22100606

QP CODE: 22100606

Reg No : .....

Name : .....

B.Sc DEGREE (CBCS) REGULAR / REAPPEARANCE EXAMINATIONS, APRIL 2022

Third Semester

B.Sc Physics Model II Applied Electronics

VOCATIONAL COURSE - AE3VOT05 - MICROPROCESSOR AND INTERFACING DEVICES

2017 Admission Onwards

17BBA690

Time: 3 Hours

Max. Marks : 60

Part A

*Answer any **ten** questions.*

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

1. List the allowed register pairs of 8085.
2. What are the various types of buses in 8085?
3. How many address lines are necessary on the chip of 2K byte memory?
4. Explain Machine cycle with example.
5. What is the addressing mode of the instruction ADD M?
6. Explain the action taking place during the instruction LHLD addr.
7. Explain the action taking place during the instruction DAD rp.
8. The instruction NOP contains how much machine cycles and T states?
9. Name the scheme in which the same address can be given to both memory and input/output devices.
10. What is synchronous data transfer?
11. Explain BSR mode of 8255A.

12. What is the function of in-service 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 Opcode fetch operation.
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 add two 16 bit decimal numbers in which one 16 bit decimal number is stored in the memory location of 8100H and 8101H and the other in the memory location of 8102H and 8103H. Store the result in decimal in the memory location 8104H and 8105H.
18. Calculate the time taken to execute the following set of instructions in 8085, which uses a clock frequency of 3MHz.
    MVI C,12H
    Loop: DCR C
    JNZ Loop
19. Explain what is SIM? Show the bit pattern of the accumulator content of SIM. Write a program to enable all the interrupts 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 bidirectional, mode of port A is mode 2, port B as an input port, mode of port B is mode 0, the remaining pins of port C as an output port.
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. Draw and explain the functional block diagram of 8255 PPI.

(2×10=20)