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Please write your Exam Roll No.)

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END TERM EXAMINATION

SIXTH SEMESTER [B.TECH/M.TECH] MAY-JUNE 2016

Paper Code: IT-302

Subject: Microprocessors

Time: 3 Hours

Maximum Marks: 60

Note: Attempt any five questions including Q no.1 which is compulsory.
Select one question from each unit.

- Q1 (a) Why segmentation of memory concept (segment registers) was introduced in 8086 microprocessor? (2)
(b) Explain the instructions
LEA, ADR
LES BX, 5000H (2)
(c) How microcontroller is different to microprocessor? (2)
(d) Write the name of modes in 8254? Also tell which mode in 8086 is used to generate square wave? (2)
(e) Explain the difference between machine cycle and instruction cycle? (2)
(f) Explain Dual slope A/D convertor. (2)
(g) Write 80887 control and status word formats. (2)
(h) Name the categories in which Instruction set of 8086 is categorized? (2)
(i) Interface two 4Kx8 EPROMS and 4Kx8 RAM chips and select suitable map? (2)
(j) Explain the following directives for Intel 8086 microprocessor ENM, EQU and PTR. (2)

UNIT-I

- Q2 (a) Compare the 8085 and 8086 microprocessor. (5)
(b) Explain the 80268, Pentium Processors and microcontrollers. (5)

OR

- Q3 (a) What are the functions of the following pins of 8085 microprocessor
(i) READY (ii) ALE (iii) HOLD (iv) TRAP (4)
(b) Tell meaning and operation of operand, instruction word size, machine cycle, T-state for the following opcode used in 8085 microprocessor:
(i) LDA (ii) JMP (iii) POP (iv) DAD (v) CPI (vi) SHLD (6)

UNIT-II

- Q4 (a) Explain the register organization diagram of 8086. (5)
(b) Explain BIU and EU in 8086 microprocessor. (5)

OR

- Q5 (a) Compare and explain Maximum Mode and Minimum Mode operation of 8086 microprocessor with their timing Diagrams. (6)
(b) Compare 8086 microprocessor with 8088. (4)

UNIT-III

- Q6 (a) Explains the different addressing mode with proper examples for 8086 microprocessor. (6)
(b) (i) What is the difference between DAA and AAD instructions?
(ii) Show the content of flag registers and AL
If AL=59, BL=35 and
ADD AL,BL
DAA (4)

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- Q7 (a) Write an assemble language Program to (4)
(i) Arrange a given series of hexadecimal bytes in ascending order.
(ii) Find square root of two digit number. Assume that the number is a perfect square.
(b) Explain Program development algorithm for Assembly language program and its assembly language Program development tools. (6)

UNIT-IV

- Q8 (a) State the addressing modes of 80386. Given the various exceptions which occur when operating in the Protected Virtual addressing mode. (4)
(b) Explain the following:- (6)
(i) Why 8087 is known as coprocessor?
(ii) What is the difference Single Handshake I/O and Double-Handshake data transfer for parallel data transfer.

OR

- Q9 (a) Interface 16 bit 8255 ports with 8026 at 80H as an I/O address of port A. Interface five 7 segment displays with 8255. Write a sequence of instructions to display 1, 2, 3, 4 and 5 over five displays continuously as per their position starting with 1 at the MSB position. (5)
(b) Explain the Architecture and signal descriptions for 8254 chip. Also explain the different operating modes of programmable timer device (8254). (5)
