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Seat No.	
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**[5252]-170**

**S.E. (Comp. Engg) (Second Semester) EXAMINATION, 2017**  
**COMPUTER ORGANIZATION**  
**(2012 PATTERN)**

**Time : Two Hours**

**Maximum Marks : 50**

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

(ii) Figures to the right indicate full marks.

(iii) Assume suitable data, if necessary.

1. (a) Explain Booth's multiplication algorithm with suitable example. [6]

(b) List different register set in 80386DX and explain flag register in detail. [6]

*Or*

2. (a) Explain speedup techniques for the processor in brief. [6]  
(b) Explain data representation using single and double precision formats. [6]

3. (a) Explain restoring division algorithm with flowchart. [6]  
(b) Explain in detail hazards in instruction pipeline. What is operand forwarding ? [7]

*Or*

4. (a) Perform  $1100 \div 11$  using non-restoring algorithm. [6]  
(b) Compare hardwired control and micro programmed control. [7]

P.T.O.

5. (a) Explain in detail Intel Nehalem Memory Organization. [6]  
(b) Explain use of DMA controller in computer system. [6]

*Or*

6. (a) Write a note on memory mapped I/O and I/O mapped I/O with advantages and disadvantages. [6]  
(b) Write a note on USB bus organization. [6]

7. (a) Write short note on Sun UltraSparc T1. [6]  
(b) Explain in detail IA-64 architecture. [7]

*Or*

8. (a) Compare traditional superscalar architecture and IA-64 architecture. [7]  
(b) List and explain properties of i5/i7 processor. [6]