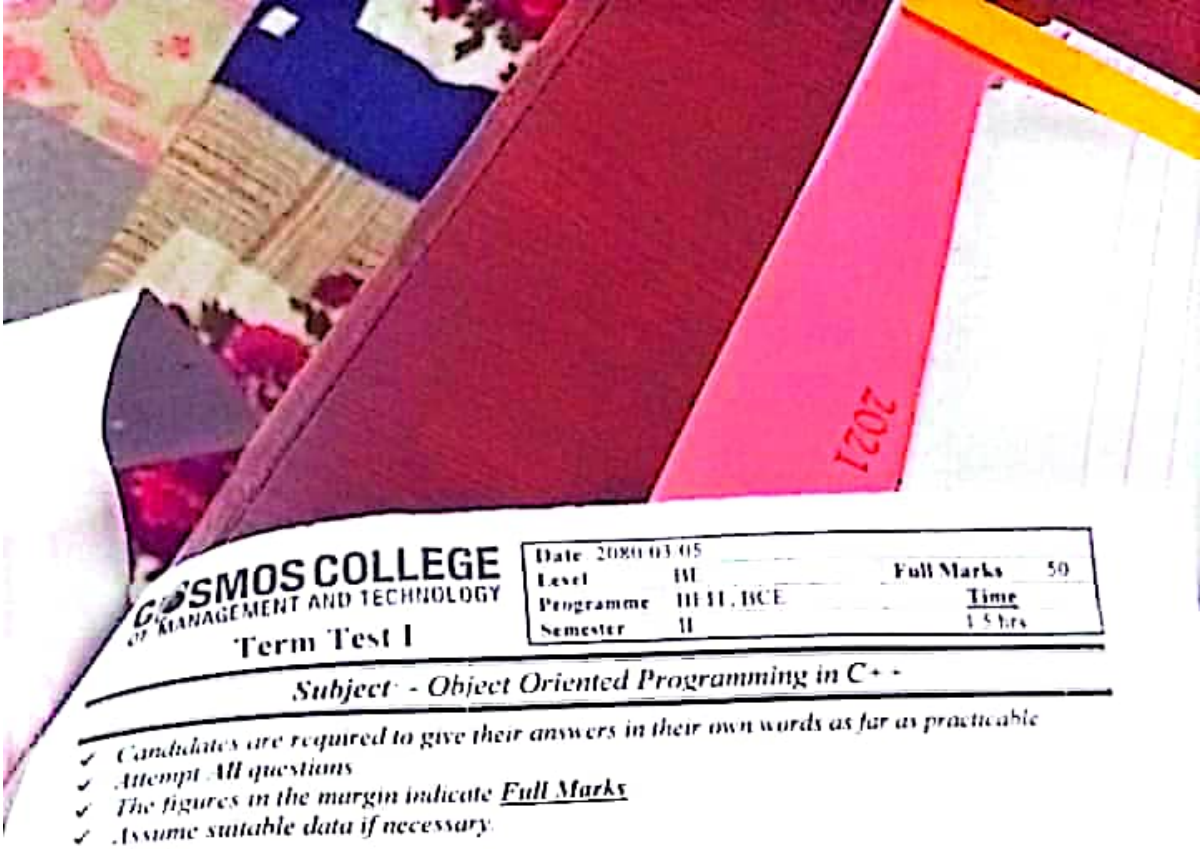


COSMOS COLLEGE
OF MANAGEMENT AND TECHNOLOGY

Term Test I

Date	2080 03 05		
Level	BE	Full Marks	50
Programme	BEIT, BCE	Time	
Semester	II		1.5 hrs

