Student Name:

University Roll No.: Printed Pages: 1

School of Engineering

Second Theory Sessional Examination

Even Semester (AS: 2025-26)

B. Tech: CSE,AI,CCML,IOTBC **[Year: 3rd] [Semester : 6th]**

Course Title: Compiler Design Max Marks: 30

Course Code: BCS3604 Time: 1 hr

Instructions: 1-Mention any assumptions made 2-Notations have usual meaning.

SECTION 'A'

Q.N.1. Attempt all parts of the following:		Course Objective	Marks
a)	Write the method to remove Left Recursion.	CO2	1
b)	List the properties of LR parser.	CO2	1
c)	Write the condition of a Grammer to be LL1.	CO2	1
d)	What is meant by Predictive parsing?	CO2	1
e)	Write about Backtracking in Grammer.	CO2	1

SECTION 'B' Q.N.2. Attempt any two parts of the following:		Course Objective	Marks
a)	What is an LALR(1) grammar? Construct LALR parsing table for the following grammar: S→ CC, C → cC , C → c|d .	CO2	7.5
b)	Construct the LR Parsing table for the following grammar: E→E + T | T T→T * F | F F →(E)/id	CO2	7.5
c)	Explain the following with an example: a) Strength Reduction b) Frequency Reduction c) Copy propagation	CO4	7.5

SECTION 'C' Q.N.3. Attempt any one parts of the following:		Course Objective	Marks
a)	Check the given grammar is CLR (1) or not? Grammar: - S→ CC C→ aC/ d	CO2	10
b)	Construct Operator precedence parser & parse the following string (a, (a, a)). Grammar:- S→ (L) / a L→ L, S/ S	CO2	10
c)	Write the Quadruples, Triple and Indirect Triple intermediate code form of the following expression:- (x+y) * (y+z) + (x+y+z)	CO3	10

Table 1: Mapping between COs and questions

COs	Questions Numbers	Total Marks
CO2	1 {a,b,c,d,e},2{a,b},3{a,b}	40
CO3	3 (c)	10
CO4	2 (c)	7.5