COA IMPORTANT QUESTIONS

10 MARKS QUESTIONNS

UNIT-I

1. What is instruction format? Explain the different instruction formats in detail.
2. Explain Register Transfer language with examples?
3. Explain about Arithmetic, logic and shift micro operations with examples?
4. Explain Instruction Cycle and interrupt cycle?
5. Explain Bus Transfers. Demonstrate the Three – State Bus Buffer with neat diagram
6. Draw and explain Arithmetic Logic Shift Unit?
7. Determine the input-output configuration

UNIT – II

1. Write the differences between Hardwired control and Micro programmed Control
2. Draw and explain about micro program control unit.
3. Define a Micro Program & Micro Instruction? Explain how address sequencing is done in micro program control unit?
4. What is instruction format? Explain the different instruction formats in detail. Evaluate the following expression

X = (A+B) * (C+D)

(i) using three address Instruction format,

(ii) two address instruction format

(iii) one address instruction format

(iv) zero address instruction format

5. Explain general register organization in detail with neat diagrams
6. Explain multiple bus organization in detail.
7. What is an addressing mode. Explain different addressing modes with an example.

UNIT-III

1. Multiply each of the following pairs of signed 2's compliment numbers using the Booth multiplication and n- bit multipliers. In each case assume that A is multiplicand and B is multiplier. (i) A=010111 and B=110110. (ii) A=110011 and B=101100 and Explain Booth Algorithm and flow chart.
2. Draw a flowchart for adding and subtracting two fixed point binary numbers where negative numbers are signed 1’s complement representation
3. Discuss about the IEEE 754 standard for binary floating point arithmetic
4. Draw the flowchart for divide operation and explain algorithm for 2’s complement numbers with an example

5. Draw and explain the decimal adder (or BCD adder)
6. Explain the multiplication algorithm for multiplication of signed 2's complement numbers with an example

UNIT-IV

1. What is IOP? Explain the communication between IOP and CPU
2. Describe in brief the different modes by which data transfer can take place between a computer unit and its I/O devices.
3. Explain in detail about DMA operation with neat diagram
4. What is the difference between synchronous and asynchronous data transfer?
5. Draw memory hierarchy with the neat diagram and explain :
   (i) Registers (ii) Cache Memory (iii) Main Memory (iv) Auxiliary Memory
6. Classify and explain different types of Read Only Memories.
7. What is Associative memory? Explain in detail about Associative memory mechanisms
8. What are the different types of Mapping Techniques used in the Cache Memory? Explain

UNIT-V

1. Differentiate RISC and CISC characteristics
2. What is pipelining? Explain the different types of Pipeline techniques
   (i) Arithmetic pipeline (ii) Instruction pipeline (iii) RISC pipeline
3. What are multi processors? Discuss their characteristics
4. Explain in detail about the Interconnection structures of Multiprocessor?
5. Explain in detail about the Inter-processor arbitration
6. Explain Synchronization with Inter Processor Communication .
7. What is Cache Coherence. Explain Cache Coherence mechanisms ?

1 MARK QUESTIONS

1. Define a Digital Computer?
2. Define the term Computer Architecture.
3. What are the functions of control unit?
4. What is control memory?
5. What is the need of Register? Explain the different types of Registers.
6. Define a Micro Program & Micro Instruction?
7. What is instruction format? Explain the different instruction formats in detail.
8. Define Data path.
9. Define Latency and throughput
10. What is control store?
11. Define Processor clock.
12. Convert the following decimal number to the base indicated
    (a) 7562 to octal (b) 1938 to hexadecimal

13. Find the 1's and 2's complement of the following eight digit binary number
    (a) 10101110 (b) 10000001
14. List the steps of Booth's Multiplication algorithm
15. Explain BCD adder
16. Briefly explain r's complement with example
17. List out the memory hierarchy?
18. What is associative memory?
19. What is the need of Cache Memory?
20. Define a Pipeline? Give an example.
21. What is inter process arbitration?
22. What is DMA?
23. What is the need of IO Interface?
24. Define Priority Interrupt?
25. List out any 5 IO Devices?
26. What are peripheral devices?