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| Chapter No.1 | |
| How negative integer number represented in memory? Explain with suitable example. |
| Chapter No.2 | |
| What is multiplexing? Explain the multiplexing of control signals in ALU. |
| What is a Digital Computer System? Explain the role of binary number system in it. |
| Chapter No.3 | |
| Explain how complement number system is useful in computer system. Discuss any one complement number system with example. |
| Explain addition and subtraction operations with signed 2’s complement integer data. Support your answer by taking appropriate example(s). |
| Draw and explain flowchart for addition and subtraction operations with sign-magnitude data. |
| Explain floating point representation. |
| Explain Gray Code. |
| Chapter No.4 | |
| Represent the following conditional control statement by two register transfer statements with control function.  If (P = 1) then (R1←R2) else if (Q=1) then (R1←R3) |
| Define RTL. Give an example of register transfer of data through accumulator. |
| What do you mean by register transfer? Explain in detail. |
| Define RTL. Explain how register transfer takes place in basic computer system |
| What is a micro operation? List and explain its categories. |
| Write micro operations for ADD instruction. |
| Explain shift micro operations and Draw neat and clean diagram for 4-bit combinational circuit shifter. |
| Explain hardware implementation of common bus system using three state buffers. Mention assumptions if required. |
| Design a digital circuit for 4-bit binary adder. |
| Chapter No.5 | |
| Draw and explain flowchart for interrupt cycle. |
| List out types of interrupt. Explain any one. |
| Write a detailed note on instruction cycle with neat diagrams. |
| Draw space-time diagram for 4-segment pipeline with seven tasks. |
| Draw the block diagram of control unit. |
| Differentiate MRI and non-MRI. |
| Explain control unit of basic computer and its working with diagram. |
| Memory reference instructions |
| Explain CLA, ISZ, INP instruction. |
| Draw and explain basic computer instruction formats. |
| Chapter No.6 | |
| Write an assembly language program to add 10 numbers from memory. |
| List and explain types of shift operations on accumulator. |
| Draw flow graph of second pass of assembler. |
| Passes of an assembler. |
| Draw a flowchart for first pass of an assembler and explain the same in brief. |
| What is machine language? How it differs from assembly language? |
| For the following Clanguagecode , write assembly language program:  int a, b, c;  a = 83;// plus 83  b =-23;//minus 23  c=a+b; |
| Assume A=(+8) and B=(+5). Multiply these two numbers using Booth algorithm. Show the step-by-step multiplication process. |