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GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER–VI(OLD) – EXAMINATION – SUMMER 2019

Subject Code:160706   **Date:16/05/2019**

Subject Name: System Programming

Time:10:30 AM TO 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)	What is Language Processor? Explain Language Processing Activities in brief.	07
	(b)	What is Grammar and CFG? Give a classification of Grammars.	07
Q.2	(a)	Explain Left recursion, Left factoring and Backtracking in top down parsing.	07
	(b)	Given the grammar, evaluate the string id-id*id using shift reduce parser. $E \rightarrow E – E$, $E \rightarrow E * E$, $E \rightarrow id$.	07

OR

	(b)	Explain recursive decent parser with proper example. Write its disadvantages.	07
Q.3	(a)	What is Compiler? Explain all phases of Compiler with neat flowchart.	07
	(b)	Compare one pass and two pass Assembler. Write an algorithm of Single Pass Assembler.	07

OR

Q.3	(a)	Differentiate the terms: 1. Top Down and Bottom Up Parsing 2. Compiler and Interpreter	07
	(b)	Explain in brief the design of a macro assembler.	07
Q.4	(a)	Explain use and field of following tables of macro: KPDTB, SSTAB, MDT, EVTAB	07
	(b)	Define forward references. How it can be solved using back patching? Explain with example.	07

OR

Q.4	(a)	Explain this terms in detail : LITTAB, POOLTAB, LTORG, EQU	07
	(b)	Write a three address code and triple representation for $x = x * y * z + x * y + y * z$	07
Q.5	(a)	Explain Direct linking Loader.	07
	(b)	What is Code Optimization? Explain techniques of it in brief.	07

OR

Q.5	(a)	What is Program Relocation? Explain Self Relocating Programs and MS Dos Linker.	07
	(b)	Explain in brief design of a Two Pass Assembler.	07

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