University of Central Punjab
(Incorporated by Ordinance No. XXIV of 2002 promulgated by Government of the Punjab)
FACULTY OF INFORMATION TECHNOLOGY

# Computer Organization and Assembly Language

| Lab 06 | |
|---|---|
| **Topic** | ✦ Arithmetic & Logical instructions<br>✦ Selective bit setting/clearing/complimenting<br>✦ Shifting and Rotations variations |

## Part 2

**Question 1**: **Let Ax=0xABCD;**

Set $2^{nd}$,$5^{th}$,$8^{th}$, $14^{th}$ of ax.

then invert $1^{st}$ , $5^{th}$, $9^{th}$, $10^{th}$ and $14^{th}$bit of ax. then clear the L.S.B and M.S.B bit of ax.

**Problem #2:**

Write an assembly language program that will count the number of occurrences of 0x5 and save the result in variable "total".

**Without Using CMP and SUB instructions.**

**Array1** (byte size)

| Index | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| Value | 0x5 | 0x9 | 0x5 | 0x4 | 0xA | 0xB | 0x5 | 0x9 |

**Problem #3:**

Write an assembly language program to count number of ones in a value of word size. Use logical operators.

Binary of F37E is : 1111 0011 0111 1110

For-example

Number dw: F37E h

Count db: 12

**Problem #4:**

Write an assembly language program check whether the given number is greater than by 20 or not.

**Without using CMP and SUB**