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# BT4/M06 8676

## Microprocessor and Interfacing

### Paper–ECE-216 E

Time : Three Hours] [Maximum Marks : 100

Note : – Attempt **FIVE** questions, selecting at least **ONE** from each unit.

### UNIT–I

1. (a) Explain following – 8085 instructions CC, JC, RNC, SIM, XTHL.

   (b) Write - 8085 program to multiply two 16 bit numbers. 10,10

2. (i) Explain and draw Interrupt Control unit of 8085.

   (ii) Interface 16 K RAM and 8 K UVPROM with 8085 starting at address 1234μ. Also draw address decoding circuit and mention the memory map. 10,10

### UNIT–II

3. (i) Explain the following 8086 signals–$\overline{LOCK}$, $\overline{TEST}$, $\overline{RQ}/GT$, QSI, QSO.

   (ii) Explain 8086 addressing modes.

   (iii) Write a program for 8086, to compute determinant of 3×3 matrix. 8,6,6

4. (i) Draw 8086 Read/Write timing diagrams - when operating in minimum mode.

   (ii) Explain following 8086 instructions STOSB, LDS, LOCK, NEG.

   (iii) Write 8086 ALP to translate temperature from °F scale to °C scale. 8,6,6

### UNIT–III

5. (i) Explain Mode 1 of 8255. Write all possible CWs and SWs.

   (ii) Design 16 bit I/O port using 8255 and interface it with 8086 using isolated I/O addressing. 8,12

6. (i) Explain the terms-Resolution, accuracy, stability and monotonicity of DACs.

(ii) Interface 8 bit DAC with 8085 to derive 12V D.C. motor. Write ALP for variable rpm of the motor. 8,12

## UNIT–IV

7. (i) Explain block diagram of 8259.

(ii) Interface three 8259s with 8086 in master slave configuration.

(iii) Write 8086 instructions to initialize 8259s. 8,7,5

8. (i) Explain DMA with the help of a block diagram.

(ii) Draw diagram to interface 8237 with 8086.

(iii) Explain 8253 control word format. 5,10,5