A **Reg. No. :** | | | | | | | | | | |

Question Paper Code: 95303

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2022

Fifth Semester

Electrical and Electronics Engineering

19UEE503 - Microprocessors and Microcontroller Programming

(Regulations 2019)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. DMA stands for_____. CO1- R

   (a) Direct memory access (b) Direct memory allocation

   (c) Data memory access (d) Data memory allocation

2. What is the formula to calculate the (kV)B on the LT section? CO1- R

   (a) INTR (b) TRAP. (c) RST6.5. (d) RST6.6.

3. Data bus is _____ and address bus is _____ CO2- R

   (a) Bidirectional, Bidirectional (b) Bidirectional, Unidirectional

   (c)Unidirectional, Bidirectional (d) None of the above

4. What is the required baud rate for an efficient operation of serial port devices in 8051 microcontroller? CO2- R

   (a) 1200 (b) 2400 (c) 4800 (d) 9600

5. The 8051 has _____ parallel I/O ports. CO3- R

   (a) 2 (b) 3 (c) 4 (d) 5

6. _____ is useful for the generation of accurate time delay. CO3- R

   (a) 8254 (b) 8255A (c) 8237A (d) 8279

7. Which of the following can be used as a chip select? CO4- R

   (a) multifunction I/O port (b) parallel port (c) DMA port (d) memory port

8. How much time period is necessary for the slave to receive the interrupt and transfer the data? CO4- R

(a) 4 clock time period (b) 8 clock time period

(c) 16 clock time period (d) 24 clock time period

9. What is the capability of ARM7 f instruction for second? CO5- R

(a) 110 MIPS (b) 150 MIPS (c) 125 MIPS (d) 130 MIPS

10. Which condition/s of MCLR (master clear) pin allows resetting the PIC? CO5- R

(a) High (b) Low (c) Moderate (d) All of the above

PART – B (5 x 2= 10 Marks)

11. What is flag register in 8085 microprocessor? CO1-R

12. Compare Microprocessors and Microcontrollers CO1-U

13. List the operating modes of 8255. CO1-U

14. What is meant by real time programming in embedded system? CO5-U

15. What is RISC? CO5-U

PART – C (5 x 16= 80Marks)

16. (a) Explain the timing diagram for opcode fetch and IO write machine cycles with neat diagram CO1-U (16)

Or

(b) Illustrate the pin outs of 8085with neat sketch. CO1- U (16)

17. (a) Explain the Timer / Counter functional unit of Microcontroller 8051 with relevant diagrams CO1- U (16)

Or

(b) Explain the Pin outs of Microcontroller 8051 with relevant diagrams CO1- U (16)

18. (a) Explain the functional block diagram of 8255 PPI interface with neat sketches and analyze its modes of operation. CO1- U (16)

Or

(b) Explain the function of 8085 microprocessor while handling the hardware interrupts by means of IC8259 interrupt controller interfacing. CO1- U (16)

19.	(a)	Briefly Explain about Various types and uses of RAM and ROM for designing embedded systems	CO1- U	(16)
		Or		
	(b)	Explain about programming model in Embedded System.	CO2- U	(16)
20.	(a)	Explain the working of ARM processor with neat architecture	CO5- U	(16)
		Or		
	(b)	Draw and explain the architecture of on chip ADC of PIC micro controller in detail and write a suitable assembly language program for configuring the ADC	CO5- U	(16)

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