Subject - Object Oriented Programming in C++

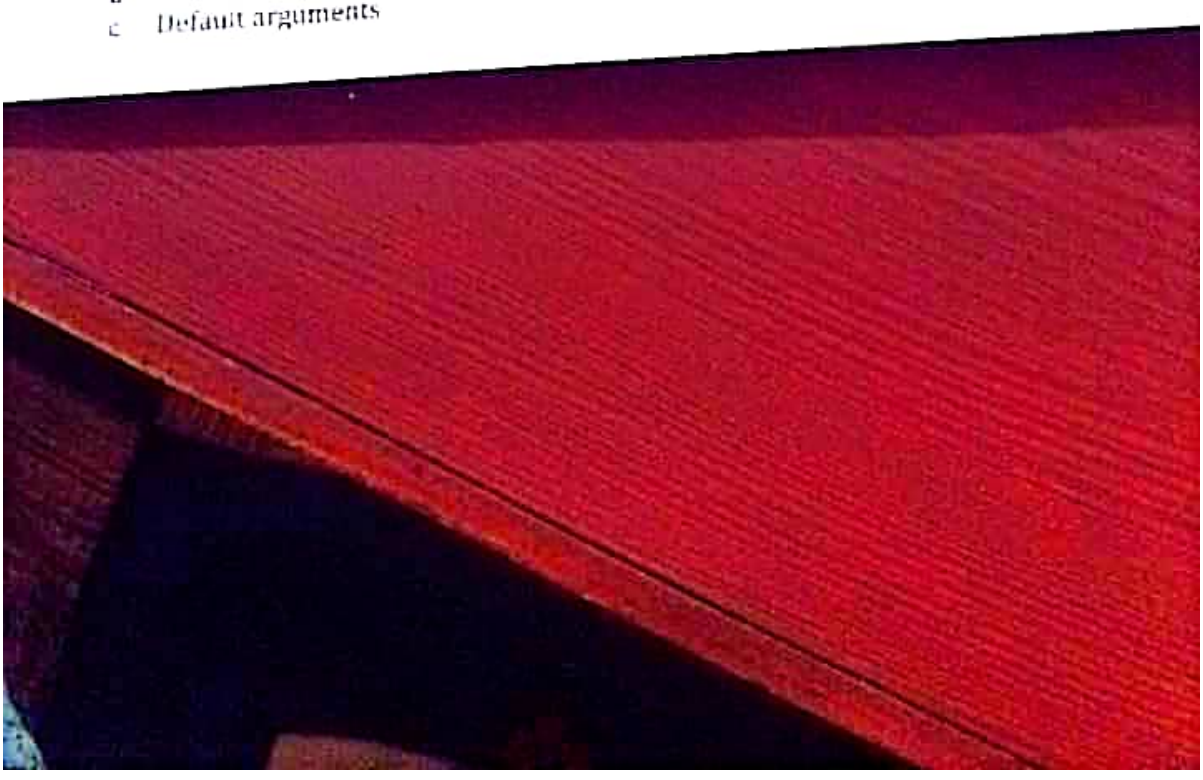
- *Candidates are required to give their answers in their own words as far as practicable*
- *Attempt All questions*
- *The figures in the margin indicate* ***Full Marks***
- *Assume suitable data if necessary*

1. a. Define computation and simulation. Why the behavior of comp'exity is regarded as non-linear? [7]
   b. What are the advantages of object oriented programming over structural programming? Explain with different features. [8]

2. a. Illustrate the role of friend function in OOP with its pros and cons. Also write a suitable program. [7]
   b. What is different access specifiers used in OOP? Explain in brief. [8]

3. a. What is dynamic memory allocation? How is memory allocated and deallocated in C++? Explain with example program. [7]
   b. What are constructors and destructors? Explain with an example. [8]

4. Write short notes: (Any one) [5]
   a. Static members
   b. Inline function
   c. Default arguments



UNITED TECHNCIAL COLLEGE

Level: Bachelor *Semester: Second* *Year : 2023*

Programme: B. E (Computer, Electrical and Electronics) *Full Marks: 60*

Course: OOP in C++ **SET- A** *Pass Marks: 30*

Time : 1.5 hrs.

