

Reg. No: 

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

**B.Tech III Year I Semester Supplementary Examinations December-2021**

**COMPILER DESIGN**

(Computer Science and Engineering)

Time: 3 hours

Max. Marks: 60

**PART-A**

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

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|---|---|----|----|
| 1 | a Differentiate between compiler and Interpreter. | L4 | 2M |
|   | b What is Role of Parser?                         | L1 | 2M |
|   | c What is mean by shift reducing parsing?         | L1 | 2M |
|   | d Define symbol table.                            | L1 | 2M |
|   | e Give the different forms in target program.     | L1 | 2M |

**PART-B**

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

**UNIT-I**

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|---|---|----|-----|
| 2 | Explain the different phases of a compiler with neat diagram. | L2 | 10M |
|---|---|----|-----|

**OR**

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|---|--------------------------------------|----|-----|
| 3 | Explain LEX Tool with a Lex Program. | L2 | 10M |
|---|--------------------------------------|----|-----|

**UNIT-II**

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|---|--|----|----|
| 4 | a Eliminate left recursion for the following grammar | L2 | 5M |
|---|--|----|----|

E-> E+T/T

T-> T\*F/F

F-> (E)/id

- |   |   |    |    |
|---|---|----|----|
| b | Explain about Left factoring with simple example. | L3 | 5M |
|---|---|----|----|

**OR**

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|---|--|----|-----|
| 5 | What is recursive descent Parser? Construct the recursive decent parser for the following grammar. | L3 | 10M |
|---|--|----|-----|

E-> E+T/T

T-> T\*F/F

F-> (E)/id

**UNIT-III**

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|---|--|----|-----|
| 6 | Perform Shift Reduce Parsing for the input string using the grammar. | L2 | 10M |
|---|--|----|-----|

S->(L)|a

L->L,S|S

a)(a,(a,a))

b)(a,a)

**OR**

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|---|--|----|-----|
| 7 | Explain syntax directed definition with suitable examples. | L2 | 10M |
|---|--|----|-----|

**UNIT-IV**

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|---|---|----|-----|
| 8 | Describe the Storage Organization with simple examples. | L2 | 10M |
|---|---|----|-----|

**OR**

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|---|---|----|-----|
| 9 | Write about Different types of Intermediate code with an Example. | L3 | 10M |
|---|---|----|-----|

**UNIT-V**

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|----|--|----|-----|
| 10 | Describe about optimization techniques on Basic Blocks with simple examples. | L2 | 10M |
|----|--|----|-----|

**OR**

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|----|---|----|-----|
| 11 | Write about all issues in code generation. Describe it. | L3 | 10M |
|----|---|----|-----|

\*\*\*END\*\*\*