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**[5152]-172**

**S.E. (I.T.) (I Sem.) EXAMINATION, 2017**

**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) Assume suitable data, if necessary.

1. (a) Perform multiplication operation on the following signed binary numbers using Booth's recording technique. Multiplicand = 0101101, Multiplier = 0011110. Justify whether given multiplier is good or worst. [7]

(b) Draw internal structure of ALU and explain its functioning. [6]

*Or*

2. (a) Describe function of various signals used in maximum mode operation of 8086. [7]

(b) Perform multiplication operation on the following signed binary numbers using Booth's bit pair recoding technique. Multiplicand = 01101, Multiplier = 1010. Justify whether given multiplier is good or worst. [6]

3. (a) Draw and explain programmer's model of 8086 micro-processor. [6]

(b) Explain the micro operations performed for fetching a word from memory and storing a word in memory. [6]

P.T.O.

*Or*

4. (a) Explain memory segmentation in 8086. List out the advantages of it. [6]  
(b) Compare hardwired control unit with micro-programmed control unit. [6]
5. (a) Explain different memory access methods. [6]  
(b) Explain how snoopoy protocol resolves the problem of cache coherence. [6]

*Or*

6. (a) Explain whether write through or write back policy is better in cache memory. [6]  
(b) Write a note on RAID. [6]
7. (a) Explain the need of I/O module. Compare memory mapped I/O with I/O mapped I/O. [7]  
(b) Elaborate the feature and functions of 8255. [6]
- Or*
8. (a) Draw block diagram of USART. [5]  
(b) Write a note on peripheral component interface bus. [4]  
(c) Explain the significance of HOLD and HLDA signals in DMA operation. [4]