1. a) Friend function is not the member function of a class. Justify the statement with suitable program. 8

b) What do you mean by virtual base class? At what condition it has to be implemented? Explain with a suitable example. 7

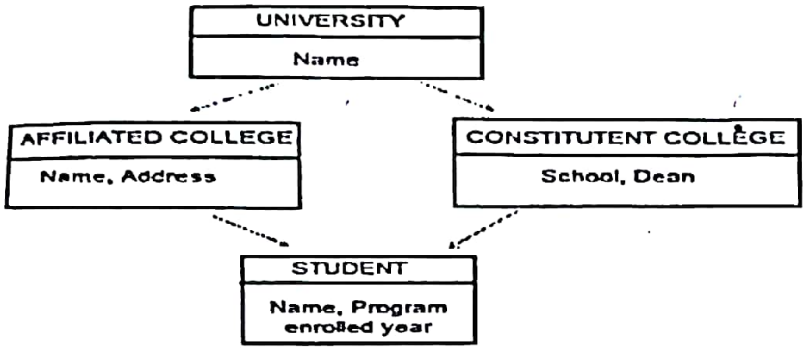
2. a) What is polymorphism? How can you achieve runtime polymorphism in C++? Discuss with a suitable example. 8

b) Write a program to overload multiplication operator (*) showing the multiplication of two objects. 7

3. a) What is type casting? Write a program to convert an object of Polar class into the object of Rectangle class by using type conversion routine. (hint: polar co-ordinates (radius, angle) and rectangular co-ordinates(x,y). where, x=r*cos(angle) and y=r*sin(angle). 8

b) What are the advantages of generic programming? Create a template function to find the difference of two numbers. 7

4. a) The following figure shows minimum information required for each class. Write a program by realizing the necessary member functions to read and display the information of individual object. Every class should contain at least one constructor and should be inherited to other classes as well.



b) What is exception? Explain in brief about the exception handling mechanism in C++. 7

National Academy of Science and Technology

(Affiliated to Pokhara University)

Dhangadhi, Kailali

Pre-University Examination

Level: Bachelor | Semester: II_Spring | Year : 2023

Program: B.E Computer | F.M : 100

Course: **OOP in C++** | P.M : 45

Time : 3Hrs.

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

Attempt all the questions.

1. a) What are the important characteristics of object-oriented programming? Differentiate between procedural programming and object-oriented programming? 7

   b) Insulation of data from direct access by the program is called data hiding. Support this statement with an example. 8

2. a) Why objects-oriented programming is called computation as simulation? Explain. 7

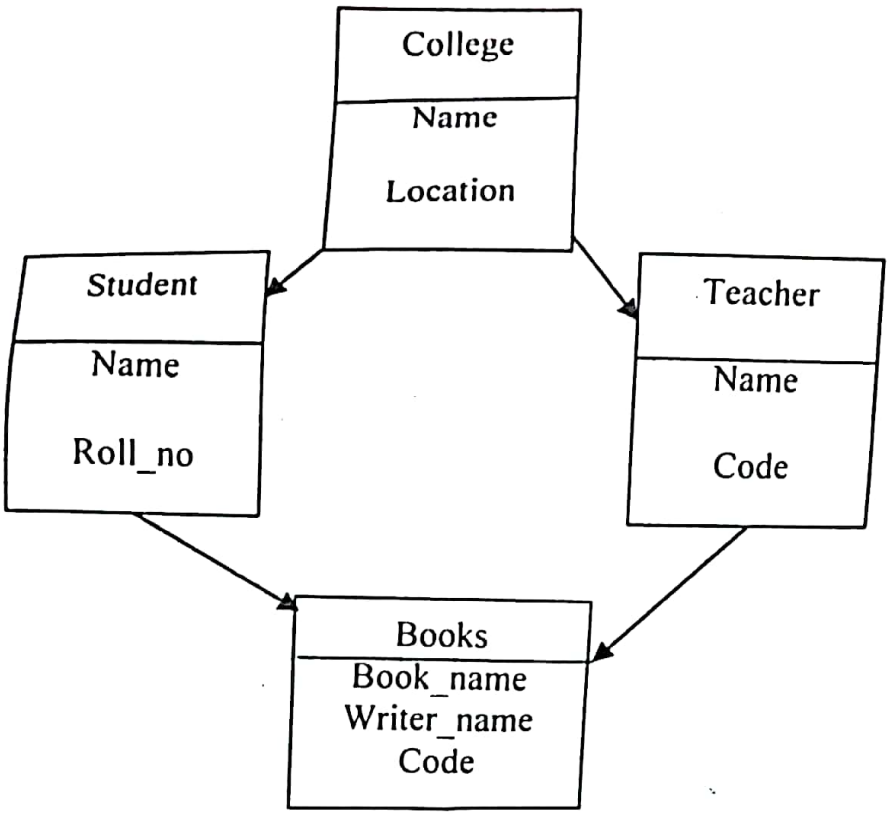
   b) Explain the purpose of constructor and destructor. Describe their significances. Can we have more than one destructor in a class? Explain it. 8

