21102011

QP CODE: 21102011

Reg No : .....

Name : .....

B.Sc DEGREE (CBCS)EXAMINATION, AUGUST 2021

Third Semester

B.Sc Physics Model II Applied Electronics

VOCATIONAL COURSE - AE3VOT05 - MICROPROCESSOR AND INTERFACING DEVICES

2017 Admission Onwards

2067807C

Time: 3 Hours Max. Marks : 60

Part A

*Answer any **ten** questions.*

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

1. What are the general purpose registers in 8085 microprocessor?
2. Explain the function of Program Counter.
3. Specify the function of address bus and the direction of the information flow on the address bus.
4. 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.
5. What is an instruction?
6. The instruction SHLD 8550H contains how much machine cycles and T states?
7. Explain the action taking place during the instruction PUSH rp.
8. Write the instruction to jump if the result is positive.
9. What are the two schemes for the allocation of addresses to memories and input/output devices?
10. The memory address of the last location of an 8K byte memory chip is FFFFH. Find the starting address.
11. What is the purpose of 8255 PPI?
12. What is the function of interrupt mask register of 8259?

(10×1=10)

Part B

*Answer any **six** questions.*

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

13. Write a program to add B9H and 89H. Specify the contents of accumulator and the status of the flags S, Z, P, AC and CS.

14. Explain the demultiplexing of AD0 – AD7 with the help of suitable diagram.

15. Draw the timing diagram for MOV A,M.

16. 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

17. Write a program to mask off least significant 4 bits of a 8 bit number stored in the memory location 8100H and store the answer in the memory location 8101H.

18. Write an 8085 assembly language program to generate a 15ms delay. Assume clock frequency is 3MHz.

19. Explain what is SIM? Show the bit pattern of the accumulator content of SIM. Write a program to enable enable RST 5.5 and 6.5 and disable RST 7.5 of intel 8085.

20. What is control word in 8255A? Make control word when the ports of intel 8255 are defined as follows: Port A as an output port, mode of port A is mode 0, port B as an input 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 PC3 and PC4 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 the architecture of intel 8085 microprocessor.

23. Explain ten instructions from arithmetic group.

24. Write a program to arrange a set of number in descending order.

25. Draw the simplified pin configuration of 8257 DMA controller and explain its working.

(2×10=20)