COMSATS University Islamabad, Lahore Campus

Department of Computer Engineering

Microprocessor Systems and Interacting (CPE342)

Course Instructor: Engr. Usman Rafique

Assignment __THREE__   Section: _FA22-BCE-B_

Submitted by: _____

Reg. number: _____

Submitted on: _____

	Q1	Q2	Total
Marks Obtained			

COMSATS UNIVERSITY ISLAMABAD, Lahore Campus

Department of Computer Engineering

Subject: Microprocessor Systems and Interfacing (CPE342)	**Batch:** FA22-BCE-B
Assignment No. THREE	**Total Marks:** 30
Handed over on: 5th May 2025	**Submission Date:** 12th May 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

Problem 1   **15 Marks**

Integrate four input and four output ports with 8088 CPU using 74LS138 3x8 line decoder. Port IDs for the input ports are ABC8H, ABC9H, ABCAH and ABCBH and for the output ports are ABCCH, ABCDH, ABCEH and ABCFH. Provide completely labelled schematic diagram.

Problem 2   **15 Marks**

Create an 8086-8088 assembly language code that reads one byte (call it 'byte0') from input port 1234H:2300H and one byte (call it 'byte1') from CCDDH. The two bytes are to be packed in a word as shown in figure 1. Code is required to push 15000 words onto the stack and the stack starts from 1600H:2400H.
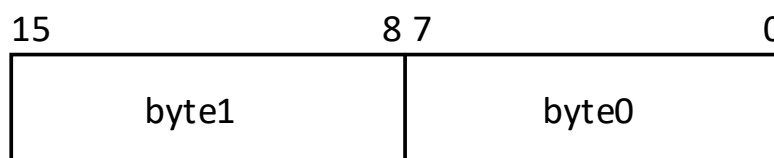
15	8 7	0
byte1		byte0

Figure 1

Solution to Problem 1:

Solution to Problem 2: