Subject : Computer Architecture

Subject Code : ECS512

Class : III BSC (CS)

Staff –in- Charge : C. Christy

PART-A (5 Marks)

1. Write the Organisation of CPU.
2. Explain General Register Organization and Form of Control word.
3. Evaluate 4 * 3 – 2 + 5
4. What are the Types of interrupts?
5. Write the Limits of Stack?
6. How Many Segments are in Pipeline? Explain with Space Time Diagram.
7. What are the Difficulties causes by the Instruction Pipeline?
8. Explain about RISC Pipeline.
9. State and Explain Attached Array processor.
10. Write the Applications of Vector processing.
11. Give an Algorithm for Addition and Subtraction with Signed-Magnitude Data?
12. Explain Booth Multiplication Algorithm?
13. State the Difference between Memory Mapped I/O and Interrupt Initiated I/0.
14. Discuss about Working of Daisy Chaining Priority Interrupt?
15. How I/O Bus communicate with several Peripherals?
16. Explain Asynchronous Serial Transmission Interface?
17. What are the cycles involved in Interrupt?
18. Discuss about Cache Memory.
19. Explain RAM and ROM in Main Memory.
20. Explain Block Diagram of IOP.
21. What is Parallel Priority Interrupt?
22. Define what is DMA?
23. Explain Source –Initiated and Destination Initiated Hand Shaking.
24. Explain Virtual Memory and Physical address , Logical Address.

25. Discuss about Segmented Page Mapping?

Part-B (10 Marks)

1. Write in detail about stack Organisation and its micro operations

2. Explain various Addressing Modes with an example

3. State and explain Data Transfer and Manipulation Instruction.

4. What is PC? Write its Instructions.

5. How instruction formats Organised in CPU?

6. Explain Status Bit Conditions with Diagram.

7. Explain ASCII Code and BCD Adder.

8. Discuss about Arithmetic Pipeline?

9. What are the segments involved in instruction pipeline?

10. How to handle branch instruction? Explain with Delayed Load and Delayed Branch.

11. Draw a flowchart and explain Hardware algorithm for floating point addition and subtraction.

12. Write the example for Division Algorithm.

13. What is DMA? Explain about DMA transfer with Neat Diagram.

14. Discuss about Associative Memory.

15. Case study: - IBM 376 I/O channel

16. Specify the six basic I/O operations.

17. Write how mapping done through cache Memory?

18. Explain strobe control in Asynchronous Data Transfer?

19. Explain FIFO buffer with neat diagram

20. Discuss about Any 5 Peripheral Devices.

21. Explain Auxiliary Memory

22. What is Associative Memory? Explain in Detail about Read and Write Operations.

23. State and explain CPU- IOP communication diagram in detail

24. Discuss about Memory Management Hardware?

25. Explain Various Modes of Transfer in Detail.