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

Question Paper Code: 55501

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

Fifth Semester

Electronics and Instrumentation Engineering

15UEI501 - MICROPROCESSOR AND MICROCONTROLLER INTERFACING

(Regulation 2015)

Duration: Three hours Maximum: 100 Marks

PART A - (10 x 1 = 10 Marks)

Answer All Questions

1. Which one the following is not a vectored interrupt? CO1- R

   (a) TRAP (b) RST 6.5

   (c) RST 7.5 (d) INTR

2. Which is not the control bus signal CO1- R

   (a) Read (b) Write (c) Reset (d) none of these

3. The size of each segment in 8086 is CO2- U

   (a) 64 k (b) 24 k (c) 50 k (d) 16 k

4. Stack words on CO2- U

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

5. DAC (Digital to Analog Converter) finds application in CO3- R

   (a) digitally controlled gains (b) motor speed controls

   (c) programmable gain amplifiers (d) all of the mentioned

6. The pin that clears the control word register of 8255 when enabled is CO3- R

   (a) CLEAR (b) SET (c) RESET (d) CLK

7. The addressing mode in instruction PUSH B is CO4- R

(a) direct (b) register (c) register indirect (d) immediate

8. Which location specify the storage/loading of vector address during the interrupt generation? CO4- R

(a) Stack Pointer (b) Program Counter (c) Data Pointer (d) All of the above

9. Which of the following instructions will move the contents of the accumulator to register 6? CO5- R

(a) MOV 6R, A (b) MOV R6, A (c) MOV A, 6R (d) MOV A, R6

10. The internal schematic of a typical stepper motor has CO5- R

(a) 1 winding (b) 2 winding

(c) 3 winding (d) 4 winding

PART – B (5 x 2= 10Marks)

11. List different instruction formats. CO1- U

12. Define stack and stack related instructions CO2- R

13. What are the basic modes of operations of 8255? CO3- R

14. Write the instruction format for 8051 microcontroller. CO4- U

15. What are the control signals from 8051 microcontroller required for washing machine control? CO5- R

PART – C (5 x 16= 80Marks)

16. (a) Describe the functional block diagram of 8085. CO1-U (16)

Or

(b) Discuss about basic concepts in memory interfacing with 8085. CO1-U (16)

17. (a) Draw and explain the timing diagram of 8085 machine cycles. CO2 -U (16)

Or

(b) (i) Write a 8085 assembly language program to divide a 8 – bit number by another 8 – bit number and store the remainder and quotient in memory location 4252 and 4253 respectively. CO2 -U (8)

(ii) Write a assembly language program to data transfer from memory block B1 to memory block B2. CO2 -U (8)

18.	(a)	With neat diagram explain about 8251?	CO3- U	(16)
		Or		
	(b)	Draw and explain the logical block diagram of 8279 keyboard display controller and explain.	CO3- U	(16)
19.	(a)	With a necessary diagram explain about the architecture of 8051.	CO4- U	(16)
		Or		
	(b)	What are the modes of serial communication in 8051? Explain in detail about setting up serial port modes.	CO4 -U	(16)
20.	(a)	With a neat circuit diagram explain how a 4 x4 keypad is interfaced with 8051 microcontroller and write 8051 ALP for keypad scanning.	CO5- Ana	(16)
		Or		
	(b)	Draw the diagram to interface a stepper motor with 8051 microcontroller and explain. Write its ALP to run the stepper motor in both forward and reverse direction with delay	CO5- Ana	(16)

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