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**Question Paper Code: 55501**

B.E./B.Tech. DEGREE EXAMINATION, NOV 2019

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

- Which one the following is not a vectored interrupt? CO1- R  
(a) TRAP (b) RST 6.5  
(c) RST 7.5 (d) INTR
- Which is not the control bus signal CO1- R  
(a) Read (b) Write (c) Reset (d) none of these
- The size of each segment in 8086 is CO2- U  
(a) 64 k (b) 24 k (c) 50 k (d) 16 k
- Stack words on CO2- U  
(a) LILO (b) LIFO (c) FIFO (d) none of these
- Which of the following is not a mode of data transmission 8251? CO3- R  
(a) Simplex (b) Duplex  
(c) Semi duplex (d) None of these
- The pin that clears the control word register of 8255 when enabled is CO3- R  
(a) CLEAR (b) SET (c) RESET (d) CLK
- The internal RAM memory of the 8051 is CO4- R  
(a) 32 bytes (b) 64 bytes (c) 128 bytes (d) 256 bytes

8. How many bytes of bit addressable memory is present in 8051 based micro controllers? CO4- R
- (a) 8 bytes (b) 32 bytes (c) 16 bytes (d) 128 bytes
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. List the features of RISC architecture. CO2- R
13. Define the terms A/D & D/A convertor. CO3- R
14. Write the instruction format for 8051 microcontroller. CO4- U
15. What are the different types of Jump instructions available in 8051? 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) 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)
- Or
- (b) With a neat diagram explain the about the controlling techniques of washing machines. CO5- Ana (16)

