

## **PRACTICAL IV: MICROPROCESSOR LAB.**

Credits : 4

Hours : 60

*Objective : To improve the Assembly language programming skills.*

### I. Arithmetic operations

1. 8 – bit addition
2. 8 – bit subtraction
3. 8 – bit multiplication
4. 8 – bit division
5. 16 – bit addition
6. 16 – bit subtraction

### II. BCD Arithmetic operations

1. BCD addition
2. BCD subtraction
3. BCD multiplication

### III. Sorting and searching

1. Searching for an element in an array
2. Sorting in ascending order
3. Sorting in descending order
4. Finding largest and smallest elements from an array
5. Reversing array elements
6. Block move

### IV. Code conversion

1. BCD to Hex and Hex to BCD
2. Binary to ASCII and ASCII to Binary
3. ASCII to BCD and BCD to ASCII

### V. Square and square root

1. Square of single byte Hex number
2. Square of a two digit BCD number
3. Square root of a single byte Hex number
4. Square root of a two digit BCD number

### VI. Applications

1. Traffic signal controller