PVP 12

Code: CS5T4

## III B.Tech - I Semester – Regular Examinations - November 2014

# COMPILER DESIGN
## (COMPUTER SCIENCE & ENGINEERING)

Duration: 3 hours Marks: 5x14=70

Answer any FIVE questions. All questions carry equal marks

1. Write and explain about Different Phases of Compilation. 14 M

2. a) Write reasons for separating Lexical Analysis and Syntax Analysis 4 M

   b) Explain about LEX 10 M

3. a) Write Rules to Compute FIRST and FOLLOW sets. 6 M

   b) Compute FIRST and FOLLOW sets for each variable in the below grammar

   $S' \rightarrow Sc$

   $S \rightarrow SA \mid A$

   $A \rightarrow aSb \mid ab$ 6 M

   c) Define Parser 2 M

4. Construct SLR parsing table for the grammar

   $E \rightarrow E + T \mid T$

   $T \rightarrow T * F \mid F$

   $F \rightarrow ( E ) \mid id$ (Write all necessary procedures) 14 M

5. Construct Canonical LR parsing table for the following grammar

   $S \rightarrow CC$

   $C \rightarrow cC/d$ 14 M

6. Write and explain SDT for simple Desk Calculator 14 M

7. Write about

   a) Copy Propagation 5 M

   b) Strength Reduction 4 M

   c) Dead Code Elimination 5 M

8. Explain in detail about Peephole Optimization. 14 M