

Total No. of Questions : 6]

SEAT No. :

P3428**[4959]-203**

[Total No. of Pages : 2

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]

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- 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]

