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Roll No.

Sixth SEMESTER

B.Tech [IT]

MID SEMESTER EXAMINATION

March-2019

IT-302 COMPILER DESIGN

Time: 1:30 Hours

Max. Marks : 20

Note : Answer all questions
Assume suitable missing data, if any.

Q.1 Describe using simple flowchart/ algorithm

- a) Process flow of Lex program
- b) Pseudocode for the NDFA that accepts relational operators

(2x2.5)

Q.2 a) Use Thompson algorithm for constructing NDFA from the regular expression: $id.(id|num)^*$ (where id , num are both terminals)

- b) Construct DFA from the NDFA obtained in a) using Subset Construction rules.

(3+3)

Q.3 For the following grammar: $S' \rightarrow S\$$, $S \rightarrow S+A$, $S \rightarrow A$, $A \rightarrow A-id$, $A \rightarrow id$

- a) Compute **FIRST** and **FOLLOW** sets
- b) Construct the Predictive parser table using **FIRST & FOLLOW**
- c) Parse the string (write the sequence of moves): $id-id+id$ using the table constructed in b)

(3+3+3)