

**Scheme – G**

**Sample Test Paper-I**

**Course Name :- Diploma in Computer Engineering Group**

**Course Code :- CO/CM/CD/IF/CW**

**Semester :- Fourth**

**Subject Title :- Object Oriented Programming**

**Marks :- 25 Marks**

**17432**

**Time :- 1 Hrs.**

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**Instructions:**

1. All questions are compulsory
2. Illustrate your answers with neat sketches wherever necessary
3. Figures to the right indicate full marks
4. Assume suitable data if necessary
5. Preferably, write the answers in sequential order

**Q1. Attempt Any THREE.**

**(09 Marks)**

a) Define following terms:

- i) Data abstraction
- ii) Data Encapsulation
- iii) Dynamic Binding

b) Give any two methods to create object of a class.

c) Write any three characteristics of constructor.

d) Explain how data hiding is done in C++ with example.

**Q2. Attempt any TWO.**

**(8 Marks)**

a) Explain the concept of passing an object as function argument with example.

b) What is static data member? Also explain with example why it is required in C++.

c) List and explain any two memory management operators with syntax and example.

**Q.3. Attempt any TWO.**

**(8 Marks)**

a) Write a program for swapping contents of two variable using friend function.

b) Explain copy constructor with suitable example.

c) Write a program to calculate factorial of a given number.

**Scheme – G**  
**Sample Test Paper-II**

**Course Name :- Diploma in Computer Engineering Group**

**Course Code :- CO/CM/CD/IF/CW**

**Semester :- Fourth**

**17432**

**Subject Title :- Object Oriented Programming**

**Marks :- 25 Marks**

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**Q1. Attempt any THREE.**

**(9 Marks)**

- a) State any three visibility modes with their use in inheritance.
- b) What is pointer? How to declare and initialize pointer?
- c) Write any three rules for virtual function?
- d) Differentiate between constructor and destructor.(any three points)

**Q2. Attempt any TWO**

**(8 Marks)**

- a) Explain how to insert an element in an array using pointer.
- b) With suitable diagram explain the concept of hierarchical inheritance.
- c) Define polymorphism? Differentiate between compile time polymorphism and run time polymorphism.

**Q3. Attempt any TWO.**

**(8 Marks)**

- a) Explain the concept of abstract class with suitable example.
- b) Write a program to find length of the string using pointer
- c) Write a program to using function overloading to calculate volume of cube and cylinder.

Scheme – G

## Sample Question Paper

Course Name :- Diploma in Computer Engineering Group

Course Code :- CO/CM/CD/IF/CW

Semester :- Fourth

# 17432

Subject Title :- Object Oriented Programming

Marks :- 100 Marks

Time :- 3 Hrs.

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### Instructions:

1. All questions are compulsory
2. Illustrate your answers with neat sketches wherever necessary
3. Figures to the right indicate full marks
4. Assume suitable data if necessary
5. Preferably, write the answers in sequential order

### Q.1 (A) Attempt any SIX of the following

(12 Marks)

- a) What is the use of scope resolution operator?
- b) Enlist any two operators used with pointers.
- c) Calculate the size of object S1 defined in following class:

```
class Student
{
    char name[10];
    int rollno;
    float percentage;
};
```

Student S1;

- d) Define Constructor & give Syntax to declare it.
- e) What is polymorphism? State its types.
- f) State different visibility modes used in inheritance.
- g) State the use of this pointer in C++.
- h) Give output for following code

```
class employee
{
    public:
    employee()
    {
        cout<<"Welcome\n";
    }
};
void main()
{
```

```
        employee E1,E2,E3;
    }
```

**Q1. (B) Attempt any TWO of the following (08 Marks)**

- Explain the concept of multiple constructors in a class with suitable example.
- Enlist types of inheritance. Explain any two with suitable diagram.
- Differentiate between constructor and destructor?

