Total No. of Printed Pages:2

SUBJECT CODE NO:- E-282
FACULTY OF ENGINEERING AND TECHNOLOGY
B.E.(CSE) Examination Nov/Dec 2017
Principles of Compiler Design
(REVISED)

[Time: Three Hours] **[Max.Marks:08]**

Please check whether you have got the right question paper.

N.B
1) Question No.1 & 6 are compulsory
2) Attempt any other two question from each section
3) Assume suitable data if necessary
4) Figure to the right indicate full marks

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Section-A

Q.1	a)	Explain Role of lexical analyzer with suitable diagram	05
	b)	What is Gross compilation? Compare with boot strapping.	05
Q.2	a)	Explain input buffering in detail?	07
	b)	Explain specification of tokens like numbers, identifier's keywords etc. in lexical analyzer.	08
Q.3	a)	Consider the grammar given below $E \rightarrow E + T / T$ $T \rightarrow T * F / F$ $F \rightarrow (E) / Td$ Construct LR parsing table for above grammar, give the moves of LR parser on id * id + id	08
	b)	Explain with suitable e.g. the algorithm for NFA to DFA conversion	07
Q.4	a)	Explain LR parsing algorithm with suitable example	08
	b)	Explain canonical collection of LR(0) items with suitable example	07
Q.5	a)	Explain how recognize tokens? draw the transition diagram for relational operators & numbers	07
	b)	Explain error detection & correction with YACC	08

Section – B

Q.6	a)	Write a short note on three address code	05
	b)	Write short note on type checking & type conversion	05
Q.7	a)	Explain in detail about bottom- up evaluation of S – attributed definitions	08
	b)	Write short note on global data flow analysis	07
Q.8	a)	Discuss the algorithm for elimination of local common sub expression	08
	b)	Write the sematic rules for given production $L \rightarrow En$ $E \rightarrow E_1 + T$ $E \rightarrow T$ $T \rightarrow T_1 * f$ $T \rightarrow F$ $F \rightarrow (E)$ $F \rightarrow$digit Also draw the annotated parse tree for 3 * 5 + 4n	07
Q.9	a)	Explain in detail about bottom up evaluation of L – attributed definition	07
	b)	With suitable example explain basic blocks & flow graphs	08
Q.10	a)	Explain Register allocation & assignments in detail	08
	b)	What is peephole optimization? Discuss some example of program transformation that are characteristics of peephole optimization	07