Mid-West University
Examinations Management Office
Final Examinations-2079

| Bachelor level/ B.Sc CSIT / 2nd Semester | Full Marks: 60 |
| Time: 3 hours | Pass Marks: 30 |

Subject: Object Oriented Programming (COM423)

Candidates are required to give their answer in their own words as far as practicable. The figures in the margin indicate full marks.

Group A

Long Answer Questions (Any Three) [3x8=24]

1) List the features of object-oriented programming. Define data encapsulation and data abstraction.

   Create a class ComplexNumber with members real and imaginary number fields and constructors to initialize the fields. Include the functions to display fields and to add two complex numbers and returning the result. Write main function to perform associated operations. [2+2+4]

2) What is operator overloading? Write a program to overload < operator using friend function to compare two rooms of given height, length and breadth. [2+6]

3) How do you convert an object of one type to the object of another type? Write a program to convert a time expressed in hours and minutes into time represented as minutes using class to class conversion. [Hint: 2hrs 20 minutes is converted to 140 minutes.]

   [2+6]

4) What are the different types of inheritance? Write a program to illustrate multiple inheritance in C++. [4+4]

Group B

Short Answer Questions (Any Five) [5x4=20]

5) Create a class Box with data members: length, breadth and height and member functions setdata(), showdata() and findVolume(). Use the class to create objects in the main() and access the functions to perform respective tasks.

6) Write a program to display all the prime numbers from 1 to 1000.

7) What is function overloading? Illustrate with an example.

8) What is an exception handling? Illustrate with an example.

9) Write a program to display all the employee records whose age is more than 50 years from employee.txt file. Assume that each record contains name, address, post, salary and age of the employee.

10) Why do you need a function template? Write a program to find larger of two numbers using template. [1+3]

Group C

Very Short Answer Questions [8x2=16]

11) Define an object in object-oriented programming.

12) Create a class to represent a book with necessary attributes.

13) What are new and delete operators? Illustrate with examples.

14) What are different manipulators in C++?

15) Differentiate between private and public mode of inheritance.

16) What is the role of constructor?

17) What is recursion? Write its merits and demerits.

18) Draw a diagram to show I/O stream class hierarchy.

THE END