ELECTRONICS - III
MECS – III Year

UNIT - I
LOGIC CIRCUITS AND MICROPROCESSORS

Long Answer Questions:

1. State the postulates and theorems of Boolean algebra (or) Boolean laws?
2. State and prove De-Morgan's theorems?
3. What are basic logic gates? Explain each gate in detail?
4. Why NAND and NoR gates are called universal gates explain?
5. Define k-map? Explain 2-variable k-map?
6. Discuss TTL circuit in detail?

Short Questions

1. Write a short notes on Ex-or gate?
2. Explain NAND gate?
3. Define sop and POS?
4. Write a short notes on CMOS Logic?
5. a) Convert $1111.1111_{(2)}$ = ($)_{10}$
   b) Compare $(ABBA)_{16}$ and $(BABA)_{16}$ in to decimal system?
6. a) Convert 1996_{10} = ($)_2$
   b) $10^4.101_{(10)}$ = ($)_2$
   c) $.655_8$ = ($)_{10}$.

UNIT – II

Long Questions

1. What are adder circuits? Explain Half adder and full adder circuit with the help of neat circuit diagram logical symbol and truth table?
2. Explain J-K flip flops and study the race around condition?
3. Explain Master stare J-K flip flop.
4. Discuss binary counter (or) 16-bit counter using neat circuit diagram, waveforms and truth table?
5. Discuss decode counter in detail?

6. What are seminconductor memories? And explain in detail?

Short Questions

1. Parallel adder circuit – short notes?
2. What is multiplexer? Explain?
3. What is De-multiplexer?
4. Write a short notes on D-type flip flop?
5. Explain the term counter? And how many types of counters are there?
6. What is Register (or) shift register?

UNIT - III

Long Questions:

1. Explain system bus organization of 8085 μp?
2. Define microprocessor? Explain the Architecture of 8085 μp?
3. Draw the pin out diagram of 8085 μp? and explain it?
4. Define instruction set. How many types of instruction sets are there and explain them?
5. Explain addversing modes of 8085μp?
6. Explain address space portioning of 8085 μp?
7. Define & explain machine cycle, instruction cycle, T-state and excute cycle of 8085 μp with the help of neat wave forms?

Short Questions

1. Write a short notes on Interrupts?
2. Write a short notes on Flags?
3. Write a short notes on Stack pointer?
4. Write a short notes on Sub routines?

UNIT - IV

Long Questions

1. Explain IC No. 8255 (or) PPI – Complete?
2. Explain IC No. 8279.
3. Explain R-2r ladder network?

4. Discuss stapper moter and interfacing with 8085 μp?
5. Explain LED system?
6. Explain data acquisitation system?

Short Questions

1. Explain successive application register?
2. Definition of D-A convertor & D-A convertors?
3. What is an interfacing circuit & how many types of interfacing CKt's are there?
4. What a short notes on 8212?
5. Write 8259 short notes?