from II elements.

Paper : II Logical Organization of Computer

(Compulsory Question)

1. (a) What is the difference in triggering Flip-Flop during Pulse Duration and Pulse Transistion ?
   (b) What is difference between Latch and Register ?
   (c) What is purpose of Bidirectional Shift Register ?
   (d) Differentitate between Harddisk and CD ROM.
   (e) What is difference between High level language Industruction and Machine Instruction ?
   (f) Differentiate between direct and Indirect Addressing mode.

$6 \times 3 = 18$

UNIT–I

2. (a) What is problem in RS Flip-Flop ?
   (b) Explain the working of D-type and T-type Flip-Flop and also show its characteristic table and equation. 6, 12
3. (a) What is Race condition in J-K Flip-Flop ?

(b) Draw the logic Diagram of J-K master slave Flip-Flop and explain its working. 6, 12

UNIT–II

4. What is Register ? Design a 4 bit Prallel in Serial Out (PISO) Register and explain its working. 18

5. What is Synchronous Counter ? Design a MOD-5 counter. 18

UNIT–III

6. What is RAM ? Design a 16 words 3 bit/word RAM. 18

7. What is Optical Disk ? What are its types ? How data is recorded and read in CD ROM ?

UNIT–IV

8. (a) Write Assembly Language instruction to compute $X = (A + B)^* (C + D)$ for computer which uses 2 Address, one Address and zero Address instruction Format.

(b) What are Register reference Instructions ? Give example.

UNIT–V

9. (a) Explain I/O transfer using DMA.

(b) What is purpose of IOP ? Explain its operation. 10, 8