

- Q. 1** Attempt any four of the following 16
- List and explain any 4 Boolean laws.
 - Determine the Decimal numbers represented by the following.
 - Binary Numbers i. 11111111 ii. 110101
 - Octal Numbers i. 24 ii. 15
 - Draw the basic gates using NAND gate.
 - Explain De-Morgan's 2nd law in detail .
 - Add binary numbers i. 1011 and 1100 ii. 0101 and 1111
 - Draw the Ex-OR and EX-NOR gates and write their truth table.
 - Draw a clocked S-R flip flop with Preset and clear.
 - Explain a 4:1 multiplex in detail
- Q. 2** Attempt any four of the following 16
- Write note on machine language.
 - What are assembler directives. List a few of them.
 - Write short note on auxiliary memory.
 - What are stacks? What is the use of stacks.
 - Explain ORG & Segment name directives
 - What is cache memory? Explain
 - Write the characteristics of auxiliary memory.
 - Explain Immediate and Register addressing mode.
- Q. 3** Attempt any four of the following 16
- What are interrupts? What is their function?
 - Write note on register files and write its uses
 - Differentiate between 8085 and 8086 micro-processors
 - What are External and Internal Interrupts?
 - What is the function of the control unit.
 - List the different stages in the datapath.
 - Write note on main components of a computer.
 - Write the stages/steps in the datapath when data is to be loaded from the memory i.e. read from the memory.
- Q. 4** Attempt any Three of the following 12
- Draw the state table for the below state diagram.
 - Explain big-endian and small endian.
 - What are external and internal interrupts?
 - Write note on assembly language.
 - What is interrupt service routine? What is vector address?
 - Write a note on ALU.
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