

1. Write short notes on the following
 - A) Multiplexer
 - B) Encoder
 - C) Flip Flops
 - D) AND logic Gate
 - E) Interrupts
2. How the instructions are executed. Explain the fetch-decode-execute cycle and also make the diagram to explain the process.
3.
 - a) What are various microinstruction formats. Explain all of them with examples.
 - b) Describe various loops available in the Assembly language programming.
4.
 - a) Write a program in the assembly language to add 10 numbers.
 - b) How the Assembly language programming is different from high level language programming. Give advantages and disadvantages.
5. What are various addressing modes available? Explain each of them with examples.
6. Draw the Hardware Design Diagram & Algorithmic flowchart for Multiplying two signed 2's complement binary numbers with any technique.
7. Explain the following in detail
 - a) Virtual cache memory
 - b) Inter process arbitration
8. Write notes on
 - a) DMA
 - b) Memory Management Hardware
9. Elaborate the following terms
 - a) Decoder
 - b) Registers
 - c) Logical operators
 - d) Control Bus
 - e) ALU
 - f) Parallel processing
 - g) Pipelining
 - h) Assembler
 - i) Priority interrupts
 - j) I/O Processor