

Punjab Technical University
Master of Computer Application Examination

MCA 5th Semester COMPLIER DESIGN 2008

Time: Three Hours Maximum: 75 marks

Note :

PART A-(10*2=20) Answer All questions.

PART B-(5*5=25) Answer All The question.

PART C-(3*10=30) Answer Any THREE question.

PART A-(10*2=20) Answer All questions.

1. Define the role of input buffer in lexical analysis
2. Write regular expression to generate identifiers give examples.
3. Define the elements of production. Give examples.
4. Construct of a parse tree to the string-(id+id) using left most derivation.
5. Write the function of syntax directed translation.
6. Write three address code to the statement $A = -B * (C + D)$.
7. Explain the advantage of indirection in symbol table.
8. Write postfix expression to $-B + C * P | E$
9. List the criteria to the selection of optimizing transformations.
10. Define induction variable. Give examples.

PART B-(5*5=25) Answer All The question.

11. (a) Draw transition diagrams to floating point numbers.

Or

(b) Write procedure for the construction of NFA from a regular expression

12. (a) Explain top-down parsing. Give example.

(b) Discuss the action of operator-precedence parser to the input id+id.

13. (a) Write semantic actions to the set of procedure.

$S \rightarrow E \$$

$E \rightarrow E + E$

$E \rightarrow E * E$

E->(E)

E->I

I->I digit

I->digit.

Or

(b)Distinguish between parse tree and syntax

14.(a) Explain the reusability concept of symbol table space.

Or

(b)Explain the formate of activation record.

15.(a)Discuss brief lexical phase error.

Or

(b)What do you mean by code motion?Explain.

PART C-(3*10=30) Answer Any THREE question.

16.Discuss neatly the language for specifying lexical analyzers.

17.Explain the principle of predictive parser.Give an example.

18.Discuss code optimization in detail.

19.Write notes on implementing block structured language.

20What is basis block?Explain the role of flow graph in basis blocks