Code: CS4T1

II B.Tech - II Semester – Regular Examinations – May 2016

COMPILER DESIGN
(COMPUTER SCIENCE AND ENGINEERING)

Duration: 3 hours   Max. Marks: 70

PART – A

Answer *all* the questions.   All questions carry equal marks
$$11x\ 2 = 22\ M$$

1. a) What is difference between pass and phase?
   b) What is Lexical Analysis?
   c) What is difference between compiler and interpreter?
   d) What is Lex tool?
   e) Define parse tree, give an example.
   f) Give different types of LR Parsers.
   g) Define Handle with example.
   h) Explain Stack allocation.
   i) What is the benefit of intermediate code generation?
   j) Define strength reduction.
   k) Explain Instruction Scheduling.

PART – B

Answer any ***THREE*** questions.   All questions carry equal
marks.   3 x 16 = 48 M

2. a) What are the basic functions of language translator?   8 M

b) Explain, in detail, lexical analyzer generator. 8 M

3. a) What are the difficulties in top down parsing? Explain in detail. 8 M

b) Consider the following grammar 8 M
S → (L)/a
L → L, /S
Construct leftmost derivations and parse trees for the following sentences:
i)   (a,(a, a))
ii) (a(a, a),(a,a)))

4. a) Define LR(k) parser. Draw and explain model of LR parser. 8 M

b) Write LR parsing algorithm. 8 M

5. a) Compare three different storage allocation strategies. 8 M

b) Translate the expression -(a+b)*(c+d)+(a+b+c) into quadruple, triple and indirect triple. 8 M

6. a) Explain any two machine dependent code optimization techniques. 8 M

b) What is a DAG? Explain its application. 8 M