



COMSATS University Islamabad
Department of Computer Science
Mid Term Examination – Fall 2025

Class: (BS) CS/SE/DS/AI/CYS

Semester: 5th / 6th

Course Code & Title: CSC325 Computer Organization & Assembly Language

Date: 28-10-25

Time Allowed: 80 mins

Max Marks: 25

Instructors: Mr. Taimur, Mr. Rashid, Mr. Bilal, Dr. Ali

Name: _____

Registration # _____

CLO1

Marks[4+2+4]

CLO1 : Articulate the components of a computer system along with its architecture.

Q1) Draw the Von Neumann architecture and briefly describe how instructions and data flow through its major components.

Q2) Differentiate between

a) pipelined and non-pipelined computer architectures

b) Vector and parallel processing

Q3) Explain the IEEE Standard 754 Floating-Point Representation for x86 Processors. Convert -45.375 to IEEE FPS format (single precision)

CLO- 2

Marks [4+4]

CLO2: Review Memory Systems and Its' Hierarchy along with I/O Methods

Q4) Differentiate between indirect and based-indexed addressing modes with examples.

Q5) With the help of a diagram depict and justify the need of memory hierarchy in a computer system.

CLO- 4

Marks [3+2+2]

CLO4: Demonstrate Assembly Language Capabilities

Q6) Write a program to calculate the sum of even numbers from 2 to 20 using LOOP.

Q7) How flags are affected by SUB instruction?

Q8) Given below the data segment, write instructions in assembly language that copies the elements of array Arr1 to array Arr2. You must use base register addressing mode in your instructions.

.data

Arr1 WORD

Arr2 WORD

1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20
20 DUP(?)