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BICS-013

01041

B.Tech. COMPUTER SCIENCE AND ENGINEERING (BTCSVI)

Term-End Examination

December, 2013

BICS-013 : COMPUTER ORGANISATIONS

Time : 3 Hours *Maximum Marks : 70*

Note : *Attempt **any seven** questions.*
*All questions carry **equal** marks.*

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1. (a) Discuss IEEE standard for floating point Numbers. **5**

(b) Define the following : **5**

(i) Error-correction code.

(ii) Hamming code.

2. What do you mean by addressing modes? Discuss different types of addressing modes with their merits and demerits. **10**

3. (a) Define bus arbitration. Discuss the dynamic arbitration algorithms. **5**

(b) What do you mean by inter-register transfer ? Discuss bus transfer. **5**

4. (a) Explain the role of stacks in programming. **5**

(b) Explain register organization with the help of block diagram. **5**

5. (a) What do you mean by the term microprogram sequence ? Explain the role played by it. 5

(b) Write short notes on : 5

(i) Microinstruction.

(ii) Microprogram.

6. Explain instruction format. What are the various types of instruction formats ? Discuss with the help of suitable example. 10

7. (a) Discuss various semiconductor memories and also discuss a RAM organization. 5

(b) Explain 2D and $2\frac{1}{2}$D (RAM) organization with their merits and demerits. 5

8. (a) What do you mean by virtual memory ? Explain. 5

(b) Explain the page replacement techniques of memory management. 5

9. (a) Discuss the DMA controller operation with the help of block diagram. 5

(b) What are the different modes of data transfer? Discuss handshaking scheme with suitable example. 5

10. Write short notes on **any two** of the following : **5x2=10**

(a) Booths Algorithms

(b) Interrupts

(c) Input/output Ports