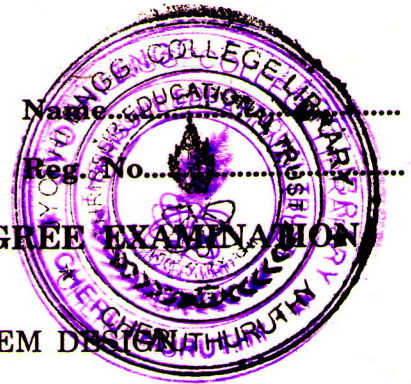**D 31894**

FOURTH SEMESTER B.Tech. (ENGINEERING) DEGREE EXAMINATION JUNE 2007

CS/IT 2K 406/PTCS 2K 405—HARDWARE SYSTEM DESIGN

Time : Three Hours   Maximum : 100 Marks

Part A

Answer **all** *questions.*

I.   (a)   Write short notes on drive controllers.

(b)   Explain briefly about bus buffering and latching.

(c)   Discuss about the program memory addressing.

(d)   What do you mean by data conversions ? Explain it with example.

(e)   What is port address decoding ? Explain briefly.

(f)   List out the features of Dynamic RAM.

(g)   What are the hardware Interrupts ? List out and explain.

(h)   Explain about the disk memory systems.

$(8 \times 5 = 40$ marks)

Part B

Answer **all** *questions.*

II.   (a)   Explain the architecture of 8086 microprocessor with a neat diagram.

Or

(b)   Compare and contrast the various features of 80386, 80486 and pentium processor.

III.   (a)   List out and explain various addressing modes with example.

Or

(b)   Explain in detail about :

(i)   Arithmetic and logical instructions.   (8 marks)

(ii)   Program control instructions.   (7 marks)

IV.   (a)   Explain the interfacing of memory with CPU and draw the interfacing diagram to interface 32 MB RAM.

Or

(b)   Discuss in detail about :

(i)   8254 Timer Interface.   (7 marks)

(ii)   ADCL DAC Interfaces.   (8 marks)

V.   (a)   Explain the working principle of 8237 DMA controller.

Or

(b)   Explain briefly the various bus interfaces.

$[4 \times 15 = 60$ marks]