Exam.Code: 0925 Sub. Code: 6865

1129

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

Time allowed: 3 Hours

Max. Marks: 50

NOTE: Attempt <u>five</u> questions in all, including Question No. I which is compulsory and selecting two questions from each Unit.

x-x-x

- I. Attempt the following:
 - a) What is Compiler? How is it different from Interpreter?
 - b) If G is the grammar $S \rightarrow SbS/a$, Show that G is Ambiguous.
 - c) Construct the Precedence Relation table for the Grammar.

 $E \rightarrow E + E/E * E/id$

- d) What is Symbol table? List out contents of Symbol Table.
- e) What is Difference between parse tree and syntax tree?

(5x2)

UNIT-I

- II. Explain working, input and output of all phases of compiler with the help of diagram. (10)
- III. a) Define terms token, patterns and Lexeme.
 - b) Perform Left Factoring on following Grammars:
 - i) S → aSSbS / aSaSb/abb/b
 - ii) S → bSSaaS/bSSaSb/bSb/a

(2x5)

IV. Construct the Predictive Parsing table for the following Grammar and find that grammar is LL(1) or not.

$$E \to TE'; \qquad E' \to +TE'/\epsilon ; T \to FT'; T \to *FT'/\epsilon ; F \to id/(E)$$
 (10)

<u>UNIT - II</u>

- V. Write Quadruples, Triples and Indirect Triples for the expression E=-(a+b)*(c+d)-(a+b+c)(10)
- VI. a) Discuss implementation of a simple stack allocation scheme in detail.
 - b) Differentiate between S-attributed and L-attributed SDT. (5,5)

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VII. Write notes on following topics:-

- a) Peephole optimization
- b) Classification of code optimization

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