Q.P. Code: 18CS0514 **R18**

Reg. No: | | | | | | | | | | |

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech III Year I Semester Supplementary Examinations August-2021

COMPILER DESIGN

(Computer Science and Engineering)

Time: 3 hours Max. Marks: 60

PART-A

(Answer all the Questions **5 x 2 = 10** Marks)

1	a	Differentiate tokens, patterns, and lexeme.	2M
	b	Define Context Free Grammar.	2M
	c	Define a syntax-directed translation.	2M
	d	Write properties of memory management	2M
	e	What is the Role of peephole optimization in compilation process	2M

PART-B

(Answer all Five Units 5 x 10 = 50 Marks)

UNIT-I

2 Discuss the followi terms: **10M**
i) Specification of Tokens ii) Recognition of Tokens

OR

3 Write short notes : **10M**
i) pass and phases of a compiler ii) Bootstrapping

UNIT-II

4 a Construct the recursive decent parser for the following grammar? **5M**
E-> E+T/T
T-> T*F/F
F-> (E)/id

b Explain about Left factoring and Left Recursion with examples? **5M**

OR

5 Consider the grammar E->E+T/T,T->T*F/F,F->(E)|id Construct predictive parsing table and check given grammar is LL(1) or not? **10M**

UNIT-III

6 Construct CLR Parsing table for the given grammar **10M**
S->CC
C->aC/d

OR

7 Explain syntax directed definition with simple examples? **10M**

UNIT-IV

8 Draw the format of Activation Record in stack allocation and explain each field in it. **10M**

OR

9 Describe about Control Flow Statements. **10M**

UNIT-V

10 Construct the DAG for the following basic blocks: **10M**

1. t1:=4*i
2. t2:=a[t1]
3. t3:=4*i
4. t4:=b[t3]
5. t5:=t2*t4
6. t6:=prod+t5
7. prod:=t6
8. t7:=i+1
9. i:=t7
10. if i<=20 goto 1

OR

11 Explain the target machine architecture? **10M**

END