

**SCHOOL OF COMPUTER SCIENCE AND ENGINEERING**

**Digital Assignment - 1, Winter Semester - 2020**

**Course Code**  : CSI2005 **Programme:** M.Tech (Integ)

**Course Name** : Principles of Compiler Design **Max. Marks: 10**

**Slot :** B1/TB1 **`` Faculty: Dr. WI. Sureshkumar**

**Answer all the Questions**

1) What is the role of regular expression in lexical analysis? Explain with

an example.

2) Using phases of compiler translate the given assignment statement

**a= (b+c)\*2 / a + c**

3) Construct DFA for the following regular expressions using direct method:

i) **(a/b)\*a (a/b) (a/b)**

ii) **(a/b)\*abb (a/b)\***

4) Compute the FIRST and FOLLOW sets for each non-terminal of the

grammar given below:

**S → ABa / bCA**

**A → cBCD / ε**

**B → CdA / ad**

**C → eC / ε**

**D → bSf / a**

5) Consider the grammar

**E → E / T / T**

**T → T & F / F**

**F → !F / ( E ) / 1 / 0**

Here Non-terminals = { **E, T, F**} Terminals = { /**‘ , & , ( , ), 1, 0** }.

Construct a predictive parser for the above grammar.

(HINT:

1) Eliminate left recursion ( if the grammar is left recursive)

2) Find FIRST and FOLLOW

3) Construct the parse table. )

**Note:**

1. Solve the problems in hand, scan the document and upload it.
2. Typed material will not be considered
3. Kindly stick on deadline

**Submit on or befor : 06-02-2021**

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