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 : NMI, INTR, RESET, READY, BHEbar. [6]

Or

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

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