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Seat No.	
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[4957]-1049

S.E. (Electronics/E&TC) (Second Semester) EXAMINATION, 2016

**COMPUTER ORGANIZATION**

(2012 Pattern)

**Time : Two Hours**

**Maximum Marks : 50**

**N.B. :-** (i) Solve Q. 1 or Q. 2, Q. 3 or Q. 4, Q. 5 or Q. 6,  
Q. 7 or Q. 8

(ii) Neat diagrams must be drawn wherever necessary.

(iii) Figures to the right side indicate full marks.

(iv) Use of calculator is allowed.

(v) Assume suitable data if necessary.

1. (a) Draw the block diagram of basic structure of computer. Explain function of each block. [6]
- (b) Represent the following number in single precision and double precision IEEE format :  $(100.125)_{10}$ . [6]

*Or*

2. (a) Compare RISC and CISC processor. [6]
- (b) Explain Booth algorithm with suitable example. [6]
3. (a) Draw and explain single bus organization. [6]
- (b) Write a short note on PCI BUS. [6]

P.T.O.

*Or*

4. (a) Write a control sequence for instruction SUB(R4), R3 using single bus organization. [6]  
(b) What is BUS arbitration ? Explain Daisy chain and polling method. [6]
5. (a) Write a short note on semiconductor memories. [6]  
(b) Explain the concept of virtual memory ? How virtual memory address is translated to physical memory address ? [7]

*Or*

6. (a) Explain the cache mapping techniques. [7]  
(b) Explain the memory Hierarchy of computer system. [6]
7. (a) Explain the interrupt structure of 8086 microprocessor. [7]  
(b) Explain the following addressing modes of 8086 with suitable example : [6]  
(i) Direct addressing  
(ii) Register addressing  
(iii) Immediate addressing.

*Or*

8. (a) Draw the bit pattern for flag register of 8086. Microprocessor and explain significance of each bit. [7]  
(b) Draw the pin diagram of 8086 microprocessor and explain the significance of the following pins : [6]  
(i)  $\overline{MN} \overline{MX}$   
(ii) NMI  
(iii)  $\overline{TEST}$ .