

COMPUTER ORGANIZATION AND ARCHITECTURE LAB

I YEAR SEM-II B.Tech CSE	LAB	L	T	P	C
CODE:CS1801	COMPUTER ORGANIZATION AND ARCHITECTURE	0	0	2	2

List of Experiments:

PART - I

1. Verification of Logic gates
2. Verification of Half-Adder and Half- Subtractor
3. Verification of Full-Adder and Full-Subtractor
4. Designing Full-Adder using multiplexer
5. Verification of Ripple Carry Adder
6. Verification of Carry-look-ahead adder
7. Verification of Registers and Counters
8. Wallace Tree Adder
9. Combinational Multipliers
10. Booth's Multiplier
11. Arithmetic Logic Unit
12. Memory Design
13. Associative cache Design
14. Direct Mapped cache Design
15. CPU Design

Software: 1. MULTISIM

2. Virtual Labs IIT- Kharagpur

PART – II 8086 sample Assembly Language Programs

1. Program to find largest number in an array.
2. Program to find smallest number in an array.
3. Program for adding to two arrays
4. Program to separate even and odd numbers from an array.
5. Program to find prime numbers between a given range.
6. Program to find factorial of the given number.
7. Program to find LCM.
8. Program to find GCD.
9. Program to sort numbers using bubble sort.
10. Program to search an element using linear search.
11. Program to search an element using binary search.

Requirements:

8086 emulator.

COA Laboratory

Experiments using MultiSim (Verification of Logic gates, Verification of Half-Adder and Half- Subtractor, Verification of Full-Adder and Full-Subtractor, Designing Full-Adder using multiplexer, Verification of Ripple Carry Adder, Verification of Carry-look-ahead adder, Verification of Registers and Counters, Wallace Tree Adder, Combinational Multipliers, Booth's Multiplier, Arithmetic Logic Unit, Memory Design, Associative cache Design, Direct Mapped cache Design, CPU Design). Experiments on 8086 Assembly Language Programs(Program to find largest number in an array, Program to find smallest number in an array, Program for adding to two arrays, Program to separate even and odd numbers from an array, Program to find prime numbers between a given range, Program to find factorial of the given number, Program to find LCM, Program to find GCD, Program to sort numbers using bubble sort, Program to search an element using linear search, Program to search an element using binary search).