B. Tech. CSE 6th Sem May 2019

PAPER CODE 56006

University Institute of Engineering & Technology

(Recognised Under Section 2(f) and 12B of UGC)

Kurukshetra University, Kurukshetra

Roll No. -

THEORY EXAMINATION – MAY 2019	
B.TECH - CSE	SEMESTER – 6th

TIME – 3 Hrs.

M.M. - 75

COURSE NO. - CSE-302	COURSE TITLE - COMPILER DESIGN

Note: All questions in Part-A and Part-B are compulsory. Attempt any four questions from Part-C selecting at least one from each unit.

PART-A (15 Marks)

Q. No. – 1 Answer the following questions. **15x1=15**

(i)	List the operations on languages.
(ii)	Write a regular expression for an identifier.
(iii)	List the various error recovery strategies for a lexical analysis.
(iv)	Why lexical and syntax analysers are separated out?
(v)	What is dangling else problem.
(vi)	What is meant by handle pruning?
(vii)	What are non-kernel items?
(viii)	Define back-patching.
(ix)	What is a DAG?
(x)	Define peephole optimization.
(xi)	What are the contents of activation record?
(xii)	What are the various ways to pass a parameter in a function?
(xiii)	What is the function of a hierarchical analysis?
(xiv)	Differentiate patterns and lexeme.
(xv)	Mention some of the cousins of a compiler.

PART-B (20 Marks)

	UNIT-I	
2	Define the two main parts of compilation? What they perform?	**5**
	UNIT-II	
3	Define LR (0) items in bottom up parsing?	**5**
	UNIT-III	
4	Issues in the design of code generator	**5**
	UNIT-IV	
5	Explain dead code.	**5**

PART-C (40 Marks)

	UNIT-I	
6	Write an algorithm to convert regular expression to NFA and minimize DFA with example.	**10**
7	Write a lexical analyser program to identify strings, sequences, comments, reserved words and identifiers.	**10**
	UNIT-II	
8	Differentiate canonical LR parser and LALR parser with example.	**10**
9	Explain top down parsing with or without Backtracking.	**10**
	UNIT-III	
10	Explain the specification of simple type checker for statements, expression and functions.	**10**
11	Explain runtime storage management in detail.	**10**
	UNIT-IV	
12	Differentiate various techniques used for machine independent and dependent optimizations.	**10**
13	Explain various parameter passing techniques with suitable example.	**10**