Total No. of Questions—8]   [Total No. of Printed Pages—2

Seat
No.

[4657]-549

S.E. (E&TC/Electronics) (II Sem.) EXAMINATION, 2014

COMPUTER ORGANIZATION

(2012 PATTERN)

Time : Two Hours   **Maximum Marks : 50**

N.B. :— (i)   Neat diagrams must be drawn wherever necessary.

(ii)   Figures to the right indicate full marks.

(iii)   Use of logarithmic tables, slide rule, Mollier charts, electronic pocket calculator and steam tables is allowed.

(iv)   Assume suitable data, if necessary.

1.   (a)   Draw the block diagram of basic structure of computer. Explain each block in detail.   [6]

(b)   Perform the following division using restoring algorithm :   [6]

(i)   dividend = 1001

(ii)   divisor = 0101.

Or

2.   (a)   Discuss about concept of superscalar computer.   [6]

(b)   Represent (−13) multiple in booths record format and bit pair recorded format.   [6]

P.T.O.

3.   (*a*)   Explain the micro-instructions with next-address field in detail with block diagram.   [6]

       (*b*)   What is the difference between subroutine and interrupt service routines ?   [6]

Or

4.   (*a*)   Write control sequence for the following instruction for the single bus organization for sub(R4), R3.   [6]

       (*b*)   Differentiate memory-mapped I/O and I/O-mapped I/O.   [6]

5.   (*a*)   Explain the dynamic RAM organization.   [6]

       (*b*)   Explain cache memory. Why is it used ?   [7]

Or

6.   (*a*)   Write a note on a synchronous DRAM.   [7]

       (*b*)   Write a note on virtual memory.   [6]

7.   (*a*)   Explain Segment Registers of 8086.   [7]

       (*b*)   Explain functions of the following pins of 8086 :   [6]
NMI, INTR, RESET, READY, BHEbar.

Or

8.   (*a*)   Draw Flag Structure of 8086 and explain operation of each flag.   [7]

       (*b*)   Explain logical to physical addressing of 8086.   [6]