QP CODE: 23127294

Reg No : .....

Name : .....

B.Sc DEGREE (CBCS) REGULAR / IMPROVEMENT / REAPPEARANCE EXAMINATIONS, OCTOBER 2023

Third Semester

B.Sc Physics Model II Applied Electronics

VOCATIONAL COURSE - AE3VOT05 - MICROPROCESSOR AND INTERFACING DEVICES

2017 Admission Onwards

8228D7A8

Time: 3 Hours

Max. Marks : 60

Part A

*Answer any **ten** questions.*

*Each question carries **1** mark.*

1. Why is the data bus bidirectional?
2. What is the function of READY signal?
3. Write the Hex code for the instruction MOV B,A if the opcode = 01, the register code for B = 000 and the register code for A = 111.
4. Name the different classifications of instructions according to group.
5. What is the addressing mode of the instruction MVI A,25H?
6. Assume that the memory location 8150H contains 80H and 8151H contains 1AH. Transfer the memory content to register pair HL. What is the instruction for this operation?
7. Write a single instruction to change the value of register E from 1DH to 1CH.
8. Write the instruction to jump if the carry is non zero.
9. Specify the bit of a control word for the 8255, which differentiates between the I/O mode and the BSR mode.
10. Explain BSR mode of 8255A.
11. What is the function of the pins $\overline{DACK0}$- $\overline{DACK3}$ of intel 8257?
12. How many I/O devices can be connected to when two 8259 are connected in series through IR0-IR7 lines?

(10×1=10)

Part B

*Answer any **six** questions.*

*Each question carries **5** marks.*

13. What are the Flags in 8085? Explain each flag.
14. Draw the timing diagram for MVI E,02.
15. Explain what operation is performed when the following instructions are executed.
    (a) JMP 8100 (b) JNZ 8200 (c) JPO 8300 (d) RNZ 8400 and (e) CZ 8500
16. Explain what operation is performed when the following instructions are executed.
    (a) IN 01 (b) POP B (c) SPHL (d) DI and (e) SIM
17. Write a program to perform 16 bit hexadecimal addition in which one 16 bit number is stored in the memory location of 8200H and 8201H and the other in the memory location of 8202H and 8203H. Store the result in the memory location of 8204H and 8205H.
18. Write an 8085 assembly language program to generate a 10ms delay. Given clock frequency is 3MHz.
19. Explain the two schemes for address space partitioning.
20. Write a short note on (a) Burst mode of DMA data transfer and (b) Cycle stealing techniques of DMA data transfer.
21. Explain what is SIM? Show the bit pattern of the accumulator content of SIM. Write a program to enable enable RST 6.5 and disable RST 7.5 and 5.5 of intel 8085.

(6×5=30)

Part C

*Answer any **two** questions.*

*Each question carries **10** marks.*

22. Explain the architecture of intel 8085 microprocessor.
23. Explain ten instructions from logical group.
24. Write a program to find the smallest number in a set of numbers.
25. Discuss how memory chips and I/O devices are interfaced to a microprocessor?

(2×10=20)