

(OLD COURSE)

QP Code : 4299

(3 Hours)

[Total Marks : 100

- N.B. : (1) Question No. one is compulsory.
(2) Attempt any four from remaining six questions
(3) Assume suitable additional data if necessary

- Q. 1. a) Write a delay program for PIC18F without using timer [5]
b) Explain interrupts of 8086 [5]
c) Write an assembly program to find minimum of 2 numbers for PIC18F/8086 [5]
d) Explain application of timer in PIC18F microcontroller [5]
- Q.2. a) Write a program to divide 16 bit unsigned number by 8 bit in PIC18F [10]
b) Explain addressing modes of PIC18F [10]
- Q.3. a) Write short notes on segmentation in 8086 [7]
b) Explain memory map of 8086 microprocessor [7]
c) Write short notes on PIC18F interrupts [6]
- Q.4. a) Draw and explain interfacing of 8086 with 8087 [10]
b) With example, explain addressing modes in 8086 [10]
- Q.5. a) Write an assembly program to sort the number in ascending order for PIC18F/8086 [10]
b) Compare architecture of 8086 and PIC18F [10]
- Q. 6. a) Explain different modes of operation in 8255 [10]
b) Write a PIC18F microcontroller program to blink a LED [10]
- Q.7. a) Interface following components to make a functional system [10]
i) 8086
ii) 8KB EPROM
iii) 8KB RAM
iv) One no of 8bit port
v) Clock
b) Interface following components to make a functional system [10]
i) 8086
ii) Program, data memory (any size)
iii) 3x3 matrix keyboard
iv) 3-LEDs
v) clock

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- N.B.** (1) Question 1 is compulsory
 (2) Answer any 4 out of the remaining questions
 (3) **Diagrams** to be **drawn** wherever **required**
1. (a) Describe the principle of working of a TV Camera with neat sketch. 10
 Mention its advantages and disadvantages.
 - (b) Discuss MTI radar with neat diagram 10
 2. (a) Derive expression for maximum radar range and discuss factors affecting it. 10
 (b) Explain the principle of working of a sound section of a TV receiver. 10
 3. (a) Discuss construction, radiation pattern and feed mechanisms of parabolic reflector 10
 (b) Explain composite video signal with neat diagram. 10
 4. (a) Explain the working of yagi uda antenna along with radiation pattern. 10
 (b) Describe the various stages of uplink and downlink model of a satellite system. 10
 5. (a) Differentiate between resonant and non resonant antennas 10
 (b) Describe LEO, MEO and GEO satellites. 10
 6. (a) Explain the need for pre and post equalizing pulses in a TV system 10
 (b) Discuss in detail radar scanning mechanisms 10
 7. Write short notes on: 20
 - (a) Keplers Law
 - (b) Antenna Array
 - (c) Telemetry and Tracking subsystem in Satellite
 - (d) Interlaced Scanning