C 2183

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Name.....................................

Reg. No..................................

FOURTH SEMESTER (CUCBCSS—UG) DEGREE EXAMINATION
APRIL 2021

Electronics

ELE 4C 04—MICROPROCESSORS

(2014 Admissions)

Time : Three Hours

Maximum : 64 Marks

Part A

Answer **all** *questions.*
Each question carries 1 mark.

1. An instruction consists of an operation code and the address of the data, called ————————, on which the opcode operates.

2. While executing the PUSH*A instruction, the stack pointer is decremented by ————————.

3. The addressing mode used in an instruction of the form ADD X, Y, is————————.

4. Give an example for three byte instruction ?

5. Let the content of register C be 00000000 before the instruction DCR C is executed. The content of register C after the after the execution of this instruction will be————————.

6. Which interrupt has the highest priority ?

7. After an operation, if the result contains even number of 1's———————— flag will set.

8. XCHG instruction exchanges the content of H-L with ———————— register pair.

9. The ———————— machine architecture was the first to implement pipe-lining.

10. The 80286 processor with its 24-bit address bus is able to address 16 Mbytes of————————.

(10 × 1 = 10 marks)

Part B

Answer **all** *questions.*
Each question carries 2 marks.

11. Distinguish between compiler and interpreter ?

12. Specify the function of address bus and the direction of the information flow on the address bus ?

13. Give an example each for data transfer, arithmetic, logical and machine control instructions ?

Turn over

14. Define the terms T state and machine cycle ?

15. Explain the PUSH and POP instructions of an 8085 microprocessor with example ?

16. What are the various interrupts in 8085 microprocessor ? Which is the highest priority interrupt ?

17. What are the additional features of 80186 compared to 8086 ?

(7 × 2 = 14 marks)

Part C

Answer any **five** *questions.*
Each question carries 4 marks.

18. Explain the purpose of the following signals in 8085 (i) READY ; (ii) AD0-AD7 ; (iii) HOLD ; and (iv) IO/M ?

19. Write a note on general purpose and special purpose registers in 8085 microprocessor ?

20. With suitable example, explain any *two* addressing modes in 8085 ?

21. Write short notes on branching instructions available in 8085?

22. Draw the SIM instruction format and discuss ?

23. Explain how stack is affected while calling a subroutine program ?

24. List the important features of RISC and CISC processors ?

25. Write differences between 8085 microprocessor and 8086 microprocessor. What are the registers of 8086 microprocessor ?

(5 × 4 = 20 marks)

Part D

Answer any **two** *questions.*
Each question carries 10 marks.

26. Explain the internal architecture of 8085 Microprocessor ?

27. What do you mean by timing diagram ? Draw the timing diagram for the execution of the instruction MV1 A, 32 H, Opcode for MVIA is 3E H ?   (2 + 8 = 10 marks)

28. Describe with a suitable example the operation of stack in 8085 ?

29. Write a note on key elements of a super scalar processor organization ? What are the general advantages and disadvantages of superscalar architecture ?   (7 + 3 = 10 marks)

[2 × 10 = 20 marks]