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SEAT No. :

P163

[Total No. of Pages : 2

OCT/BE/Insem.-92

B.E. (Computer Engineering)

PRINCIPLES OF MODERN COMPILER DESIGN

(2012 Pattern) (Semester - I)

Time : 1 Hour]

[Max. Marks : 30

Instructions to the candidates :

- 1) All questions carry equal marks.
- 2) Neat diagrams must be drawn wherever necessary.
- 3) Figures to the right indicate full marks.
- 4) Assume suitable data, if necessary.

Q1) a) Define the following: [4]

- i) Token
- ii) Pattern
- iii) Lexeme
- iv) Lexical error

b) What are symbol tables? Explain in brief the different ways of organizing the symbol table. [6]

OR

Q2) a) Explain techniques of garbage collection. [4]

b) Consider the statement [6]

$X=Y+C* 5;$

Where 'X', 'Y', 'C' are float type

Write all the phases of compiler with i/p and o/p of these phases for the above statement.

Q3) a) For following grammar compute first and following sets [4]

$S \rightarrow AaAb|BbBa$

$A \rightarrow \epsilon$

$B \rightarrow \epsilon$

b) With respect to parsing explain the following terminologies [6]

- i) Ambiguous grammar
- ii) precedence and associativity

OR

P.T.O.

- Q4)** a) Explain shift reduce and reduce - reduce conflicts. [4]
b) What is need of Semantic Analysis? Explain the position of Type Checker with diagram. [6]

- Q5)** a) Explain various intermediate code forms with example (any 2). [4]
b) Explain the following terms with suitable examples: [6]
i) Inherited Attributes
ii) Synthesized Attributes

OR

- Q6)** a) Explain following terms. [4]
i) Syntax tree
ii) DAG
b) Convert the exp into three address code & Quadruple, triple, indirect triple $S=(a+b)/(c-d)*(e+f)$. [6]
