



COMSATS UNIVERSITY ISLAMABAD, Lahore Campus

Department of Computer Engineering

Subject: Microprocessor Systems and Interfacing (CPE342)		Batch: FA22-BCE-B
Assignment No. FOUR		Total Marks: 30
Handed over on: 3rd June 2025	Submission Date: 10th June 2025	
Student's Name:		
Registration Number:		
Instructions: <ul style="list-style-type: none">• 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		

Problem 1

20+10 = 30 Marks

Design an 8088 microprocessor-based system that:

1. Reads an analog voltage (0V–5V) using ADC0804.
2. Scales the digital output of ADC to a 0–100 range (where 0V → 0, 5V → 100).
3. Displays the result (0–100) on a 3-digit multiplexed 7-segment display in decimal format.

ADC is interfaced with CPU through 8255 PPI such that ADC uses group A and LED display uses group B.

Provide:

- a. Assembly code for 8088 CPU to implement the system.
- b. Completely labelled block diagram of the entire system.