



**ELIZADE UNIVERSITY, ILARA-MOKIN, ONDO
STATE
FACULTY OF ENGINEERING
DEPARTMENT OF COMPUTER ENGINEERING**

FIRST SEMESTER EXAMINATION, 2020/2021 ACADEMIC SESSION

COURSE TITLE: COMPUTER ORGANISATION AND ARCHITECTURE

COURSE CODE: ECE 411

EXAMINATION DATE: MARCH, 2021

COURSE LECTURERS: ENGR. ISAAC ELESEMOYO & ENGR. A. O. OLAWUYI

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HOD's SIGNATURE

TIME ALLOWED: 3 HOURS

INSTRUCTIONS:

1. ANSWER FOUR QUESTIONS ONLY
2. SEVERE PENALTIES APPLY FOR MISCONDUCT, CHEATING, POSSESSION OF UNAUTHORIZED MATERIALS DURING EXAM.
3. YOU ARE NOT ALLOWED TO BORROW ANY WRITING MATERIALS DURING THE EXAMINATION.

Question 1

- a. What are the functions of timing and control unit in Intel 8085 microprocessor? [4 marks]
- b. Briefly describe the characteristics/configuration of Intel 8085 microprocessor. [8 marks]
- c. List the flip-flop flags in Intel 8085 microprocessor. [3 marks]

Question 2

- a. Briefly describe the types of instruction word size with relevant example [6 marks]
- b. Define Instruction set. [1 mark]
- c. Explain the following functions of the following: [8 marks]
 - i. Instruction register
 - ii. Enable Interrupt
 - iii. Stack pointer
 - iv. Set Interrupt Mask (SIM)

Question 3

- a. Draw a well labelled Intel 8085 microprocessor. [9 marks]
- b. What do you understand by "interrupt"? [2 marks]
- c. Fill the table below [4 marks]

Interrupt	Interrupt Vector address	Maskable or Non-Maskable
TRAP		
RST7.5		
RST6.5		
RST5.5		

Question 4

- a. Discuss any three (3) addressing mode you know with relevant examples. [6 marks]
- b. Explain the instruction cycle of Intel 8085 microprocessor, augment with a well labelled diagram. [8 marks]
- c. Define Interrupt service routine. [1 mark]

Question 5

- a. Interface an IC 2764 with intel 8085 microprocessor using an address decoder such that the address range allocated to IC A is 000H – 1FFFH and draw the memory range table. [12 marks]
- b. Describe the data bus buffer of INTEL 8255 [3 marks]

Question 6

- a. What is the difference between Peripheral Mapped I/O interfacing and Memory Mapped I/O interfacing? [4 marks]
- b. Why is data bus in intel 8085 bidirectional and the address bus unidirectional? [2 marks]
- c. Draw the memory address range table for Interfacing two 6116 ICs with the 8085 using 74LS138 decoder such that the starting addresses assigned to them are 8000H and 9000H, respectively. [9 marks]