# H–2208

## M. A./M. Sc. (Final)
## Term End Examination, June-July, 2017

MATHEMATICS

Paper Fourth

**(Programming in C++)**

*Time : Three Hours* ] [ *Maximum Marks : 70*

[ *Minimum Pass Marks : 28*

**Instructions for Candidate :**

**Section–A :** Question Nos. **01** to **08** are very short answer type questions. Attempt all questions. Each question carries 01 mark. Answer each of these questions in 1 or 2 words/1 sentence.

**Section–B :** Question Nos. **09** to **14** are very short answer type questions. Attempt any *four* questions. Each question carries $2\frac{1}{2}$ marks. Answer each of these questions in about 75 words.

**Section–C :** Question Nos. **15** to **18** are short answer type questions. Attempt any *three* questions. Each question carries 05 marks. Answer each of these questions in about 150 words.

**Section–D :** Question Nos. **19** to **22** are half long answer type questions. Attempt any *two* questions. Each question carries **10** marks. Answer each of these questions in about **300** words.

**Section–E :** Question Nos. **23** and **24** are long answer type questions. Attempt any *one* question. Each question carries **17** marks. Answer each of these questions in about **700** words.

**Section—A**

1. What is an inheritance ? (Give only definition).
2. Give some example of relational operators.
3. When "if-else" statement can be used ?
4. What is reference variable ?
5. Give the general syntax for declaring a parameterized constructor.
6. Give the general syntax of overloading arithmetic assignment operator.
7. What are the various types of inheritance ?
8. What are the various types of polymorphism ?

**Section—B**

9. Write a short note on modular programming.
10. What is an integer ? Explain with example.
11. What is the difference between break and continue statements ?
12. When do you make a function to inline ?
13. Explain new and delete operators with suitable examples.
14. What do you mean by granting access ? Explain with example.





**Section—C**

15. What are main C++ tokens ?
16. Write short notes on the following :
    (i) Recursion
    (ii) Command line arguments
    (iii) Storage class specifiers
17. What is this pointer ? Explain use of this pointer in C++.
18. What is Stream ? Explain the various types of streams.

**Section—D**

19. Evaluate the expression :
    $2*((X\%5)*(4 + (Y - 3)))$
    assuming X = 8 and Y = 15.
20. Write difference between call-by reference and call-by value.
21. What is pure virtual function ? Explain advantage and disadvantage of pure virtual function.
22. How do you perform unformatted I/O operations ? Explain.

**Section—E**

23. Write a C++ program to obtain the norm of any matrix. The program should also display proper error messages.
24. Explain the following functions :
    (i) fill( )
    (ii) width( )
    (iii) precision( )
    (iv) setp( )