3. a) Does friend function violate data hiding? Write a program to add three numbers. Make two classes with only one member in each class. 7

   b) Define two classes named 'Polar' and 'Rectangle' to represent points in polar and rectangle systems. Use constructor conversion routines to convert from one system to another system. 8

4. a) "Inheritance provides reusability." Justify this statement. Discuss the private and public inheritance. 7

   b) The following figure shows minimum information required for each class. Write a program to realize the above program with necessary member functions to create the database and retrieve individual information. Every class should contain at least one constructor and should be inherited to other classes as well. 8



5. a) Define operator overloading and function overloading. Write a program to compare two string values by overloading operator. 7

b) What is virtual function? How does it provide run-time polymorphism? Explain with an example. 8

6. a) What is generic programming? Create a template to swap wo integer numbers, two floating numbers and two characters. 8

b) Explain File Handling. How can we handle exception in c++. Illustrate. 7

7. Write short notes on **any two:** 2×5

a) Exception handling

b) IS a rule and Has a rule

c) CRC card

National Academy of Science and Technology

(Affiliated To Pokhara University)

Accredited by University Grants Commission, Nepal (2022)

Dhangadhi Kailali

First Terminal Examination

Level: Bachelor
Semester : II_Spring
Year: 2022

Program: B.E. Computer
F.M.: 100

Course: **Object Oriented Programming in C++**
P.M. : 45

Time: 3 hrs.

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

Attempt all the questions.

1. a) Why Object-Oriented Programming is a superior than Procedural-Oriented Programming? Explain. [8]
   b) Differentiate between structure and class. Why is class preferred over structure? Support your answer with suitable example. [7]

2. a) What is information hiding? What are access modes available in C++ to implement different levels of visibility? Explain with example. [8]
   b) Create a class named 'Programming'. While creating an object of the class, if nothing is passed to it, then the message "I love programming languages" should be printed. If some String is passed to it, then in place of "programming languages" the name of that String variable should be printed. For example, while creating the object if we pass "cpp", then "I love cpp" should be printed. [7]

3. a) What is constructor? Explain the concept of default and default copy with suitable example. [8]

   OR

   What is constructor? Can constructor be overloaded? If yes, explain how that is possible with reference of an example.
   b) What is the concept of friend function? How it violates the data hiding principle? Justify with example. [7]

4. a) How ambiguity arises in multipath inheritance? How can you remove this type of ambiguity? Explain with suitable example [8
   b) What is RDD in C++? Explain Programming in small and Programming in large. [7

5.a) Explain Message Passing Formalism with syntax in C++. What is stack versus heap memory allocation [8]

b) Explain the concept of operator overloading? List the operators that cannot be overloaded. Write programs to add two object of distance class with data members feet and inch with return type by using member function. [7]

OR

"An overloaded function appears to perform different activities depending the kind of data send to it" Justify the statement with appropriate example.

6.a) Compare and Contrast Composition and Inheritance with suitable example [8]

b) Write a program according to the specification given below: [7]

- ➔ Create a class Teacher with data members tid & subject and ember functions for reading and displaying data members.
- ➔ Create another class Staff with data members sid & position, and member function for reading and displaying data members.
- ➔ Derive a class Coordinator from Teacher and Staff and the class must have its own data member department and member functions for reading and displaying data members.
- ➔ Create two object of Coordinator class and read and display their details.

