

BCA/M-16
LOGICAL ORGANIZATION OF COMPUTER
PAPER-BCA-122

Time Allowed: 3 Hours

Maximum Marks: 80

Note: Attempt five questions in all. Question No. 1 is compulsory. All questions carry equal marks.

Compulsory Question

1. (a) Differentiate Sequential and combinational circuits.
(b) Make excitation Table of T-ff.
(c) Define fetch cycle.
(d) What is ROM, Name types of ROM.
(e) What is external Interrupt.
(f) How many FFs are needed to make Mod-5 counter.

Unit-I

2. Explain clocked SRFF, its problem and discuss its solution.
3. (a) What is Race-Around Problem. Discuss Master-Slave FF to solve it.

(b) Discuss. D-FF

Unit-II

4. Differentiate Synchronous and Asynchronous counter. Explain Mod-16 Asynchronous counter using 8421 code.
5. (a) Make Shift-Register to store 1011.

(b) Make Mod-5 counter using Jkff.

Unit-III

6. (a) Define Memory and discuss Types of memory.
(b) Discuss Flash Memories.

7. (a) Discuss storage operation in Magnetic Disk.
(b) Explain Non-Impact Printers.

Unit-IV

8. (a) Explain Addressing Modes.
(b) Discuss various Instruction formats to solve.

$$Z = (A - B) * (C + D)$$

9. (a) Explain Program controlled data transfer.
(b) Discuss speed mismatch between Main-Memory and I/O.