Name:_____ Adm. No.: _____ Class: _____

Duration: 75 min. **Lab Test 4 (Sample)** Marks:_____

Part 1 – Short Questions **(6 marks each)**

1. Determine the missing codes in the following segment that allows the program to display **Hello** on the screen.

```
char msg1[8];

strcpy(_____,_____);
cout << msg1;
```

2. Determine the missing code that will display all the values in elements with odd subscripts. (i is an integer)

```
char msg[5] = {'N','i','g','h','t'};

for (_____)
        cout << msg[i];
```

3. Determine the output of the following code segment:

```
int values[2][2] = {2,4,6,8};
values[1][0] = values[1][1];
cout << values[1][0];
```

Ans: _____

4. What is the value of y after the following code segment is executed? (i is an integer)

```
double results[5]={2.5, 0.4, 1.7, 5.5, 6.4}, y=8.5;
for (i=2;i<5;i++)
        if(y < results[i]) y=results[i];
```

Ans: _____

5. The following code segment searches for '@' in the last four elements of the array. Fill in the missing code.

```
char gamma[8];
int i, count=0;
// Other statements… (Not important)

for (_____)

        if (_____) count++;
cout << "Total number of '@' in the last four elements of the array is " << count;
```

Part 2 – Coding **(70 marks)**

A company was engaged to check if the air conditioning system in a room was working in optimal setting. Various reading of the room temperature were taken for a period of time. A C++ program is required to analyse the data. You have to download the given template and complete the parts stated below. Do NOT change function or array names and make sure your codes are indented properly. Your output must be exactly the same as the sample output shown below. **Loops must be used when processing arrays.** You have to upload the source code at the end of the test.

Part 2a (20 marks)

The following are the room temperatures gathered at regular intervals:
22.3, 23.4, 23.1, 22.5, 23.1

Complete the program to allow the user to enter the temperature readings into the program.

```
Room Temperature Analysis
=========================

Enter temperature: 22.3
Enter temperature: 23.4
Enter temperature: 23.1
Enter temperature: 22.5
Enter temperature: 23.1
```

Program runs according to requirements.

Lecturer Sign: _____

Part 2b(20 marks)

Add a function **display** in your C++ program to display all the temperature readings.

```
Room Temperature Analysis
=========================

Enter temperature: 22.3
Enter temperature: 23.4
Enter temperature: 23.1
Enter temperature: 22.5
Enter temperature: 23.1

You have entered the following readings: 22.3, 23.4, 23.1, 22.5, 23.1
```

Program runs according to requirements.

Lecturer Sign: _____

Part 2c(30 marks)

Add a function **avg_Temp** to calculate the average temperature. The function MUST return the result for display in the **main** function.

```
Room Temperature Analysis
=========================

Enter temperature: 22.3
Enter temperature: 23.4
Enter temperature: 23.1
Enter temperature: 22.5
Enter temperature: 23.1

You have entered the following readings: 22.3, 23.4, 23.1, 22.5, 23.1

Average temperature is : 22.88
```

Program runs according to requirements.

Lecturer Sign: _____

~ End ~