Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

MCA - SEMESTER– III EXAMINATION – WINTER - 2016

Subject Code:2630005 **Date:06/01/2017**

Subject Name: System Software (SS)

Time:10:30am To 1:00pm **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)**	Define the following term: 1) Language processor 2) System software 3) Translator 4) Specification gap 5) Parse tree 6) Forward reference 7) Backtracking	**07**
	(b)	1. Differentiate between linear and non-linear data structure.(2) 2. Explain static and dynamic binding.(2) 3. Write a brief note on debug monitor.(3)	**07**
Q.2	**(a)**	Explain the fundamental of language process activity.	**07**
	(b)	What is Computer Grammar? Explain various types of Grammar in detail.	**07**
		OR	
	(b)	Discuss the design of an editor. Explain various types of editors with suitable examples.	**07**
Q.3	**(a)**	Explain various types of assembly language statements with syntax and suitable example.	**07**
	(b)	1. Compare Variant-I and Variant-II in assembly language.	**04**
		2. Explain elements of assembly language programming.	**03**
		OR	
Q.3	**(a)**	Explain pass structure of assembly language.	**07**
	(b)	1. Write down advantages and disadvantages of assembly language.	**04**
		2. Explain advanced assembler directives.	**03**
Q.4	**(a)**	1. Explain macro definition and call.	**04**
		2. Explain AIF, AGO and ANOP with respect to macro.	**03**
	(b)	What is code optimization? Explain various methods of code optimization.	**07**
		OR	
Q.4	**(a)**	1. Explain how to expand nested macro call.	**04**
		2. Discuss REPT and IRP with respect to macro.	**03**
	(b)	What is Interpreter? Explain the use of Interpreter. Specify types of Interpreter with brief introduction.	**07**
Q.5	**(a)**	Explain program relocation and Linking concept with example.	**07**
	(b)	1. Write a short note on absolute loader and relocatable loader.	**04**
		2. Write a short note on user interface.	**03**
		OR	
Q.5	**(a)**	Build the NFA and DFA with transition table for the given regular expression: a (bba | abb)* bb	**07**
	(b)	1. Define ENTRY and EXTRN statement with example.	**04**
		2. Write a short note on object module	**03**

****