SIBA CAMPUS
SRI LANKA INTERNATIONAL BUDDHIST ACADEMY
(Higher Educational Institute of Sri Balada Maligawa)

IT 182 – Programming Methodology

Date: **Time: -**

1. Write a C++ program to generate the multiplication table for a specified number, obtaining the table for the first five multiples of that number.

2. Write a C++ program by including a **function called IsEven** that takes an integer as a parameter and returns true if it's even and false otherwise.

3. Generate a C++ program with a **function greetUser** that takes a string (user's name) as input and prints a personalized greeting message.

4. **Display flow chart and write c++** for a grading system that accepts Average marks from a student. Based on the average score, determine and display the corresponding grade using the following criteria:
    - Average score 90-100: Grade A
    - Average score 80-89: Grade B
    - Average score 70-79: Grade C
    - Average score 60-69: Grade D
    - Average score below 60: Grade F
    -

5. The below pseudo code is to print n even numbers. Convert it to flow chart.

```
BEGIN
GET n
INITIALIZE i=2
WHILE(i<=n) DO
      PRINT i
      i=i+2
ENDWHILE
END
```

6. Programming languages use two types of translators.
    i. Identify and state them.
    ii. State two (2) differences between them.

7. Write the C++ / Java program code for a simple application that prints the following patterns using arrays and loops.

i.

```
@@@@@
 @@@@
  @@@
   @@
    @
```

ii.

```
1
2 2
3 3 3
4 4 4 4
```

iii.

```
1, 4, 9, 16,
25….100
```

8. Write pseudo code to converts temperature from Celsius to Fahrenheit.
9. Create a C++ program that converts temperature from Celsius to Fahrenheit.

   Requirements:

   - The program should prompt the user to enter a temperature in Celsius.
   - It should then convert the Celsius temperature to Fahrenheit using the formula: Fahrenheit = (Celsius * 9/5) + 32.
   - The converted temperature in Fahrenheit should be displayed as output.

10. Write a C++ program that prompts user to input the two-dimensional array and print all the elements in the array.

11. Create a C++ program to find the sum of all even numbers between 1 and a given positive integer (inclusive).

    Requirements:

    - The program should prompt the user to enter a positive integer.
    - It should then use a loop to calculate the sum of all even numbers between 1 and the entered positive integer (inclusive).
    - The sum of even numbers should be displayed as output.