MCA DEGREE I SEMESTER EXAMINATION, NOVEMBER 2007

CAS 2104 COMPUTER ORGANIZATION

Time: 3 Hours

Maximum marks : 50

PART A

(Answer *ALL* questions)
(Each question carries *TWO* marks)

(5 x 6 = 30)

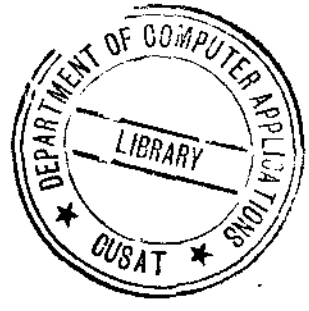
I. (a) What for complements are used? Write the two types of complements.
(b) When an overflow can not occur?
(c) Write the names of the common types of flip-flops.

II. (a) What is memory buffer register?
(b) Write the applications of ROMs.
(c) What is the importance of cache memory?

III. (a) What are interrecord gaps?
(b) What is latency?
(c) What are internal interrupts?

IV. (a) What are the advantages of macro?
(b) What is binding time?
(c) What is the difference between the instruction location counter and the program counter?

V. (a) What is program tuning?
(b) What is macro expansion? When does it occur?
(c) What is relocation problem?



PART B

(Answer *ALL* Questions)
(Each question carries *FOUR* marks)

(5 × 4 = 20)

VI. (a) Explain how Hamming code is used to detect and correct errors?

OR

(b) Briefly explain the modulo 2^n counters using T flipflops and JK flipflops.

VII. (a) Explain the arithmetic operations which can be done in the Arithmetic Logic Unit.

OR

(b) Give an account of the different types of memories.

VIII. (a) Explain one of the storage devices that how information is stored and retrieved.

OR

(b) Design a logic circuit to pick up the prime numbers occurring at the output of a 4 bit binary counter.

IX. (a) Briefly explain a two-pass assembler.

OR

(b) Write about the different addressing modes with examples.

X. (a) Write an assembly language program to find the minimum and the maximum of an array of integers.

OR

(b) Write a subroutine in assembly language to find the frequency count for a given integer in an array of integers. Return the frequency count if present and O if not.

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