

Reg. No:

| | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|
| | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)

B.Tech III Year II Semester Supplementary Examinations July-2021

COMPILER DESIGN
(Common to CSE & CSIT)

Time: 3 hours

Max. Marks: 60

(Answer all Five Units 5 x 12 = 60 Marks)

UNIT-I

- 1 a Describe the role of lexical analysis in compiler design. 6M
b Explain the Structure of Compiler. 6M

OR

- 2 a Explain Input Buffering with simple examples. 6M
b List the various phases of a compiler and Define Regular Expressions and Regular Grammar. 6M

UNIT-II

- 3 a Calculate FIRST and FOLLOW for the following grammar. 6M
a) $E \rightarrow E+T/T$, $T \rightarrow T^*F/F$, $F \rightarrow (E)/id$
b Construct Predictive Parse Table for the grammar $E \rightarrow E+T/T$, $T \rightarrow T^*F/F$, $F \rightarrow (E)/id$ and parse the string $id+id*id$. 6M

OR

- 4 a Construct the recursive decent parser for the following grammar. 7M
 $E \rightarrow E+T/T$, $T \rightarrow T^*F/F$, $F \rightarrow (E)/id$
b Differences between SLR, CLR, and LALR parsers. 5M

UNIT-III

- 5 a Explain in detail about Back patching Technique. 6M
b Write the Syntax of case statement with example. 6M

OR

- 6 a Explain the Type Checking with suitable examples. 8M
b Define annotated parse tree with example. 4M

UNIT-IV

- 7 a Explain Storage allocation strategies with suitable examples. 8M
b Name any four procedural optimization techniques. 4M

OR

- 8 a Explain about Global data flow analysis. 6M
b Distinguish between static scope and dynamic scope. 6M

UNIT-V

- 9 a Explain the target machine architecture. 8M
b Give the different forms in target program. 4M

OR

- 10 a Describe the various strategies in register allocation. 4M
b Explain the simple code generator and generate target code sequence for the following statement $d := (a-b) + (a-c) + (a-c)$. 8M

*** END ***