

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VII (NEW) EXAMINATION – SUMMER 2024

Subject Code:3170701

Date:17-05-2024

Subject Name:Compiler Design

Time:02:30 PM TO 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.
4. Simple and non-programmable scientific calculators are allowed.

		MARKS
Q.1	(a) State the applications of language processors.	03
	(b) Explain input buffering techniques in brief.	04
	(c) Explain cousins of compiler in detail.	07
Q.2	(a) Enlist types of compiler. Explain any two in brief.	03
	(b) Explain error recovery strategies in brief.	04
	(c) Explain construction of DFA from regular expression without making NFA with suitable example.	07
OR		
	(c) Explain role of lexical analyzer with example in compiler design process.	07
Q.3	(a) Explain basic block with example.	03
	(b) Explain Syntax-Directed Definition with example.	04
	(c) Explain LL (1) parsing technique with suitable example.	07
OR		
Q.3	(a) Explain quadruple with example.	03
	(b) Explain left recursion removal algorithm with example.	04
	(c) Explain LR (1) parsing technique with suitable example.	07
Q.4	(a) Give the difference between stack allocation and heap allocation of space.	03
	(b) Explain various techniques for intermediate code representation with example.	04
	(c) Explain recursive decent parsing technique with suitable example.	07
OR		
Q.4	(a) Compare various parameter passing techniques for run time environment.	03
	(b) Explain various techniques used to represent the three-address code with example.	04
	(c) Explain shift-reduce parsing technique with suitable example.	07
Q.5	(a) Write a short note on activation record.	03
	(b) Explain basic-block scheduling in brief.	04
	(c) Describe various code optimization techniques with example.	07
OR		
Q.5	(a) Write a short note on activation tree.	03
	(b) Explain code scheduling constraints in brief.	04
	(c) Describe various design issues of a code generator.	07
