Sem-IV (old) Comp. 17/5/16.

Microprocessor

QP Code : 29190

(3 Hours) Total Marks:-100

N.B. 1) Question No. 1 is compulsory.

2) Solve any four questions from remaining.

3) Figures to the right indicate marks.

4) Assume data if necessary.

Q.1 (a) Explain addressing modes of 8085 microprocessor with example (10M)

Q.1 (b) Explain the memory segmentation in Intel 8086 processor with its advantages and disadvantages. (10M)

Q.2(a) Draw the timing diagrams and explain the following cycles

1) Memory write in maximum mode

2) Memory read in minimum mode (10M)

Q.2(b) Design a 8086 based microprocessor system with the following specifications.

A) 8086 is working at 8MHz.

B) 32KB EPROM using 16KB devices

C) 64KB SRAM using 16KB devices

Explain the design and show memory map. (10M)

Q.3(a) Explain the following Intel 8086 assembly language instructions with example

1) TEST 2) STOS 3) SAR 4) JC 5) CMP (10M)

Q.3(b) Explain the operation of IC 8259 with block diagram.. (10M)

Q.4(a) What is meant by DMA? Show interfacing of 8237 with 8086 and explain. (10M)

Q.4(b) Write an assembly language program for 8086 to exchange the blocks of 1KB Located at 0100H and 0200H using string instructions. (10M)

Q.5(a) Explain following addressing modes of Intel 8086, write an instruction for each Mode.

1) Direct addressing mode
2) Relative base indexed (10M)

Q.5(b) Write a detailed note on the 8289 bus arbiter. Emphasize on its role in a Microprocessor system. (10M)

Q.6(a) what are the various modes of operation of 8255 PPI. (10M)

Q.6(b) Explain the various system bus arbitration schemes in loosely coupled systems. (10M)

Q.7 Explain the following (20M)

a) Serial Communication using RS-232C

b) IEEE 488 GPIB

c) Modes of operation of the 8253-PIT

d) 8284 clock generator