COMSATS University Islamabad, Lahore Campus

Department of Computer Engineering

Microprocessor Systems and Interacting (CPE342)

Course Instructor: Engr. Usman Rafique

Assignment __ONE__ Section: _FA22-BCE-B_

Submitted by: _____

Reg. number: _____

Submitted on: _____

	Q1	Q2	Q3	Total
Marks Obtained				

COMSATS UNIVERSITY ISLAMABAD, Lahore Campus

Department of Computer Engineering

Subject: Microprocessor Systems and Interfacing (CPE342)	**Batch: FA22-BCE-B**
Assignment No. ONE	**Total Marks: 30**
Handed over on: 28th Feb. 2025	**Submission Date: 7th March 2025 (In class)**
Student's Name:	
Registration Number:	

Instructions:

- Provide your solution in the space provided against each problem
- Back side of each leaf is for rough work only
- Submission after the deadline will not be graded
- Do not use lead pencil in your solution

Note: The CPU referred to in this problem sheet is Intel 8086-88.

Problem 1 **10 Marks**

Write an assembly language program that computes the sum of four 16-bit numbers residing in SI, DI, AX, and DX. The sum must be stored in SS.

Solution:

Problem 2 **10 Marks**

Write an assembly language program that computes the average of all the 16-bit numbers found in all the segment registers. The result must be stored in SP. Use the minimum number of instructions.

Solution:

Problem 3 **10 Marks**

Write an assembly language program that complements the bits with bit number 0, 1, 3, 5, 11 and 14 of the words stored at 52A8H:4122H, AB44H:C23FH and 7CD0H:B234H. Make use of a subroutine named "BIT_MASK".

Solution: