

Object Oriented Programming with C++

Answer ALL the Questions

| Q. No. | Question Description | Marks |
|--|---|-------|
| PART - A (30 Marks) | | |
| 1 | (a) Explain the mechanism for exception handling? When do we need multiple catch blocks for a single try block? Give an example? | 10 |
| OR | | |
| | (b) (i) Write a C++ program to display number of objects created using static member. | 5 |
| | (ii) Explain the importance of friend function with suitable example. | 5 |
| 2 | (a) Write the member function to overload the < operator. Use the standard < operator to compare the weight data member of the ZooAnimal object with other ZooAnimal Object. Finally display the name of the animal which has highest weight. | 10 |
| <pre>class ZooAnimal { private: char *name; int cageNumber; int weight; public: ... bool operator < (int); ... };</pre> | | |
| OR | | |
| | (b) What is the purpose of generic class Templates? Explain with example, how class Templates are implemented? | 10 |
| 3 | (a) Illustrate the operations on SET container with suitable example. | 10 |

OR

- (b) Write a C++ program to read 10 floating point numbers from an input file and compute the sum and average of those numbers and store those values in an output file with appropriate label. Uses the conditional statements to see if the input and output files opened successfully before reading or writing with them. 10

PART - B (20 Marks)

- 4 A company consists of departments. Departments are located in one or more offices. One of the office acts as a headquarter. Each department has a manager who is recruited from the set of employees. Your task is to model the system for the company. 10

Task:

Draw a class diagram which consists of all the classes in your system their attributes and operations, relationships between the classes, multiplicity specifications, and other model elements that you find appropriate.

- 5 Develop a C++ Program to perform matrix multiplication for the given two matrices A and B. The resultant matrix can be stored in matrix C. 10
Throw an exception if the matrix cannot be multiplied and handle it using a user defined exception.

