

**DEERWALK INSTITUTE OF TECHNOLOGY****MID TERM EXAMINATION, SEM VI****SUBJECT****CSC- 352 COMPILER DESIGN & CONSTRUCTION****PASS MARK****12****FULL MARK****30****TIME****1.5 HRS****DATE****27 AUGUST, 2019****INSTRUCTIONS***Students should be seated in the examination hall 10 minutes prior to the conduction of examination.**Fill in the required details carefully on the front page of the answer sheet.**Malpractice observed during the examination will lead to an expulsion.**Raise your hand towards Invigilator in case you need any assistance during the examination.**Good luck and all the best.***Attempt All Questions (5×6=30)**

1. Explain the phases of compiling a source program with example.
2. Given a regular expression  $(a+ b)bc^*$ , Construct the DFA recognizing the pattern described by the regular expression using syntax tree based reduction.
3. Define the terms Item, Closure, GOTO with relevant example.
4. Given the following grammar

$$R \rightarrow idS \mid (R)S$$
$$S \rightarrow + RS \mid .RS \mid *S \mid \epsilon$$

Construct the predictive parsing table

5. Show that the input string  $a^*(a+b)$  lies in the grammar using shift reduce parsing.

$$E \rightarrow E+E \mid E^*E \mid (E) \mid a \mid b$$

