

Total No. of Questions—8]

[Total No. of Printed Pages—3

|                     |  |
|---------------------|--|
| <b>Seat<br/>No.</b> |  |
|---------------------|--|

**[4657]-579**

**S.E. (Computer Engineering) (Second Semester)**

**EXAMINATION, 2014**

**COMPUTER ORGANIZATION**

**(2012 PATTERN)**

**Time : Two Hours**

**Maximum Marks : 50**

**N.B. :—** (i) Answer Q. 1 or Q. 2, Q. 3 or Q. 4, Q. 5 or Q. 6 and  
Q. 7 or Q. 8.

(ii) Neat diagrams must be drawn wherever necessary.

(iii) Figures to the right indicate full marks.

(iv) Use of calculator is allowed.

(v) Assume suitable data, if necessary.

1. (a) Draw and explain Von Neumann architecture. [6]

(b) Explain basic SOC (System on Chip) processor  
architecture. [6]

P.T.O.

*Or*

2. (a) Describe the features of RISC and CICS processors. [6]  
(b) Multiply the following numbers using Booth's algorithm :  
Multiplicand = +13  
Multiplier = -6 (Show steps in detail). [6]

3. (a) Explain hardware organization and execution of 4 stage instruction pipeline. [6]  
(b) State Microinstructions for Add (Rsrc)+, Rdst. [6]

*Or*

4. (a) Explain with example the steps involved in floating point addition and multiplication. [6]  
(b) Compare hardwired and micro programmed control unit. [6]

5. (a) Compare memory mapped I/O with I/O mapped I/O. [6]  
(b) Explain how data transfer takes place by USB. [7]

*Or*

6. (a) Compare NUMA and UMA multiprocessors. [6]  
(b) Explain how data transfer takes place by SCSI Bus. [7]

7. (a) Draw the block diagram of AMD multicore opteron. [6]  
(b) Draw NVIDIA GPU architecture. [7]

*Or*

8. Explain with diagram Intel IA-64 architecture. [13]