Mid-West University

Examinations Management Office

Semester End Examination 2080

Bachelor level/ B. Sc. (CSIT)/ II Semester **Full Marks: 60**

Time: 3 hours **Pass Marks: 30**

Subject: Object Oriented Programming (COM423)

Candidates are required to give their answers in their own words as far as practicable. Figures in the margins indicate marks.

Group A

Very short questions (Attempt all the questions). **8 x 2 = 16**

1. What are different manipulators used in C++?
2. Create a class to represent a Shape with two fields dim1 and dim2 and assign data members with a constructor.
3. Define pointer.
4. What are default arguments?
5. What is private mode of inheritance?
6. Write a function to take a number as argument and return the factorial of argument.
7. How is runtime polymorphism achieved in C++?
8. What are input and output streams?

Group B

Short answer questions (Attempt any five questions). **5 x 4 = 20**

9. Create a class Room with data members: length, breadth and height, a constructor to set members and functions to display the data and to display volume of the room. Write main function to create objects and call the functions to perform respective tasks.
10. Write a program to display the largest number from a list of n numbers.
11. Explain method overriding with an example.
12. Define an exception in a code. Write a program that handles array index out of bounds exception.
13. Write a program to store name, address, salary and post of 10 employees in a file emp.txt.
14. What is a function template? Write a program to find maximum of two numbers using function template.

Group C

Long answer questions (Attempt any three questions). **3 x 8 = 24**

15. Differentiate between procedure oriented and object-oriented programming languages. Explain main characteristics of object-oriented programming.

16. List different types of inheritance. Create a class First that has a data member num1 and a constructor to initialize it. Create another class Second that has a data member num2 and a constructor to initialize it. Create a new class Third that inherits the class First and Second and displays the product of num1 and num2. Write main() function to create an object of class Third, provide two numbers and display their product.
17. Explain class to class type conversion. Write a program to convert an object of dollar class to object of rupees class. Assume that dollar class has data members dol and cent and rupees class have data members rs and paisa. [1$ = 133 rs and 35 paisa]
18. What is the importance of operator overloading. Write a program to overload binary + operator to add two time objects containing members hours, minutes and seconds using friend function.

The End