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

Question Paper Code: 55303

B.E./B.Tech. DEGREE EXAMINATION, MAY 2018

Fifth Semester

Electrical and Electronics Engineering

15UEE503 - Microprocessors and Microcontroller Programming

(Regulation 2015)

Duration: Three hours Maximum: 100 Marks

Answer All Questions

PART A - (10x 1 = 10 Marks)

1. The Address bus of 8085 microprocessor is CO1- R

   (a) 8-bit (b) 24-bit (c) 16-bit (d) 32 bit

2. Which interrupt has the highest priority? CO1- R

   (a) INTR (b) TRAP (c) RST6.5 (d)None of the above

3. Consider the instructions CO2- R
   1. MOV M, B
   2. OUT 4
   3. LDAX

   Which of the above require memory write cycle?

   (a) 1, 2, 3 (b) 1 and 2 only (c) 1 and 3 only (d) 2 and 3 only

4. Which stack is used in 8085? CO2- R

   (a) FIFO (b) LIFO (c) FILO (d) none of these

5. The 8051 has _____ 16-bit counter/timers. CO3- R

   (a) 1 (b) 2 (c) 3 (d) 4

6. When the micro controller executes some arithmetic operations, then the flag bits of which register are affected? CO3- R

(a) PSW (b) SP (c) DPTR (d) PC

7. All the functions of the ports of 8255 are achieved by programming the bits of an internal register called CO4- R

(a) data bus control (c) Control word register

(b) Read logic control (d) none of the above

8. The registers that store the keyboard and display modes and operations programmed by CPU are CO4- R

(a) I/O control and data buffers (c) Return buffers

(b) Control and timing registers (d) Display address registers

9. What is the required baud rate for an efficient operation of serial port devices in 8051 microcontroller? CO5- R

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

10. How can we control the speed of a stepper motor? CO5- R

(a) By controlling its switching rate (c) By controlling its wave drive 4 step sequence

(b) By controlling its torque (d) Cannot be controlled

PART – B (5 x 2= 10Marks)

11. What is maskable and non-maskable interrupt in 8085. CO1- U

12. Difference between shift and rotate instructions. CO2- App

13. Give the format of PSW register of 8051. CO3- U

14. What is the output modes used in 8279? CO4- U

15. What is stepper motor? Mention advantages and disadvantages of a stepper motor. CO5- U

PART – C (5 x 16= 80Marks)

16.	(a)	Explain the architecture of 8085 with neat diagram.	CO1-U	(16)
		Or		
	(b)	With neat timing diagram explain Memory read and I/O write in detail	CO1 -U	(16)
17.	(a)	Write an 8085 assembly language program to perform 16-bit binary addition.	CO2 -U	(16)
		Or		
	(b)	Write an assembly language program using 8085 instructions to find the smallest element in an array.	CO2 -U	(16)
18.	(a)	With neat sketch explain the architecture of 8051 microcontroller and explain each block.	CO3- U	(16)
		Or		
	(b)	Briefly explain the interrupt available in 8051.	CO3- App	(16)
19.	(a)	Explain in detail about how DMA is interfaced to 8085.	CO4-App	(16)
		Or		
	(b)	Explain how 8279 is interfaced with 8085 and explain its various modes of operation.	CO4 -App	(16)
20.	(a)	Draw the circuit diagram to interface stepper motor with microcontroller. Write the assembly language program for this above scheme.	CO5- U	(16)
		Or		
	(b)	Explain about the washing machine controller in detail.	CO5- U	(16)

55303