VIT
Vellore Institute of Technology
(Deemed to be University under section 3 of UGC Act, 1956)
CHENNAI

Reg. Number:	

Continuous Assessment Test (CAT) – II - OCT 2024

Programme	:	B.Tech (BCSE)	Semester	:	FALL 2024-2025
Course Code & Course Title	:	BCSE307L COMPILER DESIGN	Class Number	:	CH2024250101290 CH2024250101293 CH2024250101291
Faculty	:	Dr Nagaraj S V Dr Sivakami R Dr Sureshkumar WI	Slot	:	G1+TG1
Duration	:	1 ½ hrs	Max. Mark		50

General Instructions:

- Write only your registration number on the question paper in the box provided and do not write other information.
- Use statistical tables supplied from the exam cell as necessary
- Use graph sheets supplied from the exam cell as necessary
- Only non-programmable calculator without storage is permitted

Answer all questions

Q. No	Sub Sec.	Description	Marks
1	a)	Construct the SLR parsing table for the following grammar (5 marks). **S → AxB | B** **A → yB | z** **B → A**	15
	b)	Determine whether the grammar is a SLR grammar or not and justify your answer with appropriate reasons. (5 marks).	
	c)	Parse the input string zxz. (5 marks).	
2	a)	Give a syntax directed translation scheme to convert an expression in infix format to an expression in postfix format. For simplicity, assume the expressions consist only of two operators: one for addition and another for multiplication. (5 marks).	10
	b)	With (9+8*(7+6)+5)*4 show that your scheme works correctly. (5 marks)	
3	a)	Translate the following arithmetic expressions into quadruples, triples and indirect triples i. **x= (b*e) + (e-f)** (5 marks)	15
	b)	ii. **y=(e+d*e)^f + h*(i^j)** (10 marks)	

4		Apply SDD to generate intermediate code for the input:
		while (c<d or c>70)
		{
		if (c==1)
		{
		d=d+1;
		}
		else
		{
		e=e+1:
		break;
		}
		}
			10

**********All the best **********