

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

B.Tech III Year I Semester Regular & Supplementary Examinations February-2024

COMPILER DESIGN

(Common to CSE & CSIT)

Time: 3 Hours

Max. Marks: 60

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

UNIT-I

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|---|--|-----|----|-----|
| 1 | a Define compiler. | CO1 | L1 | 2M |
| | b Analyse the process of compilation while designing a compiler. | CO2 | L4 | 10M |
| 2 | a Describe Bootstrapping. | CO1 | L2 | 6M |
| | b Explain the different applications of compiler technology. | CO1 | L2 | 6M |

UNIT-II

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|---|---|-----|----|-----|
| 3 | a Define Ambiguity. | CO1 | L1 | 2M |
| | b Interpret how to eliminate ambiguity for the given Ambiguous Grammar.
A → abB/aB/cdg/cdeB/cdfB | CO1 | L3 | 10M |

OR

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|---|---|-----|----|-----|
| 4 | Consider the grammar
S → AB ABA
A → d
E → b
D → b ε
B → c
Construct the predictive parse table and check whether the given grammar is LL(1) or not. | CO3 | L6 | 12M |
|---|---|-----|----|-----|

UNIT-III

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|---|--|-----|----|-----|
| 5 | Prepare Shift Reduce Parsing for the input string using the grammar
S → (L)a L → L,S S
a. (a,(a,a)) b. (a,a) | CO3 | L6 | 12M |
|---|--|-----|----|-----|

OR

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|---|---|-----|----|----|
| 6 | a Give the evaluation order of SDD with an example. | CO2 | L5 | 6M |
| | b Discuss Type Checking with suitable examples. | CO4 | L2 | 6M |

UNIT-IV

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|---|---|-----|----|----|
| 7 | a Describe scope and life time of variable. | CO5 | L2 | 6M |
| | b Illustrate Control Flow Statements. | CO4 | L3 | 6M |

OR

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|---|--|-----|----|-----|
| 8 | a Define Activation Record. | CO5 | L1 | 2M |
| | b Sketch the format of Activation Record in stack allocation and explain each field in it. | CO5 | L3 | 10M |

UNIT-V

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|---|--|-----|----|-----|
| 9 | Explain the peephole optimization Technique with examples. | CO5 | L2 | 12M |
|---|--|-----|----|-----|

OR

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|----|--|-----|----|----|
| 10 | a Analyze Simple code generator. | CO6 | L4 | 6M |
| | b Evaluate Register allocation and register assignment techniques. | CO6 | L5 | 6M |

*** END ***

