QP CODE: 19102106

19102106

Reg No : .....

Name : .....

B.Sc. DEGREE (CBCS) EXAMINATION, OCTOBER 2019

Third Semester

B.Sc Physics Model II Applied Electronics

VOCATIONAL COURSE - AE3VOT05 - MICROPROCESSOR AND INTERFACING DEVICES

2017 Admission Onwards

CEF0A1C0

Maximum Marks: 60 Time: 3 Hours

Part A

*Answer any **ten** questions.*

Each question carries 1 mark.

1. What is the function of Timing and Control Unit?
2. What is Accumulator? Explain.
3. Specify the opcode and operand in the instruction MVI B,E8.
4. Explain instruction cycle.
5. What is the addressing mode of the instruction ADD M?
6. Assume that register B contains 45H and register C contains 51H. Transfer the content of register C to register B. What is the suitable instruction for this operation?
7. Write a single instruction to change the value of register D from 0FH to 0EH.
8. Explain the action taking place during the instruction SPHL.
9. Which signal distinguish whether the address on the address bus is for memory location or an I/O device?
10. Which interrupt cannot be disabled and need not be enabled?
11. What is the function of DMA address register?
12. What is the function of interrupt request register of 8259?

(10×1=10)

Part B

*Answer any **six** questions.*

Each question carries 5 marks.

13. What are the special purpose registers in 8085? Explain their functions.

14. If the 8085 add 87H and 79H, specify the contents of the accumulator and status of the sign, zero and carry flags.

15. Draw the timing diagram of the I/O write operation.

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 using ADI instruction to add the two hexadecimal numbers 4C and 87 and store the result in the memory location 8600.

18. Write a simple program to setup time delay of 1ms. Determine the count and assume that the clock frequency of the system is 2MHz.

19. Write a short note on (a) Burst mode of DMA data transfer and (b) Cycle stealing techniques of DMA data transfer.

20. What is control word in 8255A? Make control word when the ports of intel 8255 are defined as follows: Port A as an input port, mode of port A is mode 0, port B as an output port, mode of port B is mode 0, port C(upper) as an input port, port C(lower) as an output port.

21. Write a BSR control word subroutine to set bits PC5 and PC6 and reset then after 2ms. Delay subroutine is not required.

(6×5=30)

Part C

*Answer any **two** questions.*

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

22. Explain ten instructions from logical group.

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 ascending order.

25. Discuss how memory chips and I/O devices are interfaced to a microprocessor.

(2×10=20)