

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER-IV (NEW) EXAMINATION – SUMMER 2022

Subject Code:3140707**Date:29-06-2022****Subject Name:Computer Organization & Architecture****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.
4. Simple and non-programmable scientific calculators are allowed.

	MARKS
Q.1 (a) What is binary and decimal equivalent of F8 hexadecimal value?	03
(b) Write Steps for two n digit numbers subtraction in base r.	04
(c) List and explain Memory reference instructions in detail.	07
Q.2 (a) What is arithmetic micro operation?	03
(b) What is RAM and ROM?	04
(c) Draw and explain working of 4 bit binary adder.	07
OR	
(c) State and Explain any seven logic micro operation.	07
Q.3 (a) List out Register for basic computer.	03
(b) Explain register reference instruction format.	04
(c) Explain register transfer using block diagram and timing diagram.	07
OR	
Q.3 (a) Draw and explain control unit diagram for basic computer.	03
(b) State various phases of instruction cycle.	04
(c) Explain any four input output reference instruction.	07
Q.4 (a) Draw flowchart of first pass assembler.	03
(b) Write assembly language program to add two numbers.	04
(c) Write assembly language program to multiply two numbers.	07
OR	
Q.4 (a) What is address sequencing?	03
(b) Write assembly language program to subtract one number from other number.	04
(c) Explain booth's multiplication algorithm with example.	07
Q.5 (a) Explain register stack.	03
(b) What is difference between two address and three address instructions?	04
(c) Write a note on asynchronous data transfer.	07
OR	
Q.5 (a) What is difference between direct and indirect addressing mode?	03
(b) Explain arithmetic pipeline.	04
(c) Write a short note on virtual memory.	07
