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Seat No.	
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**[4857]-1049**

**S.E. (Electronics/E&TC) (Second Semester) EXAMINATION, 2015**

**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) Explain different functional units of computer organization. [6]  
(b) Perform multiplication of the following positive numbers using Booth's algorithm : [6]  
(i) 1101  
(ii) 1011

*Or*

- 2.** (a) Explain IEEE standards for single precision and double precision floating point numbers. [6]  
(b) Explain pipelining of RISC processor. [6]
- 3.** (a) Write the control sequence for ADD  $R_4$ ,  $R_5$ ,  $R_6$  using multibus organization with flow chart. [7]  
(b) Write a short note on universal serial bus. [6]

P.T.O.

*Or*

4. (a) Differentiate between hardwired and microprogrammed control unit. [6]  
(b) Explain different methods to handle multiple interrupts. [7]
5. (a) Explain memory hierarchy of computer system. [6]  
(b) Write a short note on SRAM. [6]

*Or*

6. (a) Explain the concept of virtual memory. How is virtual address translated to physical address ? [6]  
(b) Explain the cache mapping techniques. [6]
7. (a) Draw and explain functional block diagram of 8086 processor. [7]  
(b) State and explain any *three* addressing mode with example for 8086 processor. [6]

*Or*

8. (a) Explain the function of the following pins of 8086 : [6]  
(i)  $\overline{\text{BHE}} / \text{S7}$   
(ii)  $\text{MN} / \overline{\text{MX}}$   
(iii) INTR  
(iv) NMI  
(v)  $\overline{\text{TEST}}$   
(vi) READY
- (b) Draw the bit pattern for flag register of 8086 and explain significance of each bit. [7]