Enrollment No: _____ Exam Seat No:_____

C. U. SHAH UNIVERSITY

Summer Examination-2022

Subject Name : Computer Organization and Architecture

Subject Code : 4TE04COA1 **Branch: B.Tech (CE)**

Semester : 4 **Date : 05/05/2022** **Time : 11:00 To 02:00** **Marks : 70**

Instructions:

(1) Use of Programmable calculator & any other electronic instrument is prohibited.
(2) Instructions written on main answer book are strictly to be obeyed.
(3) Draw neat diagrams and figures (if necessary) at right places.
(4) Assume suitable data if needed.

Q-1 Attempt the following questions: (14)

a) Write full form of CPU. 1
b) Write full form of RTL. 1
c) What is Memory? 1
d) What is Computer? 1
e) Write full form of ALU. 1
f) What is Interrupt? 1
g) Write full form of CISC. 1
h) Write full form of RISC. 1
i) Write form of PSW. 1
j) What is Hardware? 1
k) Write full form of BCD. 1
l) What is Register? 1
m) What is Assembler? 1
n) What is Common Bus? 1

Attempt any four questions from Q-2 to Q-8

Q-2 Attempt all questions (14)

(A) Explain basic register of general computer. 7

(B) Define common bus system? Implement it using MUX and three-state gate. 7

Q-3 Attempt all questions (14)

(A) Draw & Explain following circuit:4-bit Arithmetic circuit. 7

(B) Explain Basic computer Instruction format with example. 7

Q-4		Attempt all questions	(14)
	(A)	Draw and Explain Hardwired control unit for basic computer.	7
	(B)	Explain first pass of assembler.	7
Q-5		Attempt all questions	(14)
	(A)	Write a note on stack organization (Register stack, Memory stack)	7
	(B)	Explain ZERO, ONE, TWO,THREE address instructions in details.	7
Q-6		Attempt all questions	(14)
	(A)	Explain Flowchart for interrupt cycle.	10
	(B)	Draw and Explain flowchart for memory –reference instruction.	4
Q-7		Attempt all questions	(14)
	(A)	What is Vector Processing? Explain in brief.	7
	(B)	Explain Booth algorithm for multiplication of signes-2's complement number.	7
Q-8		Attempt all questions	(14)
	(A)	Explain four segment CPU(instruction) pipeline	7
	(B)	Write a note on Array processor	7