



# Delhi Technical Campus Greater Noida

## Assignment 1

### Instructions:

- All questions are compulsory to attempt.
- Assignment must be submitted in handwritten manner in separate notebook/A4 size sheets with cover page.
- Submit the assignment on or before (Mentioned date).
- Marks will be deducted and analysed as per the submission dates. At late submission marks will be deducted.

**Subject: COMPILER DESIGN**

**Subject Code: CIC-303**

**Class: B.Tech CSE 5<sup>th</sup>**

**Faculty Name: Dr. Seema Verma**

**Date of Issue:**

**Date of Submission:**

1	Write the step by step (showing input and output of each phase) compiler translation of the statement: - $X := Y * Z + 10$ . Take another example also if required..	CO1	L3
2	Draw a deterministic finite automaton (DFA) that recognizes the language of all strings over the alphabet $\{0, 1\}$ that start and end with the same symbol.	CO1	L3
3	Draw a deterministic finite automate which either starts with 01 or end with 01 of a string containing 0, 1	CO1	L3
4	Draw a DFA containing even no of 0's and even no of 1's of string containing 0,1	CO1	L3
5	Draw a DFA that accepts binary strings where the number of 0s is divisible by 3..	CO1	L3
6	Draw a DFA which accept a string containing "ing" at the end of a string in a string of $\{a-z\}$	CO1	L3
7	Translate the regular expression $(0+1)01(0+1)$ into a nondeterministic finite automaton (NFA). Present the NFA using a state transition diagram.	CO1	L3
8	Convert the following into regular expression:	CO1	L3

9	<p>Minimize the following DFA:</p>	CO1	L3
10	<p>Analyze the various compilers (atleast 5) with their main characteristics. Design Lexical and Syntactic analyzer for a simple language using Lex and YACC.</p>	CO1	L4