

Exam.Code:0925
Sub. Code: 6865

1078
B.E. (Information Technology)
Seventh Semester
ITE-746: Compiler Design

Time allowed: 3 Hours

Max. Marks: 50

NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Unit.

x-x-x

- I. Attempt the following:-
- What are the various attributes of a Symbol Table?
 - What are the various parts in LEX Program?
 - What is left factoring? Give example
 - Explain in brief about Lexical errors.
 - Differentiate compiler and interpreter (5x2)

UNIT – I

- II. a) Discuss the role of lexical analyzer in detail.
b) Verify whether the following grammar is LL (1) or not?
 $E \rightarrow E + T \mid T \quad T \rightarrow T^* F \mid F \quad F \rightarrow (F) \mid a \mid b$ (5,5)
- III. a) Differentiate between Top down and Bottom up Parsing methods.
b) Construct NFA equivalent to regular expression $r = (a + b)^* ab$. (5,5)
- IV. a) Differentiate synthesized and inherited attributes with example.
b) Explain how different phases of compilation will operate and convert following statement: $position = initial + rate * 100$. (5,5)

UNIT – II

- V. a) What are the different Storage Allocation Strategies?
b) Obtain the Directed Acyclic Graph for the expression: $a*(b-c) + d$. (5,5)
- VI. a) Translate the given expression into Quadruples, triples and indirect triples
 $-(a*b) + (c+d)-(a+b+c+d)$
b) Explain in brief about Peephole optimization techniques. (5,5)

P.T.O.

(2)

- VII. a) How to generate a code for a basic block from its dag representation? Explain.
- b) Define Symbol table. Explain about the data structures for Symbol table. (5,5)

x-x-x

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