

Programme	: B.Tech (CSE and its Specialization)	Semester	: Winter 2024-25
Course	: Compiler Design	Code	: BCSE307L
Faculty	: Dr.D JEYA MALA Dr.SHIVANI GUPTA Dr.MANJU G Dr.SURESHKUMAR WI Dr.SENTHIL PRAKASH P N Dr.MERCY RAJASELVI BEAULAH P Dr.ANAND M	Slot(s)	: B1+TB1
		Class Nbr(s)	: CH2024250501805 CH2024250501806 CH2024250501807 CH2024250502336 CH2024250502338 CH2024250502763 CH2024250502764
Time	: 1½ Hours	Max. Marks	: 50

Answer ALL Questions

1. a Determine the output generated by every phase of the compiler for the expression $a=(b+c)/(d*e)+2.0$ (7 marks) [10]
b Draw the transition diagram for representing a number 123.45 e-2 (3 marks)
2. a Convert the regular expression $(a|b)^*(b|c)^+(b+c)^*abb$ to NFA using Thompson's Construction rule. (5 marks) [15]
b Convert the regular expression $(a|b)^*(b|c)^*(a+b)$ to DFA using direct method. (10 marks)
3. a Construct LL(1) predictive parsing table for the below grammar (10 marks) [15]
 $bexpr \rightarrow bexpr \text{ or } bterm \mid bterm$
 $bterm \rightarrow bterm \text{ and } bfactor \mid bfactor$
 $bfactor \rightarrow \text{not } bfactor \mid (bexpr) \mid \text{true} \mid \text{false}$
b Check the acceptance of the string: true and not (false or true) \$ using the constructed parsing table. (5 marks)

Note: bexpr, bterm and bfactor are the Non-terminals and (,), or, and, not, true and false are the terminals.
4. Consider the below grammar and parse the expression $id - (id + id) \wedge id$ using Operator Precedence Parser with appropriate steps. [10]

$$E \rightarrow EAE \mid (E) \mid -E \mid id$$

$$A \rightarrow + \mid \times \mid - \mid / \mid ^$$