UNITED COLLEGE OF ENGINEERING AND RESEARCH,NAINI

Subject:- Compiler Design

Assignment

CS/IT(6th Sem)

Unit 2

Issue Date:23/03/2020 Submission Date:26/03/2020

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University Question

1. Define the term S-R and R-R conflict.
2. Determine whether the following grammar can be parsed by a top down parser or not. In case it cannot be top-down parsed , make necessary transformation to that effect

   E→E+T | T
   T→T*F | F
   F→id | (E)
3. Explain recursive decent parser. Create the parser for the following the following grammar

   E-> iE'
   $E' \rightarrow +iE' | \epsilon$
4. Consider the following grammar

   S→AS|b
   A→SA|a.

   Construct the SLR parse table for the grammar. Show the actions of the parser for the input string "abab".

5. Show that the following grammar

   S→Aa|bAc|Bc|bBa
   A→d
   B→d

   is LR(1) but not LALR(1).

6. What is precedence function? Consider the following operator precedence matrix draw precedence graph and compute the precedence function

	a	(	)	;	$
a			>	>	>
(	<	<	=	<	
)			>	>	>
;	<	<	>	>	
$	<	<			

7. Construct the CLR parsing table for the following grammar and parse the string "**aabb".** Show each and every step of algorithm.

   $S \rightarrow AA$

   $A \rightarrow aA$

   $A \rightarrow b$

8. Give algorithm for constructing of predictive parsing table. Consider the following grammar and construct predictive parsing table

   $S \rightarrow iEtSS_1 \mid \mathbf{a}$

   $S_1 \rightarrow eS \mid E$

   $E \rightarrow b$

9. State the problem associated with top down parsing.

10. Find the follow of all non terminals in the given grammar

    P->S#

    S->ABC

    A->a | bbD

    B->a | ϵ

    C->b | ϵ

    D->c | ϵ