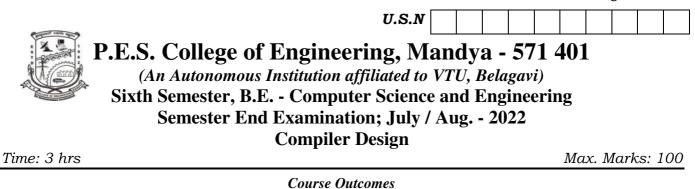
P18CS62



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The Students will be able to: CO1: Design simple lexical analyzer.

CO2: Construct simple top down parser for a given context free grammar.

CO3: Construct simple bottom up parser for a given context free grammar.

CO4: Apply different syntax directed translation schemes.

CO5: Generate intermediate and machine dependent code.

<u>Note</u>: I) PART - A is compulsory. Two marks for each question.

II) PART - B: Answer any <u>Two</u> sub questions (from a, b, c) for a Maximum of 18 marks from each unit.

Q. No.	Questions	Marks	BLs	COs	POs
	I : PART - A	10			
I a.	Define pattern and lexeme.	2	L2	CO1	PO1
b.	What is ambiguous grammar?	2	L1	CO2	PO1
c.	What is Handle?	2	L1	CO3	PO1
d.	Define syntax directed definition.	2	L1	CO4	PO1
e.	What is a flow graph?	2	L1	CO5	PO1
	II : PART - B	90			
	UNIT - I	18			
1 a.	Explain the concept of input buffering in the lexical analysis.	9	L1,2	CO1	PO1,2
b.	Give the regular expression and finite automata for the specification	9	L5	CO1	PO1,2
	and recognition of identifier, constants and logical operators.				,
c.	Briefly explain different phases of compiler taking the example	9	L1,2 CO1	CO1	PO1.2
	statement; position = initial + rate $*$ 60.	-	,		- ,
	UNIT - II	18			
2 a.	Define left recursion, left factoring. Write an algorithm used for	9	L1	CO2	PO1,2
	eliminating left recursion.				,
b.	Write an algorithm for recursive decent parsing with an	9	L3	CO2	PO1,2
	illustrative example.	-			,
с.	Give algorithm for first and follow set construction and also				
	compute first and follow for the give grammar.	9	L4	CO3	PO1
	$E \rightarrow TE^{1}; E^{1} \rightarrow +TE \mid E; T \rightarrow FT^{1};$	-			
	$T^1 \rightarrow *FT^1 \mid E, F \rightarrow (E) \mid id$				

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	UNIT - III	18		
3 a.	Write an algorithm for shift reduce parser with example.	9	L3 CO3 PO1,2	
b.	consider the following grammar:			
	$E \rightarrow E + T \mid T; T \rightarrow T^* F \mid F; F \rightarrow (E) \mid id$	9	L3 CO3 PO1,2	
	Compute canonical collection of sets of LR(0) items.			
c.	Write an algorithm to construct SLR parsing table and construct			
	SLR parsing tale for the grammar:	9	L3 CO3 PO1,2	
	$E \rightarrow E + T \mid T; T \rightarrow T^*F \mid F; F \rightarrow (E) \mid id$			
	UNIT - IV	18		
4 a.	Write the SDD for simple desk calculator and give annotated parse	0		
	tree for 3*5+4n.	9	L3 CO4 PO1,2	
b.	Explain in detail different storage allocation strategies.	9	L2 CO4 PO1,2	
c.	Explain the following with an example:			
	i) Inherited attribute	9	L2 CO4 PO1,2	
	ii) Synthesized attribute			
	UNIT - V	18		
5 a.	What are the basic blocks? Explain in detail DAG representation of	0		
	basic blocks.	9	L1,2 CO5 PO1	
b.	Briefly explain the different types of intermediate codes for the	0	L2 CO5 DO1 2	
	expression $a := b^* - c + b^* - c$.	9	L2 CO5 PO1,2	
c.	Explain various issues in the design of code generation.	9	L2 CO5 PO1	

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