

Reg. No.

Question Paper Code

11927

B.E. / B.Tech. - DEGREE EXAMINATIONS, APRIL / MAY 2023

Fifth Semester

Electrical and Electronics Engineering

20EEPC503 - MICROPROCESSORS AND MICROCONTROLLERS

(Regulations 2020)

Duration: 3 Hours

Max. Marks: 100

PART - A (10 × 2 = 20 Marks)

Answer ALL Questions

- | | <i>Marks,
K-Level, CO</i> |
|--|-------------------------------|
| 1. List the priority level of interrupts in 8085 processor. | 2,K1,CO1 |
| 2. Explain the tri-state Logic of 8085. | 2,K2,CO1 |
| 3. List the different machine control instructions used in 8085 microprocessor. | 2,K1,CO2 |
| 4. Compare CALL and JUMP instruction. | 2,K2,CO2 |
| 5. Show the operating modes in 8254 timer/Counter. | 2,K2,CO3 |
| 6. List out the priority modes of 8259. | 2,K1,CO3 |
| 7. Mention any four data transfer instructions of 8051 microcontroller. | 2,K1,CO4 |
| 8. What is meant by SFR in 8051? List any four special function register. | 2,K2,CO4 |
| 9. Write down the main differences between Von Neumann and Harvard architecture. | 2,K2,CO5 |
| 10. What is M0 ARM cortex? | 2,K1,CO5 |

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

11. a) Classify the types of interrupts in 8085? Explain in detail the hardware interrupts in 8085. 13,K2,CO1
- OR**
- b) (i) Explain in detail about the timing diagram for MVI A,32. 7,K2,CO1
(ii) Interpret the timing diagram for MOV A,M. 6,K2,CO1
12. a) (i) Write short notes on branching operations available in 8085. 7,K2,CO2
(ii) Compare the similarities and differences of CALL and RET instructions with PUSH and POP instructions. 6,K2,CO2
- OR**
- b) Summarize the instruction format and addressing modes of 8085 microprocessor. 13,K2,CO2

K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze; K5 – Evaluate; K6 – Create

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13. a) Explain with neat sketch, the A/D converter interfacing with 8085 microprocessor. 13,K2,CO3

OR

- b) (i) Illustrate briefly the block diagram of 8254 timer 6,K2,CO3
(ii) Compare BSR mode and I/O mode of 8255 programmable peripheral interface 7,23,CO3
14. a) Explain with a neat block diagram the architecture of 8051 microcontroller. 13,K2,CO4

OR

- b) Summarize the addressing modes of 8051 microcontroller with suitable examples. 13,K2,CO4
15. a) Explain the concept of ARM cortex M0. 13,K2,CO5

OR

- b) Outline the system control block of ARM processor. 13,K2,CO5

PART - C (1 × 15 = 15 Marks)

16. a) (i) Explain the various program branching instructions available with 8051 microcontroller. 8,K2,CO4

- (ii) Summarize ARM Development tool with help of a diagram. 7,K2,CO5

OR

- b) (i) Illustrate about vectored interrupts in 8051 microcontroller. 7,K2,CO4
(ii) Explain the ARM memory organization with neat diagram. Also explain the little-endian memory organization. 8,K2,CO5