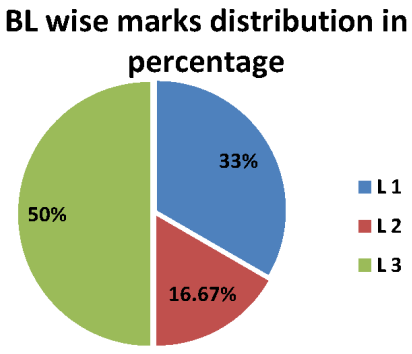
National Institute of Technology Silchar
Mid Semester Examination, March 2022
Subject code: **CS-307**, Subject name: **Compiler Design**
Total marks: 30, Time: 1 hour 15 minute

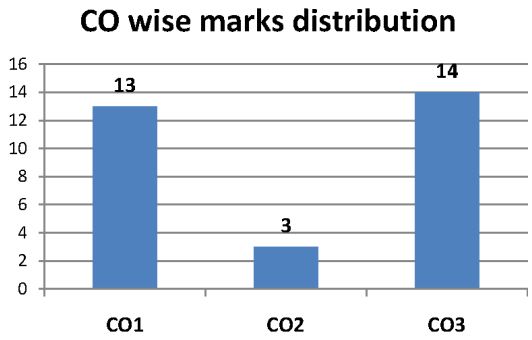
All questions are compulsory

Instructions:

- All submissions must be scanned and combined in a single pdf file before submission.
- The submission pdf file should be named as your_scholar_id.pdf , e.g., 19_1_2_001.pdf

Q.No.	Questions	Marks	CO	BL
1 a	Explain briefly about the phases of compiler with the help of an example.	6	CO1	L 2
b	Explain briefly about the compiler construction tools.	4	CO1	L 1
2 a	Identify the number of tokens from the following statement: *int A = 10;* *printf("The value and address of A is %d and %p \n",A,&A);* Also write down the patterns you have followed to identify the lexemes.	1+2	CO2	L 3
b	Construct the minimised DFA directly from the regular expression: *(a/b)*abc(a/c)**	7	CO3	L 3
3a	Construct the predictive parsing table from the given CFG: S → XS | dS | ϵ X → Zb | aY | Y Y → cZ Z → e	7	CO3	L 3
b	What is Left Recursion? How can we eliminate the Left Recursion? Give example.	1+1+1	CO1	L 1





Course Outcomes (CO):

1. Students will be aware of the major concepts in areas of language translation and compiler design.
2. Students will be able to develop a language translator or compiler covering a broad range of engineering and scientific applications.
3. Learn and apply the various concepts of context free grammars, compiler parsing techniques, construction of abstract syntax trees, symbol tables, actual code generation and code optimization techniques.

Blooms Taxonomy Levels (BL)
L1-Remembering, L2-Understanding, L3-Applying, L4-Analysing, L5-Evaluating, and L6-Creating