Total No. of Questions : 6]

SEAT No. :

P3428

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[4959]-203

B.E. (Computer Engg.)

PRINCIPLES OF COMPILER DESIGN

(2008 Course) (410442) (Semester - I)

Time : 3 Hours] *[Max. Marks : 100*

Instructions to the candidates:

1) ***Answers to the two sections should be written in separate answer books.***
2) ***Neat diagrams must be drawn wherever necessary.***

SECTION - I

Q1) a) Explain the role of lexical analyzer with suitable diagram. **[8]**

b) Explain how predictive parser works. **[10]**

OR

a) Explain use of yylex, yymore, yyless & yywrap functions. **[8]**

b) Write an algorithm to show the working of how LALR parser works. **[10]**

Q2) a) Construct syntax tree for a + 4 -c. **[8]**

b) Draw a diagram to show position of type checker. Explain how type checking is performed. **[8]**

OR

a) Write short note on : **[8]**

i) L-attributed definition

ii) S-attributed definition

b) Write short note on : Semantic analysis. **[8]**

Q3) a) Write intermediate code for assignment statement. **[8]**

b) Explain Indirect triple, quadruple with suitable example. **[8]**

OR

a) Write & explain intermediate code for 'declarative' statement. **[8]**

b) Write & explain intermediate code for 'do-while' statement. **[8]**

P.T.O.

SECTION - II

Q4) a) Explain source language issues in run-time storage organization. **[8]**

b) Write short note on **[8]**

i) stack allocation strategy

ii) heap allocation strategy

OR

a) What is garbage collection? Explain its need. **[8]**

b) Draw & explain diagram of activation record. **[8]**

Q5) a) Explain machine dependent & machine independent code optimization. **[8]**

b) Write short note on : Issues in code generation. **[10]**

OR

a) Illustrate dynamic programming with suitable example. **[10]**

b) Write all tree-techniques used for code generator - generator concept. **[8]**

Q6) a) Draw & explain data flow graph with suitable example. **[8]**

b) Write & explain data flow equations. **[8]**

OR

a) Write short note on:

i) dead code elimination

ii) common sub expression elimination

iii) peephole optimization

iv) code movement **[8]**

b) Write short note on next - use information. **[8]**