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Question Paper Code: 31427

B.E. / B.Tech. DEGREE EXAMINATION, NOVEMBER 2015

Fourth Semester

Computer Science and Engineering

(Common to Information Technology)

01UEC423 - MICROPROCESSORS AND MICROCONTROLLERS

(Regulation 2013)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. How many memory location can be addressed by 8085 microprocessor?
2. Draw the content of the flag register of 8085.
3. Name hardware interrupts of 8086.
4. What is the difference between the following instructions of 8086?
MOV AX, TABLE_ADDR and LEA AX, TABLE_ADDR.
5. What is the advantage of using 8089 I/O processor instruction of DMS controller?
6. How 8089 operates in loosely coupled configuration and closely coupled configuration?
7. What are the modes of operation of 8237?
8. Why a latch is used for O/P port, but a tri-state buffer can be used for an input port?
9. What is the different between watch dog timer and ordinary timer?
10. What is the use of V_{ref} pin in the ADC?

PART - B (5 x 16 = 80 Marks)

11. (a) With neat block diagram the architecture of 8085 microprocessor. (16)

Or

(b) (i) Describe the addressing modes of 8085. (8)

(ii) Give two examples for data transfer instructions, arithmetic instruction, logical instruction and branch instruction of 8085 microprocessor. (8)

12. (a) (i) Describe the maximum mode of operation of 8086. (8)

(ii) Draw and discuss a typical minimum mode 8086 system. (8)

Or

(b) (i) Draw the architectural block diagram of 8086 microprocessor and explain. (8)

(ii) Explain the interrupt structure of an 8086 microprocessor with 8086 interrupt-pointer table. (8)

13. (a) Discuss the operation of 8087 numeric data processor. (16)

Or

(b) Explain the architecture of 8089 processor. (16)

14. (a) (i) Write a program to make the stepper motor to rotate both clockwise and counter clockwise direction. (8)

(ii) How do you interface a keyboard/display controller? (8)

Or

(b) Explain briefly about the

(i) Modes of operation of timer. (8)

(ii) Operation of interrupt controller. (8)

15. (a) (i) Describe the functions of the signals present in 8051. (10)

(ii) How a DAC is interfaced with 8051? (6)

Or

(b) Draw the architecture block diagram of 8051 microcontroller and explain. (16)