Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

MCA - SEMESTER– III • EXAMINATION – SUMMER - 2017

Subject Code:2630005 **Date: 07/06/2017**

Subject Name: System Software (SS)

Time: 02:30 PM – 05:00 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 the following: i) Grammar ii) Semantic Gap iii) Sequence Symbol iv) Language Processor v) Translator vi) Assembler vii) LEX	**07**
	(b)	Differentiate between Assembly Language and Machine Language. Give suitable example.	**07**
Q.2	**(a)**	What do you mean by Lexical Analysis? List all notations used in regular expression. Draw DFA and STT for an input token a*(bcd)+.	**07**
	(b)	Differentiate between Variant-I and Variant-II of the intermediate code.	**07**
		OR	
	(b)	Explain with suitable example the techniques of code optimization.	**07**
Q.3	**(a)**	Explain any three Assembler Directive in detail.	**07**
	(b)	Differentiate between DFA with FSA. Generate the DFA for any regular expression of your choice and explain.	**07**
		OR	
Q.3	**(a)**	Discuss overlay techniques. Also write its advantages.	**07**
	(b)	Discuss derivation and reductions with suitable example.	**07**
Q.4	**(a)**	Discuss an algorithm of Pass – I of Linker.	**07**
	(b)	Discuss all the components of object module of a program.	**07**
		OR	
Q.4	**(a)**	Discuss how nested Macro call is processed by Macro preprocessor using extended stack model.	**07**
	(b)	Explain Triple and Quadruple. Generate triple and quadruple entries for any expression of your choice.	**07**
Q.5	**(a)**	What do you mean by a hash table? Explain various hashing methods.	**07**
	(b)	Explain any seven Assembly language statements with suitable example.	**07**
		OR	
Q.5	**(a)**	Explain FSA in detail.	**07**
	(b)	Explain two pass assembler in detail.	**07**

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