7. Write Short Notes on: [Any Two 2×5] [10]
   a) Computation as simulation
   b) CRC Card
   c) Features of OOP

BEST OF LUCK

COSMOS COLLEGE
OF MANAGEMENT AND TECHNOLOGY

Term Test II

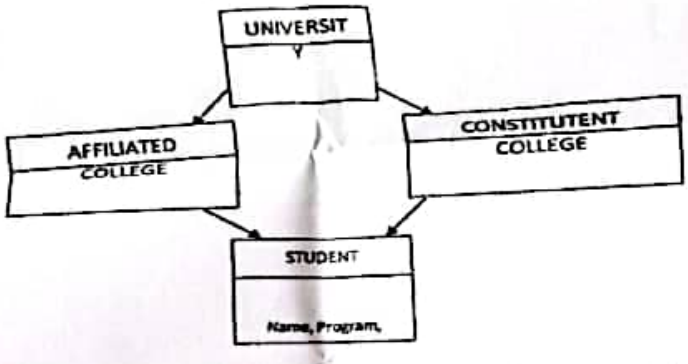
Date: 2080/05/04			
Level	BE	Full Marks	50
Programme	BEIT, BCE	Time	
Semester	II	1.5 hrs	

Subject: - Object Oriented Programming in C++

- ✓ *Candidates are required to give their answers in their own words as far as practicable.*
- ✓ *Attempt All question.*
- ✓ *The figures in the margin indicate Full Marks.*
- ✓ *Assume suitable data if necessary.*

1. a. What are the advantages of inheritance? Explain multilevel inheritance with an example. [7]

   b. The following figure shows the minimum information required for each class. WAP by realizing the necessary member functions to read and display information of individual object. Every class should contain at least one constructor and should be inherited to other classes as well. [8]



2. a. What is polymorphism? How can function overloading be done? Explain with an example. [7]

   b. Write a complete program to convert the polar co-ordinates into rectangular coordinates. (Hint: polar co-ordinates (radius, angle) and rectangular coordinates (x, y) where x =r*cos(angle) and y = r*sin(angle)) [8]

3. a. What are generic classes and templates? Create a template to illustrate a template function with two arguments. [7]

   b. What is reusability in program? Write its importance and types in reference to computer software. [8]

4. Write short note on any one: [5]
   a. CRC card
   b. Interface and implementation
   c. Function overloading

LUMBINI ENGINEERING COLLEGE (LEC)

Final Internal Exam

Level: Bachelor
Program: BE Computer 2nd Semester
Course: Object oriented in C++
Attempt all the questions.

Year: 2080
Full marks: 100
Pass marks: 45
Time: 3 hrs.

Candidates are required to give their answer in their own words as far as practicable.

1.a) How can you say that OOP is a new paradigm in Software development? Explain with features of OOP. (7)

b) Briefly explain about the abstraction mechanism used OOP. (8)

2. a) When will you make a function inline? How does an inline function differ from a preprocessor macro? Explain with suitable example. (7)

b) Can you overload the constructor? If yes explain with an example program. (8)

3.a) Explain dynamic memory mgt. with memory map diagram? Write a C++ program demonstrating the usage of new and delete operators for single variable as well as array. (7)

b) Design three classes student, test and result, where result is inherited from test and test is inherited from student. Write possible functions to initialize the values. Also write a main function for execution by creating objects. (8)

4. a) How a constructor varies from normal member function? In what order are class constructor and destructor called when a derived class object is created? Illustrate with an example.(8)

b) What do you mean by RDD? What are the uses of CRC card? (7)

5. a) "Overloading is a type of polymorphism". Elaborate the given statement with the help of suitable example using the concept of function overloading. (8)

b) Do you agree that Generics is multi-Purpose programming? Give your opinion. Also explain function template and class template with appropriate example. (7)

6. a) Explain the role of a default constructor? When is it considered equivalent to a parameterized constructor? Support your answer with examples.. (8)

b) Briefly explain about the file handling mechanism used in C++. (7)

7. Write short notes on any two (2X5)
   a. Role of Static members in oops.
   b. Message Passing
   c. Access Specifiers