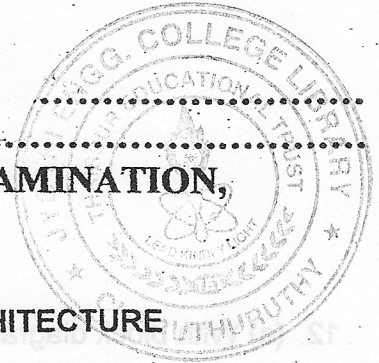20920

FIFTH SEMESTER B.TECH. DEGREE EXAMINATION, OCTOBER 2011

AI 09 504 COMPUTER ORGANISATION AND ARCHITECTURE

Max. Marks : 70   Duration : 3 Hours

PART – A (5X2=10 Marks)

1. What is a stack?

2. What is a Virtual Memory?

3. Perform the following subtraction using singed binary number representation:

    $(24_{10}-16_{10})$

4. What is an Instruction Queue?

5. What is a SIMD stream?

Part – B (4 x 5 = 20 Marks)

Answer any four questions

6. What is a Machine cycle? Explain.

7. What is Register Gating ? Explain.

8. With block diagram explain the input output organization of a Computer.

9. With an example, explain the branching condition.

10. Write a note on Flat Panel displays.

11. Briefly explain any one application of Parallel processing.

Part–C (4 x 10 = 40 Marks)

12. (a) With block diagram, explain the basic structure and function of a computer.

(b) What is a Hardwired control? Explain.

(or)

13. (a) Explain the Main Memory operation.

(b) With suitable example, explain the execution of a complete instruction.

14. (a) Explain the Direct Memory Access transfer.

(b) Explain the function of a Cache Memory.

(or)

15. Explain the design of a (a) Multiplier and (b) Divider

16. Discuss the concept of Pipelining and its performance considerations.

(or)

17. Describe the operation of (a)Graphic Input Devices   (b) CD-ROM systems

18. Explain the principles (a) Memory Interleaving   (b) Vector processing

(or)

19. Explain the following SIMD Matrix multiplication algorithms

(a) $O(n^2)$ algorithm

(b) $O(n\log_2 n)$ algorithm.

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