Subject Code: 160706

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VI • EXAMINATION – SUMMER • 2015

Date:18/05/2015

Ti	me:10 truction	ns: Attempt all questions. Make suitable assumptions wherever necessary.	Total Marks: 70	
	3.	Figures to the right indicate full marks.		
Q.1	(a)	Differentiate passes and phases of complier. Explain in brief syntax analysis	07	
	(b)	phase. What is need and importance of intermediate code? Create quadruple and Triple for following statement. $a=(a+b)*(c-d)$	07	
Q.2	(a)	Draw Optimized DFA for following regular expression.	07	
	(b)	$(1^*)^*0(0/1)^*\#$ Construct LL(1) parsing table for following grammar. E \rightarrow TE'	07	
		E' → +TE' €		
		$T \rightarrow FT'$		
		T' → *FT' €		
		$F \rightarrow (E) \mid id$		
		OR		
	(b)	Construct operator precedence parser for following grammar : $E \rightarrow E+E \mid E^*E \mid id$	07	
Q.3	(a)	Explain in brief design of a Single Pass Assembler.	07	
	(b)	Explain and show usage by giving examples of advanced assembler Directives.	07	
0.2	(a)	OR	07	
Q.3	(a)	Differentiate one pass and two pass assembler. Explain how forward references are handled in two pass assembler.	07	
	(b)	Explain and compare two variants of the intermediate code generated from multi pass assembler.	07	
Q.4	(a)	Compare and Contrast the following (i) macro call and function call (ii) macro proprocessor and macro assembler	07	
	(b)	(ii) macro preprocessor and macro assembler. Explain macro expansion process with example. OR	07	
Q.4	(a)	Explain in brief the design of a macro preprocessor.	07	
ζ	(b)	Explain self relocating programs and overlay structured programs.	07	
Q.5	(a)	Explain in brief design of an absolute Loader.	07	

	(b)	Write Regular expression and DFA for valid exponential number.	07
		OR	
Q.5	(a)	Explain in brief design of a Linker.	07
	(b)	Define the following with example:	07
		(i) Left recursive grammar	
		(ii) Symbol Table	
