Seat No.: _____ *Enrolment No._____*

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- VIth SEMESTER–EXAMINATION – MAY- 2012

Subject code: 160706 **Date: 22/05/2012**

Subject Name: System Programming

Time: 10:30 am – 01:00 pm **Total Marks: 70**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	**(a)**	Explain Left recursion, Left factoring and backtracking in top down parsing.	**07**
	(b)	Explain various steps of code optimization with example..	**07**
Q.2	**(a)**	Explain Design of Macro Preprocessor.	**07**
	(b)	Explain Absolute Loader with example.	**07**
		OR	
	(b)	Explain BSS loader with example.	**07**
Q.3	**(a)**	Explain two pass assembler.	**07**
	(b)	Given the Grammer, evaluate the string id-id*id using shift reduce parser. E-> E – E E -> E * E E -> id	**07**
		OR	
Q.3	**(a)**	Explain the data structure of single pass assembler.	**07**
	(b)	Given the grammer, perform the top-down parsing for the the string +*35*45 E = +TE|E T = *VT|V V= 0|1|2|3|……|9	**07**
Q.4	**(a)**	What is macro in programming language. Write an algorithm for macro definition.	**07**
	(b)	Explain dynamic linking. Draw the flaw chart for dynamic linking.	**07**
		OR	
Q.4	**(a)**	Draw a flow chart and explain simple one pass macro processor.	**07**
Q.4	**(b)**	Explain linking and loading in MS DOS.	**07**
Q.5	**(a)**	Explain triple and quadrable representation with example.	**07**
	(b)	Explain lexical analysis and syntax analysis phase in compilation process.	**07**
		OR	
Q.5	**(a)**	Discuss parameters for Activation Records.	**07**
	(b)	Develop Regular expression and DFA for declaring a variable in ‘C’ language.	**07**

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