Model question paper(Computer System Architecture)

A. Short questions----1 marks each

1. The sign followed by the string of digits is called as _____
2. The 32 bit representation of the decimal number is called as ____
3. In IEEE 32-bit representations, the mantissa of the fraction is said to occupy _____ bits.
4. A _____ gate is used to detect the occurrence of an overflow.
5. Which option is true regarding the carry in the ripple adders?
6. The write-through procedure is used _____
7. The bit used to signify that the cache location is updated is _____
8. During a write operation if the required block is not present in the cache then _____ occurs.
9. The minimum time delay between two successive memories read operations is _____
10. The bit used to signify that the cache location is updated is _____
11. During a write operation if the required block is not present in the cache then _____ occurs.
12. The minimum time delay between two successive memory read operations is _____
13. A 16 X 8 Organization of memory cells, can store up to _____
14. The disadvantage of DRAM over SRAM is/are _____
15. The interrupt-request line is a part of the
16. The time between the receiver of an interrupt and its service is _____
17. An interrupt that can be temporarily ignored is
18. The DMA differs from the interrupt mode by
19. The technique whereby the DMA controller steals the access cycles of the processor to operate is called
20. The advantage of I/O mapped devices to memory mapped is _____

B. Broad questions----5 marks each

1. What is cache coherency and how is it eliminated?

2. What is write back and write through caches?

3. Explain the difference between hardwired and control and micro programmed control.

4. How do you improve the cache performance?

5. Explain Booth's algorithm for multiplying binary integer in signed 2's complement representation.

6. What do you mean by fixed point representation? Explain the various integer representations with suitable example.

7. What is an instruction format? Explain different types of instruction formats in detail

8. What do you mean by instruction cycle and interrupt cycle? Draw the flowchart for instruction Cycle.

9. What is input-output interface? Draw and explain block diagram of input-output interface.

10. What is the difference between isolated I/O and memory mapped I/O?

11. What is direct memory access (DMA)? Why are the read and write control lines in a DMA controller bi directional?

12. What is the difference between isolated I/O and memory mapped I/O?

13. Explain daisy chain priority.

14. Explain priority interrupt in detail.

15. What is the difference between serial and parallel transfer?

16. What is asynchronous data transfer?