VIT

Vellore Institute of Technology

Continuous Assessment Test II– March 2023

Programme	:	B.Tech. CSE	Semester	:	Winter 2022-23
Course	:	**Compiler Design**	Code	:	BCSE307L
			Slot(s)	:	C2+TC2
Faculty	:	Dr. B V A N S S PRABHAKAR RAO, Dr. VENKATRAMAN S., Dr. ASHOKA RAJAN R., Dr. MERCY RAJASELVI BEAULAH P., Dr. SUSEELA S., Dr. SIVAKUMAR.	Class Nbr	:	CH2022235000225, CH2022235000227, CH2022235000223, CH2022235000224. CH2022235000226. CH2022235000221
Time	:	1½ Hours	Max. Marks	:	50

Answer ALL the Questions

1.	Check whether the following grammar is a SLR (1) grammar or not. Explain your answer with reasons. bexpr → bexpr **or** bterm | bterm bterm → bterm **and** bfactor | bfactor bfactor → **not** bfactor | (bexpr) | 1 | 0	15 marks
2.	Write a Syntax Directed Translation (SDT) to convert any given prefix arithmetic expression into postfix arithmetic expression.	5 marks

3.	Construct parse tree and generate the intermediate code for the code fragment:
	
	while(a<b) do
	if(c<d) then
	x=y+z;
	else
	x=y-z;
		10 marks

4.	Write quadruple, triple and indirect triple for following
	
	    a. $x=((a+b*c)\char94(d*e))+(f*(g\char94 h))$
	
	    b. $z=g+(a*(b-c))+((x-y)*d)$
		(5+5)= 10 marks

5.	Write a YACC program for the given Syntax Directed Translation (SDT) E→ aaD {print "1"} E→ b {print "2"} D→ Ec {print "3"} Check what is the translation of aaaabcc using the syntax directed translation scheme described by the above rules?	10 marks

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