Question Paper Code	12882

B.E. / B.Tech. - DEGREE EXAMINATIONS, APRIL / MAY 2024
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

		Marks	K-Level	CO
1.	Show the function of the signal IO/M, S0,S1.	2	K2	CO1
2.	How to demultiplex Lower order address bus and data bus in 8085 processor?	2	K1	CO1
3.	Explain the addressing modes of instruction LDA8600 and INR M.	2	K2	CO2
4.	Point out the similarity and difference between compare and subtract instructions.	2	K2	CO2
5.	Find the control word of 8255 if port A is configured as input and port B is configured as output in mode 0.	2	K2	CO3
6.	Show the operating modes in 8254 timer/Counter.	2	K2	CO3
7.	List the interrupts of 8051 microcontroller.	2	K1	CO4
8.	Compare between MOV and MOVX instructions.	2	K2	CO4
9.	What is "Thumb" in ARM processor?	2	K1	CO5
10.	What is Load-store architecture?	2	K1	CO5

PART - B (5 × 13 = 65 Marks)
Answer ALL Questions

			Marks	K-Level	CO
11.	a) i)	Explain the Timing diagram of STA 8086.	7	K2	CO1
	ii)	Explain the interpretation of the accumulator bit pattern for SIM and RIM instruction.	6	K2	CO1
		OR			
	b)	With a neat block diagram, explain the various functional building blocks of 8085 processor.	13	K2	CO2
12.	a)	Write an ALP using 8085 instructions to divide two 16 bit numbers.	13	K2	CO2
		OR			
	b) i)	Outline with suitable examples the data transfer and control instructions in 8085 microprocessor.	7	K2	CO2

K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze; K5 – Evaluate; K6 – Create   **12882**

ii)	List the categories of instructions used for data manipulation in 8085 Microprocessor.	6	K2	CO2

13. a) With a neat diagram explain briefly about the internal architecture and registers of 8279 keyboard/ display controller.   *13 K2 CO3*

OR

b) Explain the architecture, functions and registers of the 8255 PPI.   *13 K2 CO3*

14. a) Explain with a neat block diagram the architecture of 8051 microcontroller.   *13 K2 CO4*

OR

b) Illustrate in detail about the memory organization of 8051 microcontroller and explain.   *13 K2 CO4*

15. a) Summarize the architectural block diagram of ARM cortex M0.   *13 K2 CO5*

OR

b) Show ARM Development flow with help of a diagram.   *13 K2 CO5*

PART - C (1 × 15 = 15 Marks)

16. a) i) Summarize the addressing modes of 8051 microcontroller with suitable examples.   *7 K5 CO4*

     ii) Outline the system control block of ARM processor.   *8 K5 CO5*

OR

   b) i) Explain the concept of ARM cortex M0.   *7 K5 CO5*

     ii) Explain different timer/counter modes of 8051microcontroller.   *8 K5 CO4*