any four** questions from the following: $5 \times 4 = 20$ 

- What is inline function? Illustrate with an example. What are the limitations of an inline function?  
 $2+1+2=5$
- What do you mean by function overloading and function binding? Explain about abstract class.  
 $3+2=5$

4. What is the purpose of constructor? Why destructor cannot be overloaded? Illustrate with example.  
2+1+2=5
5. What is inheritance? Mention the advantages of inheritance.  
2+3=5
6. What is Exception handling? What is the usefulness of exception handling?  
2+3=5
7. Write a program in C++ to show the implementation of virtual base class. 5

### GROUP-C

Answer **any two** questions from the following:

$$10 \times 2 = 20$$

8. a) What is the difference between static and dynamic binding? Illustrate with an example.
- b) Write down the differences between object-oriented programming languages and earlier (non-object-oriented) programming languages.  
5+5=10
9. a) What is weak entity type? What will be the schema for representing such entity type in a database table?
- b) Write a program in C++ to modify student record from a student database and display the

record after modification applying file handling.  
2+3+5=10

10. a) Write a program in C++ to pass arguments to the constructor of a base class from the constructor of the derived class.
- b) Write a program in C++ to implement a class called "String" for string manipulation. Overload '+' and '=' operator with constructor, for string concatenation and assignment respectively.  
5+5=10
11. Write short notes on any **two** of the following:  
5×2=10

- a) Encapsulation
- b) Scope resolution.
- c) Types of inheritance
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