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_Sixth__ SEMESTER B.Tech [IT]

MID SEMESTER EXAMINATION *March-2020*

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 a flowchart the various phases of compiler design. Highlight the parts of the flowchart automated by lex. (5)

Q.2 For the following grammar: S'→S$, S→id+A, A→ε, A→B=id, B→num *(where id,+,=, num are terminals and ε indicates epsilon)*

a) Construct the Predictive parser table using **FIRST & FOLLOW**

b) Parse the string (*write the sequence of moves*): id+num=id using the table constructed in a) (4+4)

Q.3 a) Draw the NFA for recognizing digits of the format 3.0e-2.

b) Use Thompson algorithm for constructing NDFA from the regular expression: id+(id|num)*= id *(where id,+,=, num are terminals)*

c) Construct DFA from the NDFA obtained in b) using Subset Construction rules. (1+3+3)