

OBJECT ORIENTED PROGRAMMING

SECTION – C [WEDNESDAY SEPTEMBER 15, 2021: 2:30 PM – 5:30 PM]

ASSIGNMENTS – 05 (RP05)

CODE: ASSIGN05

NOTES:

- i) Create files with the following file naming conventions: If your roll number ends with **abc**, year of admission is **2019** and assignment code is **Assign05** then, use the file name as follows: **Assign052019abc.cpp** (use appropriate extension .cpp suitably).

For example, if the roll number ends with 172; year of admission is 2019 & the assignment code is Assign05, then the file name should be **Assign052019172.cpp**

- ii) Strictly follow the file naming convention. Otherwise, it would attract a penalty upto 20%.

PROBLEMS

[Total Marks: 20]

Note: Use random number generator to generate inputs wherever needed.

You should choose C++ (.cpp) to solve these problems.

Define a public class with the same name as suggested above for the file name.

1) [Marks: 20]

Define a class: **Employee** consisting of the following attributes.

empid: Employee ID – alphanumeric (start with any 4 digits with a prefix “KO”)

name: Assume that the name is of 30 characters long.

dob: Assume that the date of birth would be in YYYYMMDD format (8 digits)

(here YYYY in [1950, 2021]; MM in [01,12] and DD in [1,31])

design: Designation – enum{Executive, Manager, Engineer, Accountant, Clerk}

dept: member variable – static member variable (assume it as a global variable)

gender: enum{Male, Female, Others}

salary: floating point number – private – member variable

Perform the following tasks:

- a) [4 marks] Randomly generate **arr** - an array of n employees; choose n randomly in [100, 200];
You may use constructor overloading to create instances.

- b) [4 marks] Write a method to do the following:
 - i. Write a method to print out all the names that start with a given prefix.
 - ii. Write a method to check whether a given name is present in the given array
This method should return true, if the name is present in the array and false, otherwise.

- c) [4 marks] Write the following methods to do the following:

```
void deleteEmployeeByID(string eid);  
void printEmployee();  
void printEmployee(string eid);
```

- d) [4 marks] Write the following method to store the number of insertions and deletions in the given array **arr**

```
int getCount();
```

- e) [4 marks] Write the following methods to find and print the list of employee earning salary in a specific range (implement method overloading)

```
void findEmployeeBySalary(float);  
void findEmployeeBySalary(float min, float max);  
void findEmployeeBySalary(float min, float max, int design);
```