

**Northern India Engineering College
Department of Information Technology**

Compiler Design Assignment No 1

Subject code: ETCS-302

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Last date of submission : 10th February,2017 by 3.30p.m.

Q1: Explain chomsky classification of grammar.

Q2: Write a short note on compiler writing tools.

Q3: consider the following grammar

$S \rightarrow iCtS/iCtSeS$

$C \rightarrow b$

a) Construct predictive parsing table for the grammar.

b) Is this grammar LL(1)?

Q4: Consider the grammar

$E \rightarrow E+T/T$

$T \rightarrow TF/F$

$F \rightarrow F^*/a/b$

Construct the SLR parsing table.

Q5: Construct SLR(1) parsing table for the following grammar:

$S \rightarrow xAy/xBy/xAz$

$A \rightarrow qs/q$

$B \rightarrow q$

Q6: Differentiate among following:

a) NFA vs. DFA

b) SLR vs. CLR vs. LALR

c) Top down parsing with backtracking vs. top down parsing without back tracking

Q7: Draw NFA for RE $(a+b)^*abb$. Then, convert NFA to DFA.

Q8. Find regular expression for following languages over $E=\{a,b\}$

a) String of length zero or one.

b) Set of strings having atleast one occurrence of double letter.

c) Set of all strings of a's and b's having at least two occurrences of aa.

d) Set of strings having double letter at beginning or an ending of the string.

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