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SEAT No. :

P261

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**BE/INSEM/APR-589**

**B.E. (Computer Engineering) (Semester - II)**

**410252 B : COMPILERS**

**(2015 Pattern) (Elective - III)**

*Time : 1 Hour]*

*[Max. Marks : 30*

*Instructions to the candidates:*

- 1) Answer Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6.
- 2) Neat diagrams must be drawn wherever necessary.
- 3) Figures to the right indicate full marks.
- 4) Assume suitable data if necessary.

- Q1) a) Explain Role of Lexical Analyzer in detail. [4]  
b) Write LEX specification for recognizing integer, variable, keywords and data types. [4]  
c) List data structures used for implementation of Symbol Table. [2]

OR

- Q2) a) Explain input buffering of lexical analyzer. [4]  
b) Write Lex specification for counting words, characters and number of lines in given input file. [6]

- Q3) a) Write YACC specification for expression grammar. [6]  
b) Explain elimination of left recursion from the grammar. [4]

OR

- Q4) a) Calculate first and follow for the following grammar. [6]

$E \rightarrow TE'$

$E' \rightarrow +TE' | \epsilon$

$T \rightarrow FT'$

$T' \rightarrow *FT' | \epsilon$

$F \rightarrow (E) | id$

- b) Explain shift reduce parsing on input  $id + id \$$  and consider the following Grammar. [4]

$E \rightarrow E + T | T$

$T \rightarrow T * F | F$

$F \rightarrow (E) | id.$

**P.T.O.**

- Q5) a) Explain S and L -attributed Grammar. [4]  
b) Explain Triple, Quadruple and Indirect Triple with Example. [6]

OR

- Q6) a) Explain Syntax Directed Translation for calculator. [4]  
b) Write syntax directed definition for flow of Control statements. [6]  
(Ex: if, if-else, while any two)



NOV 18 2011  
10:30 AM

CHENNAI  
11/18/2011