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SEAT No. :

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M.A./M.Sc.

MATHEMATICS

**MT-606: Object Oriented Programming Using C++
(2008 Pattern) (Semester - II)**

Time : 2 Hours]

[Max. Marks :50

Instructions to the candidates:

- 1) *Question 1 is compulsory.*
- 2) *Attempt any two from questions 2, 3, 4.*
- 3) *Figures to the right indicate full marks.*

Q1) Attempt the following questions.

[20]

- a) Write a short note on function prototype.
- b) What is data encapsulation?
- c) What is use of scope resolution operator?
- d) Write a function to read a matrix of size $m \times n$ from the keyboard using 'for' loop.
- e) Write a function to find GCD of two numbers.
- f) Give example of union in C++.
- g) Write a note on operator "New".
- h) Write a note on function overloading.
- i) What is difference between private and protected members.
- j) Which operators we can not overload?

P.T.O.

- Q2)** a) Define a class rational having two data members numerator and denominator. Overload necessary constructors. And overload operators + and -. Find addition and subtraction of two rational numbers. [10]
- b) Illustrate by example the use of virtual functions. [5]
- Q3)** a) Write a note on compile time polymorphism and run time polymorphism. [10]
- b) Write a note on inline functions. [5]
- Q4)** a) Illustrate by example, use of static member functions. [10]
- b) Write a note on const. member function. [5]

