(Pages : 2) **4694**

Reg. No. : ....

Name : ....

Second Semester M.Sc. Degree Examination, August 2009
Branch : MATHEMATICS
MM 224 : Computer Programming in C ++
(2005 Admn. Onwards)

Time: 3 Hours   Max. Marks: 75

***Instructions** : Answer **all** questions choosing Part **A** or Part **B** from **each** question. **All** questions carry **equal** marks.*

I. A) i) Explain user defined data types in C++ with appropriate examples.   **8**

    ii) Write a program to accept 3 digits (0 – 9) and print all possible combinations from these digits.   **7**

OR

    B) i) What is the difference between fundamental data types and derived data types ? Explain with examples.   **8**

    ii) Write a program to read two numbers and print their quotient and remainder. **7**

II. A) i) What types of expressions can be formed in C++ ? Discuss each one of them with examples.   **8**

    ii) Write a C++ program to input a number. If the number is even, print its square otherwise print its cube.   **7**

OR

    B) i) Discuss console I/O function in detail. Support your answer with example. **8**

    ii) Write a C++ program to read a line of text from the keyboard and display the following information on the screen : i) Number of words ii) Number of characters.   **7**

P.T.O.

4694

III. A) i) Write a program to reverse a string : **8**

    i) Using another array   ii) Without another array

   ii) What is an array ? What is the need for array ? What are different types of array ? **7**

<div align="center">OR</div>

B) i) Write a program to print Fibonacci series. **8**

   ii) What is the purpose of brake statement ? Explain neatly using examples. **7**

IV. A) i) Write a program that uses a function power ( ) to raise a number m to power n. The function takes int value for m and n and returns the result correctly. Use a default value for 2 for n to make the function to calculate squares when this argument is omitted. Write a main ( ) to get the value for m and n from the user and to display the calculated result. **8**

   ii) Comment on passing of array as argument to C++ function. Support your answer taking an example. **7**

<div align="center">OR</div>

B) i) List the steps you would follow before using a function. Answer your question with the help of an example. What is the role of void keyword in declaring the function ? **8**

   ii) Write a C++ program that prints pyramid of digits. **7**

V. A) i) Discuss the similarities and difference between global and local variable in terms of their lifetime and scope. **8**

   ii) How can we use pointers to object of derived class ? Support your answer with an example. **7**

<div align="center">OR</div>

B) i) What does this pointer point to ? What are its applications ? Give example. **8**

   ii) What does polymorphism mean in C++ language ? **7**

_____