



INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

Programming in C and C++ (CST-501)

Assignment 1 (Basics of printf)

Q-1) Write a C program to print the following using a single printf statement.

[5 marks]

```
*****  
*   *  
*   *  
*   *  
*   *  
*   *  
*   *  
*   *  
*   *  
*****
```

Q-3) Write a C program to print your Name, Roll No and Branch on the terminal. Compare the *preprocessed file*, *assembly file* and *object file* generated using the *gcc* command. Explain your observation. [10 marks]

Q-4) You are working as a software intern at a company. One of your tasks is to write lightweight and efficient C code which contains only printf() statements for logging, debugging, and feature-specific outputs that can be easily enabled or disabled at compile time using preprocessor directives. Write an appropriate C program for the same using preprocessor directives. [20 marks]

Q-5) Write code in C language to print the following outputs using a print statement:
[20 marks]

- a. Hello World
- b. "Hello World"
- c. This is \n a line
- d. How are you (without manually giving spaces)
- e. Bank provides 10% interest
- f. Hello
 World! (using a single printf statement)
- g. ??!
- h. Good \ Day!
- i. For printing \n we use \\n
- j. "He"llo wo"rld

Q-6) Write a C program to print "Hello World" without using a semicolon. [15 marks]