

1033/MJ

F-10/2051  
COMPUTER SYSTEM ARCHITECTURE-203  
SEMESTER-II

TIME 3 HOURS

MM: 70

Note : The candidates are required to attempt two questions each from Section A & B Section C will be compulsory.

SECTION A

- Q1a) Explain the basic computer architecture in detail. (6)
- b) Explain the functioning of ripple counter in detail. (4)
- Q2a) Simplify the following using three variable map  $F(x,y,z) = \sum (3,5,6,7)$  (5)
- b) Simplify the expression  $AB + A(CD + CD')$  using Boolean algebra (5)
- Q3a) Compare and contrast RISC and CISC. (4)
- b) Explain the working of JK- Master Slave flip flop. (6)
- Q4.a) Compare and contrast half adder and full adder. (5)
- b) Discuss various addressing modes. (5)

SECTION B

- Q5 Explain the working and function of DMA in detail. (10)
- Q6. Discuss any three shift micro-operations and two logical operations and with examples. (10)
- Q7a) Explain memory hierarchy in detail (5)
- b) Explain the functioning of I/O processor. (5)
- Q8. Explain the following: (10)
- i) Programmed I/O                      ii) Interrupt Initiated I/O

## SECTION C

Q9.

- a) Explain the role of ALU in short. (3)
- b) Give truth table of AND, OR and NOT gate. (3)
- c) Explain the role of flip flop and give truth table of D flip flop. (3)
- d) Explain RAM and ROM. (3)
- e) Compare and contrast synchronous and asynchronous counters. (3)
- f) Explain the functioning of RS Flip Flop. (3)
- g) Explain shift register in short. (3)
- h) Name any three basic computer registers. (3)
- i) Explain interrupts in detail. (3)
- j) Explain the role and significance of cache memory. (3)