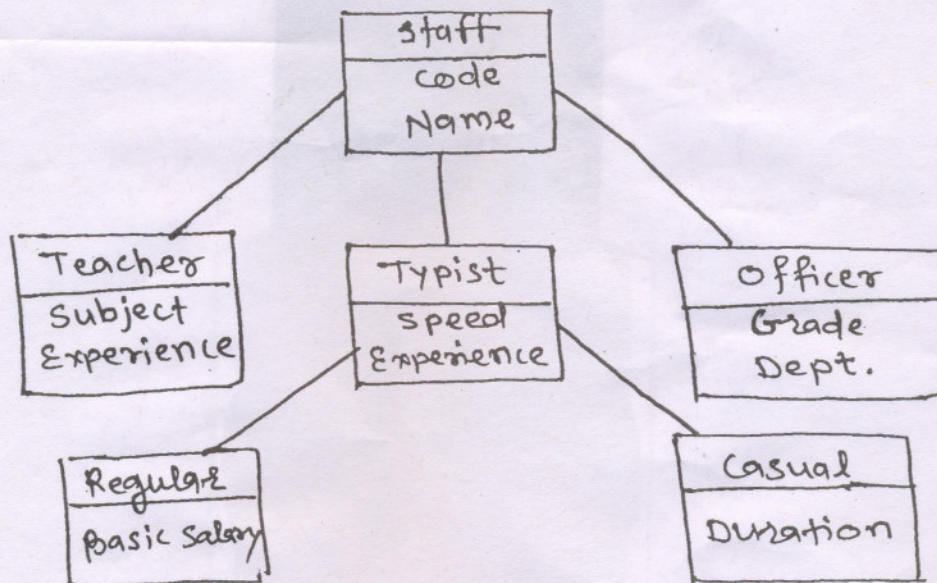


- N.B. (1) Question No. 1 is compulsory.
(2) Attempt any four questions from the remaining.

1. (a) Explain logical operators. Write a C++ program to demonstrate the same. 10
(b) Write a program to display following pattern using nested loops :— 10

```
      A
     A B A
    A B C B A
   A B C D C B A
```

2. (a) Write a program to sort an array of integer numbers in descending order using bubble sort. 10
(b) What are inline functions ? Discuss its advantages and disadvantages. Write a program to demonstrate inline function. 10
3. (a) An education institution wishes to maintain a database of its employees. The database is divided into a number of classes, as shown below. Specify all the classes and define functions to create a database and retrieve individual information as and when required. Assume necessary data. 10



- (b) What is virtual function ? What is the need of virtual function ? Write a program to demonstrate the same. 10
4. (a) Write a program to find sum of diagonal elements of 3 * 3 matrix. 8
(b) Explain the benefits of object oriented programming. 8
(c) Distinguish between Function Overloading and Operator Overloading. 4

Con. 3731-RC-9020-08.

(REVERSE) COURSE 2

Con. 3731-08.

5. (a) Write a program to overload “+ =” operator to add two distances given in feet and inches. 8
- (b) Develop your own functions for performing following operations on strings :— 8
- Copying one string to another
 - Adding one string to the end of another.
- (c) Explain the following with example :— 4
- break
 - continue.
6. (a) Write short note on Manipulators. 8
- (b) Write a program to demonstrate call by reference. 6
- (c) Write a program to find factorial value of given integer number using recursion. 6
7. (a) Write a program to check the entered number is prime or not. 8
- (b) Write a program to declare integer pointer. Store 10 numbers in the pointer. Use new operator to allocate memory for 10 integers. Read and display the numbers. 6
- (c) What is abstract class ? Explain with example. 6