

RETEST EXAMINATION, 2020

Semester: 4th

Subject code: CO- 403 (OLD)

Subject: Microprocessor

Full Marks: = 70 (Part A-25 + Part B-45)

Duration: 3 hours

PART – A (25 Marks)

Q1: Answer the questions very precisely (preferably in a sentence or two) : 5 x 1

- i) State the size of address and data bus of 8086 microprocessor.
- ii) Name the different segments of 8086?
- iii) Which is the non-maskable interrupt in 8085.
- iv) State the function of stack pointer of 8085.
- v) What is purpose of HLT instruction ?

Q2: Match the contents of column A with the contents of column B : 5 x 1

| Sl.No | Column A | Column B |
|-------|----------------|-------------------------------------|
| 1 | IO/M | DMA transfer |
| 2 | USART | 8255 |
| 3 | $S_1=1, S_2=0$ | Indicates I/O read operation |
| 4 | Cycle stealing | Goes high to indicate I/O operation |
| 5 | PPI | 8251 |

Q3: Fill in the blanks : 10 x 1

- i) The ALU is a ____ bit register used to store data and to perform arithmetic and logical operations.
- ii) 8085 has _____ groups of Instruction.
- iii) CISC stands for _____ Set Computer.
- iv) An instruction has two parts , _____ and _____.
- v) The instruction MUL C belongs to _____ group of instruction.
- vi) 8086 has _____ flags.
- vii) 8255 has _____ operating modes.
- viii) The data transfer speed of the devices is different in _____ mode of data transfer.
- ix) The instruction CMP belongs to _____ group of instruction.
- x) 20 bit address bus can address _____ locations.

Q4: Choose the correct option :

- i) 8085 has
a) 35 pins b) 30 pins c) 40 pins d) 45 pins
- ii) SIM stands for
a) Select Interrupt mask b) Set Interrupt Mask
c) Sorting Interrupt mask d) None of these

5 x 1



- iii) Output of the compiler in machine codes is referred to as
- | | |
|-------------------|-------------------|
| a) Object program | b) Source program |
| c) Symbolic code | d) None of these |
- iv) Which of the following statements for Intel 8085 is correct ?
- | |
|---|
| a) Program counter specifies the address of the instruction last executed. |
| b) Program counter specifies the address of the instruction being executed. |
| c) Program counter specifies the address of the instruction to be executed. |
| d) None of the above |
- v) Processor status word of 8085 microprocessor has five flags
- | | |
|--------------------|---------------------|
| a) S, Z, AC, P, CY | b) S, OV, AC, P, CY |
| c) S, Z, OV, P, CY | d) S, Z, AC, P, OV |

PART B (45 Marks)

Q5: Answer the following questions (any five):

3 x 5

- i) Explain the DMA data transfer scheme.
- ii) Explain the function of the signals ALU, HOLD and HLDA.
- iii) Explain the i/o mapped i/o addressing scheme.
- iv) What are the functions of CY, P and Z flags of status register of 8085?
- v) State the function of MIN/MAX pin in 8086?
- vi) Specify the function of 8253 chip.

Q6: Answer the following questions (any four)

5 x 4

- i) Draw and explain the timing diagram of memory write cycle with example.
- ii) With suitable examples explain the different addressing modes of 8085.
- iii) Write an ALP to evaluate the following expression $A + B * D / C - E$
- iv) Explain interfacing of seven segment display with the help of a diagram.
- v) Explain with suitable diagram, interfacing of stepper motor with microprocessor.

Q7: Draw the functional block diagram of 8085 microprocessor and explain the function of each block.

3 + 7.

