

MCA 24105
MCA DEGREE EXAMINATIONS
FIRST SEMESTER
COMPUTER ORGANIZATION
(w.e.f. Admitted Batch 2024 - 25)

Time: 3 Hours

Max. Marks: 75M

SECTION - A

All Questions Carry Equal Marks

Note :- All parts of the questions must be answered at one place only **(4 X 15 = 60 M)**

1. a. Define Combinational Circuit. Explain about Full Adder with neat Diagram. **(7 M)**
b. Explain and Construct SR Flip-Flop using AND-Gates. **(8 M)**

(OR)
2. a. Discuss about Multiplexers with diagram. **(7 M)**
b. Simplify Boolean function $F = X | YZ + X | YZ | + XY | Z | + XY | Z$ using K-Maps. **(8 M)**
3. a. Explain about different types of Compliments with examples. **(7 M)**
b. Difference between Fixed-Point and Floating-Point Representations. **(8 M)**

(OR)
4. a. What are Assembly language Instructions? Explain. **(7 M)**
b. Write about Arithmetic and Shift Operations with examples? **(8 M)**
5. a. Describe Memory Reference Instructions. **(7 M)**
b. Write about Instruction Cycle **(8 M)**

(OR)
6. a. Explain Instruction Formats with examples. **(7 M)**
b. Discuss about different Addressing Modes **(8 M)**
7. a. Write about Asynchronous Data Transfer. **(7 M)**
b. Explain DMA Controller with block diagram. **(8 M)**

(OR)
8. a. Explain about Associate Memory. **(7 M)**
b. Difference between Cache Memory and Virtual Memory. **(8 M)**

SECTION-B

Answer **Any 5** of the Following.

(5 X 3 = 15 M)

9. Write about basic logic gates with truth Tables.
10. Define Counters. What are the uses of Counters?
11. Define BUS. Write about different types of Buses.
12. Describe various Types of Data Representation.
13. Define Accumulator, Program Counter.
14. Write about Stack Organization.
15. What is Priority Interrupt?
16. Define Memory. Write about Memory Hierarchy
