C 20562

SIXTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION, JUNE 2006

EE 2K 601/PTEE 2K 501—MICROPROCESSOR AND MICROCONTROLLER

Time : Three Hours   Maximum : 100 Marks

Answer **all** *questions.*

I. (a) What is the need to implement min and max mode operation in 8086 processor chip ?

   (b) Explain the features of hardware interrupt and software interrupts of 8086 processor.

   (c) Explain the features of programmable timer.

   (d) Explain the features of keyboard display interface/controller.

   (e) Explain the features of super scalar architecture.

   (f) Explain the features of Branch Prediction Logic.

   (g) Explain the features of special function registers of 8051.

   (h) Explain any *five* bit operatable instruction of 8051.

                                            (8 × 5 = 40 marks)

II. (a) With suitable block diagram explain the architecture and organisation of 8086 processor.

Or

   (b) Explain the instruction set of 8086 processor with five set of example for each type.

III. (a) With suitable block diagram, explain the organisation of 8257 DMA controller.

Or

   (b) With suitable block diagram, explain the organisation of 8251 programmable communication interface.

IV. (a) Explain the features and function of the descriptor table and their selectors.

Or

   (b) Define Paging. Also explain the paging mechanism.

V. (a) With suitable circuits explain the function of the ports of 8051 microcontroller.

Or

   (b) Explain how 8051 microcontroller could be interfaced to a 12 kg. stepper motor. Also write an ALP to move the stepper motors shaft by 18° in the forward direction.

                                          (4 × 15 = 60 marks)