**Q2. Attempt any FOUR of the following (16 Marks)**

- Write syntax with example for defining member function inside and outside class.
- Differentiate between virtual function and pure virtual function.
- Give the meaning of deriving a class with public and protected visibility modes. Give one example of each.
- Write any four features of Object Oriented Programming..
- What is Friend function? Explain with suitable example why it is required.
- Explain the concept of pointer to object with suitable example.

**Q3. Attempt any FOUR of the following (16 Marks)**

- Enlist the applications of oops?
- Explain the concept of constructor with default arguments. Give suitable example.
- Explain with example, how to declare Constructor in derived class.
- Write a Programme to overload '-' operator to negate data members of class.
- Describe the concept of the concept Destructors with suitable example
- Explain how memory is allocated for objects created for class.

**Q4. Attempt any FOUR of the following (16 Marks)**

- Write a program to implement single inheritance with two classes. Declare parent class as furniture with data members material and price. Derive child class as table with data members as height and surface\_area. Accept and display data for one table.
- What is parameterized constructor? Give the syntax & example for it's declaration.
- Explain console input & output functions used in C++.
- Define and state two characteristics of static data member and static member function.
- Differentiate between Multiple & Multilevel inheritance.
- Write a program for searching a number in an array using pointer..

**Q5. Attempt any FOUR of the following**

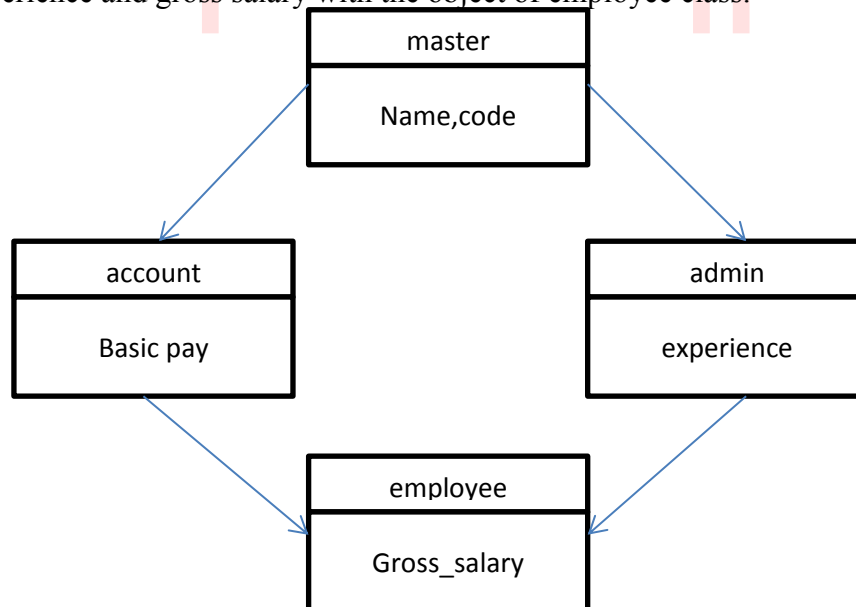
**(16 Marks)**

- a) Enlist any four rules for operator overloading.
- b) What is structure? How to declare structure? Illustrate with example.
- c) Write a program for declaring a class 'employee'. Derive two classes programmer and manager from employee class. Make display function virtual which is common for all and which will display information of one programmer.
- d) Differentiate between OOP and POP..
- e) Give any four pointer arithmetic operations with example.
- f) How run time polymorphism differs from compile time polymorphism. Differentiate between run time polymorphism and compile time polymorphism with suitable example.

**Q6. Attempt any TWO of the following**

**(16 Marks)**

- a) Write a program to declare a class 'Account' having data members as Account\_no and balance. Accept the data for 5 accounts and display the data of accounts having balance greater than 5000.
- b) Write a program to implement the concept of virtual base class for following figure. Accept and display information of one employee with his name, code, basic pay, experience and gross salary with the object of employee class.



- c) Write a program to find whether the entered string is palindrome or n

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