

SET - 1

(Computer Science and Engineering)

Max. Marks: 70

3. Answer any **THREE** Questions from **Part-B**

2	a)	Explain the role of assembler, compiler, loader and linker in the language processing system.	[8M]
	b)	Write about the following with respect to lexical analyzer. i) Relationship with regular expressions and regular definitions ii) Lexical errors.	[8M]
3	a)	Explain the structure of predictive parser. How to handle error in it?	[6M]
	b)	Construct the non recursive predictive parse table for the given grammar and check the acceptance of input string abfcg $S \rightarrow A$ $A \rightarrow aB/Ad$ $B \rightarrow bBC/f$ $C \rightarrow eg$	[10M]
4	a)	Explain the working principle of CLR(1) parser and construct the parse table for the given grammar $S \rightarrow L=R/R$ $R \rightarrow L$ $L \rightarrow *R/id$	[10M]
	b)	Using the CLR (1) table constructed above check the acceptance of input string id=id/id and also explain the algorithm for this.	[6M]
5	a)	What is intermediate code? Translate the expression (a+b)/(c+d)*(a+b/c)-d into quadruples, triples and indirect triples.	[8M]
	b)	Write and explain the Syntax Directed definition for the grammar $E \rightarrow E1+T/E1-T/T$ $T \rightarrow (E)/id/num$.	[8M]
6	a)	Consider the C program and generate the code and Write different object code forms Main() { int i, a[10]; while (i<=10) a[i]=i*5; }	[8M]
	b)	What is Activation Record? Explain its usage in stack allocation strategy. How it is different from heap allocation?	[8M]
7		Explain the following machine independent optimization techniques.	
	a)	Common sub expression and dead code elimination	[6M]
	b)	Copy propagation, constant folding.	[5M]
	c)	Instruction scheduling.	[5M]

* * * * *