KATHMANDU UNIVERSITY
End Semester Examination [C]
December, 2024

Marks Scored:

Level : B.E.
Year : III

Course : EEEG 314
Semester : I

Exam Roll No. :

Time: 30 mins.

F. M. : 10

Registration No.:

Date : 16 DEC 2024

SECTION "A"

[20 Q. × 0.5 = 10 marks]

Choose and encircle in the most appropriate option from each set of choices

1. A 10-bit Digital-to-Analog Converter (DAC) has a full-scale output voltage of 5 V. If the DAC input is represented by $(111111111)_2$ (all bits set to 1), what is the output voltage change corresponding to a 1-bit increment?
   a. 0.0049 V b. 0.0055 V c. 0.0025 V d. 0.0039 V

2. Which is not the control bus signal?
   a. READ b. WRITE c. RESET d. None of these

3. The CPU sends out a _____ signal to indicate that valid data is available on the data bus.
   a. Read b. write c. Both A and B d. None of these

4. How many bits the instruction pointer is wide_____.
   a. 16 bit b. 32 bit c. 64 bit d. 128 bit

5. In 8085 microprocessor, MVI A, 23H is an example of which addressing mode?
   a. Register Addressing b. Immediate addressing
   c. Direct addressing d. Indirect Addressing

6. A microprocessor has eight data lines and sixteen address lines. The microprocessor is of type _____.
   a. 8 bit b. 16 bit c. 20 bit d. 32 bit

7. A 12-bit DAC is used in a system with a maximum output voltage of 10 V. What is the smallest voltage step that can be achieved with this DAC?
   a. 2.44 mV b. 1.22 mV c. 4.88 mV d. 3.05 mV

8. _____ are level triggering interrupts?
   a. INTR & TRAP b. RST 6.5 & RST 5.5
   c. RST 7.5 & RST 6.5 d. RST

9. Consider the following 8085 instructions
   XRA A
   MVI B, 4A H
   SUI 4F H
   ANA B
   HLT
   the content of register A and B are respectively_____.
   a. 05, 4A b. 4F, 00 c. B1, 4A d. 00 00

10. What is the function of the "HLT" instruction in the 8085 microprocessors?
    a. Halt the execution of the program
    b. Load data into register pair HL
    c. Halt the interrupt process
    d. Transfer data from memory to the accumulator s

11. Which of the following flags is not present in the 8085 microprocessor?
    a. Carry flag
    b. Zero flag
    c. Auxiliary Carry flag
    d. Overflow flag

12. The interrupt system of the 8085 microprocessor is:
    a. Fully vectored
    b. Non-vectored
    c. Mixed
    d. Only software-based

13. Which of the following instructions is used for shifting data in the 8085 microprocessor?
    a. RLC
    b. DAA
    c. NOP
    d. RST

14. What is the size of the instruction MVI C, FFH?
    a. 1 byte
    b. 2-byte
    c. 3-byte
    d. 4 byte

15. Which of the following instructions is used to load the content of a memory location into the accumulator in the 8085?
    a. LDA
    b. MOV
    c. MVI
    d. LDAX

16. What is the main purpose of the SIM and RIM instructions in the 8085?
    a. To control the serial data communication
    b. To transfer data between the accumulator and memory
    c. To perform arithmetic operations
    d. To handle interrupts

17. Which of the following is a non-maskable interrupt in the 8085 microprocessor?
    a. RST7.5
    b. TRAP
    c. RST6.5
    d. INTR

18. Which of the following is the maximum number of interrupt lines in the 8085 microprocessor?
    a. 3
    b. 5
    c. 7
    d. 8

19. In the 8085 microprocessor, the CALL instruction is used for:
    a. Jumping to a subroutine
    b. Returning from a subroutine
    c. Storing data into memory
    d. Comparing two data values

20. How many T-states are required to execute the following instruction? MVI A,16H
    a. 4 T-states
    b.7 T-states
    c.10 T-states
    d.14 T-states