SEMESTER EXAMINATION-2021
CLASS –M.SC.III SUBJECT-MATHEMATICS
PAPER CODE: MMA-E301 Programming in C++

Time: 3 hour **Max. Marks: 70**
Min. Pass: 40%

Note: Question Paper is divided into two sections: **A and B.** Attempt both the sections as per given instructions.

SECTION-A (SHORT ANSWER TYPE QUESTIONS)

Instructions: Answer any five questions in about 150 words each. Each question carries six marks. (5 X 6 = 30 Marks)

Question-1: Write a short notes on: (i) Punctuators (ii) Coercion
Question-2: What do you understand by cascading of I/O operators?

Question-3: Write a program in C++ to check the equality of two matrices.

Question-4: Explain the basic program construction in C++.

Question-5: How does OOP overcome the shortcomings of traditional programming approaches?

Question-6: Differentiate between the base and derived classes?
Question-7: Explain the different forms of inheritance.
Question-8: Write a C++ program to concatenate and Compare two strings.

Question-9: What is an operator overloading? Write down the rules for overloading operators.
Question-10: Write a short note on friend function.

SECTION-B (LONG ANSWER TYPE QUESTIONS)

Instructions: Answer any FOUR questions in detail. Each question carries 10 marks. (4 X 10 = 40 Marks)

Question-11: What are data types? Explain the different data types supported by C++.
Question-12: Briefly explain the working of **do-while** loop along with its syntax. Give an example of **do-while** loop to support your answer.

Question-13: Explain the multi-dimensional array in C++ with the help of suitable example.

Question-14: What is inheritance? Write a program in C++ to implement Multipath inheritance.
Question-15: What is object-oriented paradigm? Explain the fundamental features of OOPs.

Question-16: Write a program in C++ to overload '+' operator to add two complex numbers.

Question-17: Write short notes on

(i) Virtual function

(ii) Static function

Question-18: Write a program in C++ to show implicit and explicit use of the this pointer.

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