

T.E. sem VI (old) (ETRX),

26/11/18

up & u controller - II

QP Code : 1909

Note: 1. Question No.1 is compulsory

2. Solve four questions from the remaining six

1. a. Explain pipelining in the PIC 18. (05)
- b. Explain the flag register of the 8086. (05)
- c. Explain the rotating priority mode of the 8259 PIC. (05)
- d. Explain the function of the segment registers in the 8086.
2. a. Explain the addressing modes of the 8086 with examples. (10)
- b. Differentiate clearly between a macro and subroutine. State the advantages and disadvantages of each. (10)
3. a. Explain in detail the pipelined architecture of the 8086. Also, mention cases when the pipeline is stalled. (10)
- b. Draw and explain the interfacing of PIC 18 ports to seven segment LEDS to display an UP counter. Also write the code for the same. (10)
4. a. Explain the interrupts of the 8086. (10)
- b. Draw an interfacing diagram of the 8086 with 8087 and explain the working. (10)
5. a. Explain the various types of transfers using the 8257 DMA controller. (10)
- b. Explain the cascaded mode of operation of the 8259 PIC(one master and several slaves). (10)
6. a. Explain logical and rotate instructions of the PIC 18F. (10)
- b. Explain the following 8086 instructions: AAM, DAA, SHL, JCXZ with examples. (10)
7. Write short notes on: (20)
 - a. 8288 Bus controller
 - b. Handshaking signals in the 8255 PPI
 - c. 8155 timer modes

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QP-Con. 8452-15.

(3 hours)

total marks:100

Note: (1). Question No.1 is compulsory.

(2) Solve ANY FOUR from the remaining six questions .

(3) Sketch the diagrams wherever required.

1. Answer the following: (20)
- Explain different multiple access techniques.
 - Explain the need for blanking and synchronizing pulses in a TV system.
 - With the help of block diagram, explain satellite transponder.
 - Differentiate between resonant and non-resonant antennas.
2. a) Explain MTI radar system with the help of block diagram. How Doppler effect is used in MTI radar. (10)
- b) Explain the principle of working of a PAL receiver and bring out the importance of Color killer circuit. (10)
3. a) Describe the various stages of uplink and downlink model of a satellite system. (10)
- b) Draw and Explain composite video signal for 3 line periods. What do you understand by "pull on whites"? (10)
4. a) Explain the working of Yagi-Uda antenna along with radiation pattern. (10)
- b) In a TV system, explain the following:
- principle of working of a TV camera
 - why G-Y is not transmitted in color TV transmission. (10)
5. a) Draw block diagram of CW radar and explain. Mention its advantages and disadvantages. Compare it with FM-Radar. (10)
- b) Compare the following: (i) LEO, MEO and GEO satellites.
- LCD and PLASMA (10)

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6. (a) Explain the following: (i) Fiber configuration and classification
(ii) various losses in optical fiber cables. (10)
- (b) Discuss construction, radiation pattern and feed mechanisms of Parabolic reflector (10)
7. Write short notes on:
- HDTV system.
 - Kepler's Laws
 - Antenna scanning and tracking in Radar system.
 - Digital satellite Television system
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