13112(9 (E) Lib.

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 five 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 → 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 →TE'; E'→ +TE'/ϵ ; T→ FT'; $T \rightarrow$ *FT'/ ϵ; F→id/(E) (10)

UNIT – II

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)

P.T.O.

VII. Write notes on following topics:-

a) Peephole optimization

b) Classification of code optimization (5,5)

x-x-x