B.TECH DEGREE (F.T) III SEMESTER EXAMINATION IN COMPUTER
SCIENCE AND ENGINEERING JULY 1997

CS 305   COMPUTER ORGANISATION

Time: 3 Hours   Max. Marks: 100

(Answer all questions)

I   a)   With the help of necessary diagrams explain the functional organisation of a computer. (8)

    b)   With examples explain at least four addressing modes commonly available in present day computers. (7)

OR

II   a)   List the various registers and their role in a processor unit. (10)

    b)   What are the salient features of instruction format design? (5)

III   a)   By taking an example explain the sequence steps in a program execution. (8)

    b)   Explain the organisation of a simple accumulator based CPU (7)

OR

IV   a)   What are micro program sequences? Draw the block diagram of a CPU containing micro program sequences. (10)

    b)   Compare horizontal and vertical micro instruction formats. (5)

V   a)   Explain the interrupts as means of co-ordinating the activities of the CPU and those of the I/O devices. (10)

    b)   Explain the handshaking method of synchronous data transfer. (5)

OR

VI   a)   Give comparison of different types of printers. (10)

    b)   Briefly describe different I/O interface standards. (5)

VII   a)   Explain with a logic circuit arrangement diagram, the implementation of restoring division technique. (10)

    b)   Divide 10101 by 11 using the above technique. (5)

OR

VIII   a)   How are arithmetic operations performed on floating point members? (10)

    b)   Explain the methods of truncation. (5)

IX   a)   Describe the memory hierarchy with a block diagram. (10)

    b)   Explain the need for modularity in memory organisation. (5)

OR

X   a)   What is a dynamic RAM? (5)

    b)   Write a brief note on Cache memory. (10)

XI   Write precise notes on any five of the following?

    i)   Distributed computing,   ii)   Encoding of information
    iii)   Hardwired controllers   iv)   Vectored interrupts
    v)   Synchronous and asynchronous data transfer
    vi)   I/O channels   vii)   Fast adders
    viii)   Memory replacement policies.   (5 x 5)

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