Name: ..........................................
Reg. No. .......................................

FOURTH SEMESTER B.TECH. DEGREE EXAMINATION, JUNE 2011

CS/TT.09.403/PTCS.09.402 – Computer Organization and Design

Time: Three hours

Maximum: 70 marks

PART - A

1. State any two advantages of networked computers.
2. Define CPU execution time for a program. Give its expression.
3. What is the decimal value of this 32 bit two’s complement number?
   \[1111 \ 1111 \ 1111 \ 1111 \ 1111 \ 1111 \ 1111 \ 11002\]
4. Draw the adder hardware for the carry out signal.
5. State the difference between SRAM and DRAM.

(5x2=10 marks)

PART - B

(Answer any FOUR)

7. How if-then-else statement is compiled into conditional Branches?
8. Design a 1-bit ALU and explain its operation.
9. What are round and guard digits? Explain with an example.
10. How to combine the datapaths for the memory instructions and the R-type instructions? Explain.
11. What is the average time to read or write a 512-byte sector for a typical disk rotating at 5400 RPM? The advertised average seek time is 12 ms, the transfer rate is 5 MB/sec, and the controller overhead is 2 ms. Assume that the disk is idle so that there is no waiting time.

(4x5=20 marks)

PART - C

12. Discuss the organization of a computer with block diagram showing the five classic components.

   OR

13. Explain the various Registers and Data addressing modes of Intel 8086.

   (10 marks)


   OR

15. With flow chart and steps explain the signed multiplication.

   (10 marks)

16. Discuss in detail about single cycle and multicycle implementations.

   OR

17. Explain the structure of Pentium Pro Implementation.

   (10 marks)

18. Explain in detail about cache memory.

   OR

19. Discuss the types and characteristics of I/O Devices.

   (10 marks)

   (4x10=40 marks)