LOGICAL : ORGANISATION OF COMPUTER-II

Time : Three Hours Maximum Marks : 80

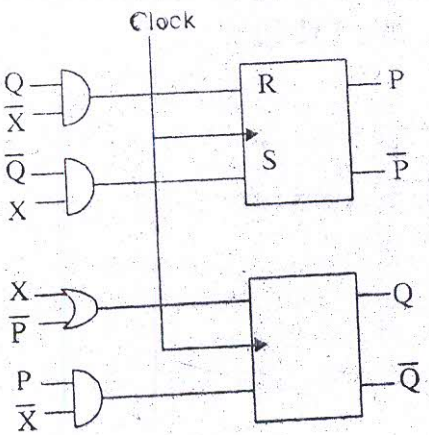
Note : Attempt ***five*** questions in all. Selecft ***one*** question from each section. Question No. 1 is compulsory.

(COMPULSORY QUESTION)

1. (a) What is the difference between Synchronous and Asynchronous circuit ? (3)
   (b) Name any three devices where counter is used. (2)
   (c) What is Flash memory ? (3)
   (d) Differentiate between Static RAM and Dynamic RAM. (3)
   (e) What is the basic design format for an instruction? (2)
   (f) What do you mean by Interrupt ? Explain its various types. (3)

UNIT-I

2. Explain working of D Flip-flop. Write its two applications.
3. Draw State table and State diagram of following sequential circuit : (16)



UNIT-II

4. (a) Define Register. Explain how 4-bit PIPO register works. (16)

5. Define a MOD-11 synchronous counter. (16)

UNIT-III

6. A memory is to be designed with 2048 words, 18 bits per word. Assuming 2D design of memory, explain the following
   (a) How many cores are required for the memory ?
   (b) How many bits are required in MAR and MBR ?
   (c) How many word wires are needed ?
   (d) How many bit wires are needed ?

7. Write short note on the following :
   (a) Magnetic Tape
   (b) ROM

UNIT-IV

8. Write assembly language code for computing
   (A + B) – (C * D)
   using 3 address and 2 address instruction format. (16)

9. Explain Program Controlled Method for I/O transfer. (16)