QP CODE: 24027191

24027191

Reg No : .....

Name : .....

B.Sc DEGREE (CBCS) REGULAR / IMPROVEMENT / REAPPEARANCE EXAMINATIONS, OCTOBER 2024

Third Semester

B.Sc Physics Model II Applied Electronics

VOCATIONAL COURSE - AE3VOT05 - MICROPROCESSOR AND INTERFACING DEVICES

2017 Admission Onwards

E23BEA90

Time: 3 Hours

Max. Marks : 60

Part A

*Answer any **ten** questions.*

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

1. What happens to the value of stack pointer of 8085 when POP instruction is executed?
2. Write the machine code for the instruction MOV H,A if the opcode = 01, the register code for H = 100 and the register code for A = 111.
3. Explain Machine cycle with example.
4. Name two instructions in branch control group.
5. What is the addressing mode of the instruction MVI A,25H?
6. Explain the action taking place during the instruction LDAX rp.
7. Explain the action taking place during the instruction DCX rp.
8. Explain the action taking place during the instruction DI.
9. What are the two data transfer schemes?
10. What is the function of the instruction EI?
11. What is the purpose of 8255 PPI?
12. What are the control pins in port C when port A of the 8255A is set up as Mode 2?

(10×1=10)

Part B

*Answer any **six** questions.*

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

13. Explain the demultiplexing of AD0 – AD7 with the help of suitable diagram.
14. Draw the timing diagram of the memory read operation.
15. Explain what operation is performed when the following instructions are executed.
    (a) ANA C (b) RAR (c) XRA B (d) CMC and (e) CMP C
16. Explain what operation is performed when the following instructions are executed.
    (a) JC 8100 (b) JM 8200 (c) CNZ 8300 (d) RET and (e) PCHL
17. Write a program to perform 8 bit decimal addition, in which one 8 bit number is stored in the memory location 8100H and the other in 8101H. Store the 16 bit result in decimal in the memory locations 8102H and 8103H.
18. If the clock frequency is 5MHz, how much time is required to execute an instruction of 10T states?
19. Explain the two schemes for address space partitioning.
20. Write a BSR control word subroutine to set bits PC5 and PC6 and reset then after 2ms. Delay subroutine is not required.
21. Explain the important pins of Intel 8257 DMA controller.

(6×5=30)

Part C

*Answer any **two** questions.*

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

22. Explain the architecture of intel 8085 microprocessor.
23. Write a program to find the smallest number in a set of numbers.
24. Write a program to arrange a set of number in descending order.
25. Discuss why an interrupt controller is required. Draw the block diagram of 8259A and explain the function of each block.

(2×10=20)