

2022

COMPUTER SCIENCE

[HONOURS]

(CBCS)

(B.Sc. Fifth Semester End Examination-2022)

PAPER-DSE1T

[Microprocessor]

Full Marks: 40

Time: 02 Hrs

The figures in the right hand margin indicate marks

Candidates are required to give their answers in their own words as far as practicable

Illustrate the answers wherever necessary

Group-A

1. Answer any five questions of the following: 5x2=10

- a) What are the flags affected by MOV A,C instruction?
- b) Name the hardware interrupt of 8085 which is non –maskable.
- c) What is the role of HOLD pin of 8085?
- d) What is the size of I/O devices in I/O-mapped I/O?
- e) Name the machine cycles that comprise the MVI A, 00H instruction.
- f) What happens when ALE pin goes high?
- g) What is a PSW?

Group-B

Answer any four questions of the following: 4x5 = 20

2. How does I/O-mapped I/O differ from memory-mapped I/O?

(2)

3. Draw the timing diagram for the INR C instruction.
4. Assume that all flags are reset initially. Now what will be status of flag after execution of each of the following instruction?
XRA A
INR A
LXI H,F020_H
ADD H
RAR
5. Write an 8085 subroutine to find maximum of D register a E register and keep the result in B register.
6. What are the different types of interrupts of 8085? Briefly discuss vectored interrupts.
7. What happens when DMA control takes place, how it is handled by the 8085 microprocessor?

Group -C

Answer any one question:

1x10 = 10

8. a) Suppose you are to interface an 8KB memory with 8085. Show your interfacing circuit. Determine the resultant memory address map. 3+2
Suppose you are to interface an I/O device with 8085 through 8255 in simple I/O mode. The I/O device is connected with port A. Show the chip select logic circuit to enable 8255. Determine the address of control register and I/O device. Also determine

(3)

- the control word to configure the I/O device in simple I/O mode. 2+1+2
9. a) Determine the time taken by the following 8085 code segment. As some 8085 clock frequency is 4 MHz.
MVI A,00
STA F200_H
LXI H,F200_H
ADD M
MOV C,A 5
 - b) Describe the functionalities of following 8085 pins:
RESET OUT, $10/\bar{M}$, READY, ALE and INTR. 5
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