**Tutorial and Assignment Sheet – EVEN 2022**

**15B11CI211 – SDF-II**

**Instructions**

1. Tutorial Sheet of Week Number ‘X’ will be posted on the Google Classroom on Friday of week number ‘X-1’.

2. It will be based on topics covered in Lecture in week ‘X’.

3. Students are advised to come prepared in tutorial by revising the lectures of week ‘X’ and also by trying to attempt the tutorial sheet questions by themselves.

4. As tutorials will be problem solving based, always join the tutorial with a notebook and pen with you.

**Tutorial 4 (28th February to 05th March 2022)**

**Topics: Constructors and Destructors**

Q1.

Define a class TravelPlan in C++ with the following descriptions:

Private Members:

• PlanCode of type long

• Place of type character array (string)

• Number\_of\_travellers of type integer

• Number\_of\_buses of type integer

Public Members:

A constructor to assign initial values of PlanCode as 1001, place as "Agra", Number\_of\_travellers as 5, Number\_of\_buses as 1.

A functio NewPlan() which allows user to enter PlanCode, Plan ad Number\_of\_travellers. Also, assign the value of Number\_of\_buses as per the following conditions:

**Number\_of\_travellers Number\_of\_buses** Less than 20 1

Equal to or more than 20 and less than 40 2

Equal to 40 or more than 40 3

A function ShowPlan() to display the content of all the data members on screen.

Q2. Explain the role of a default constructor? When is it considered equivalent to a parameterized constructor? Support your answer with examples.

Q3. What is a parameterized constructor? How is it useful?

Q4. What will be the output of following program? Explain with reasons: #include<iostream.h>

class student{

int rollno;

char grade;

static int count;

public:

student()

{

rollno=0; grade=' ';

cout<<"Creating object"<<++count<<"\n";

}

void init(void)

{

cout<<"\n Enter rollo and grade :";

cin>>rollno>>grade;

cout<<"\n";

}

~student()

{

cout<<"Destroying object"<<--count<<"\n";

}

};

int student::count=0;

int main()

{

student classes[5];

for(int i=0;i<5;i++)

{

cout<<"\n Enter details for student"<<i+1<<"\n";

classes[i].init();

}

return 0;