MODEL QUESTION PAPER

Code No: CT3520 **SRGEC-R20**

II B.Tech II Semester Regular Examinations

COMPILER DESIGN

(Artificial Intelligence and Data Science)

Time: 3 Hours **Max. Marks: 70**

Note: Answer all questions. All Questions carry Equal Marks

5 × 14 = 70M

Unit - I

		BL
1.	a) Differentiate between Compiler and Interpreter. (7M) b) Explain the major role of Lexical Analyzer. (7M)	L2 L2
	(OR)	
2.	Illustrate the translation of the following statement on all phases of the compiler. Here a, b and c variables are real. (14M) a : = b + c * 60	L3

Unit - II

3.	a) Differentiate between LL and LR Parsers. (6M) b)Construct LL (1) or Predictive parsing technique for the given grammar. (8M) S-> iEtSS^1|a S^1->eS|∈ E->b	L2 L3
	(OR)	
4.	Construct CLR Parsing table for the given grammar and parse the string w=aadd. (14M) S->CC C->aC C->d	L4

Unit - III

5.	a) Construct a dependency graph for the following grammar. (7M) E->E1+E2 E->E1*E2 b) Construct the semantic rules for the following grammar. (7M) D->TL, T ->int | real L->L, id | id	L3 L3

	(OR)		
6.	Define Symbol Table. Explain various operations on symbol table.	(14M)	L2
	Unit - IV		
7.	a) Discuss various Loop optimization Techniques with examples. b) Explain Liveness analysis with suitable example.	(7M) (7M)	L2 L2
	(OR)		

8.	Write the basic blocks and draw the flow graph for the given code.
	begin
	prod :=0;
	i:=1;
	do begin
	prod :=prod+ a[i] * b[i];
	i :=i+1;
	end
	while i <= 10
	end
		(14M)	L4

	Unit - V		
9.	a) Explain various in code generation phase of a compiler. b) Discuss generic code generation with suitable example.	(7M) (7M)	L2 L2
	(OR)		
10.	Discuss machine dependent optimizations with suitable example.	(14M)	L3