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**Question Paper Code: 54040**

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2017

Fourth Semester

Computer Science and Engineering

15UEC426 - MICROPROCESSORS AND MICROCONTROLLERS

(Regulation 2015)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (5 x 1 = 5 Marks)

1. If MN/MX is low the 8086 operates in \_\_\_\_\_ mode.  
(a) Minimum (b) Maximum  
(c) both (a) and (b) (d) medium
2. Which one of the following ICs is used to interface Keyboard and display?  
(a) 8251 (b) 8279 (c) 8259 (d) 8253
3. When 8051 wakes up then 0x00 is loaded to which register?  
(a) DPTR (b) SP (c) PC (d) PSW
4. The start-conversion on the ADC 0804 is done by using the  
(a) SC (b) CS Line (c) INTR Line (d) Vref/2 Line
5. What is the execution speed of instructions in PIC especially while operating at the maximum value of clock rate?  
(a) 0.1  $\mu$ s (b) 0.2  $\mu$ s (c) 0.4  $\mu$ s (d) 0.8  $\mu$ s

PART - B (5 x 3 = 15 Marks)

6. Explain the BHE, RQ/GT & lock signals of 8086  $\mu$ P.
7. What is the resolution of ADC?
8. Explain the DPTR & SP of 8051  $\mu$ C.

9. Explain the operating modes of 8051 serial port.
10. How many I/O ports are supported in a PIC  $\mu$ C.

PART - C (5 x 16 = 80 Marks)

11. (a) Draw and Discuss the interrupt storage of 8086  $\mu$ P. (16)

Or

- (b) Draw the architectural block diagram of 8086  $\mu$ P and explain. (16)

12. (a) With a neat block diagram, briefly explain about the 8255 PPI. (16)

Or

- (b) List the major components of 8279 keyboard display interface and explain their functions. (16)

13. (a) Explain the internal and external data memory organization of 8051 microcontroller. (16)

Or

- (b) Discuss in detail about the 8051 Instruction set and Addressing modes. (16)

14. (a) Explain how LCD and Keyboard is interfaced with 8051 microcontroller. (16)

Or

- (b) Briefly explain the interfacing of washing machine control with 8051 microcontroller. (16)

15. (a) Explain interrupts handling in PIC microcontroller. (16)

Or

- (b) Briefly explain the PWM mode of operation in detail. (16)

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