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BICS-013

00961

B.Tech. IN COMPUTER SCIENCE AND ENGINEERING (BTCSVI)

Term-End Examination

December, 2012

BICS-013 : COMPUTER ORGANISATIONS

Time : 3 Hours *Maximum Marks : 70*

Note : *Answer **any seven** questions. Assume suitable missing data, if any.*

1. (a) Explain single and single extend precision of IEEE standard for floating point computation. 5

   (b) "Hamming code is used for error detection and correction of single bit vector". Justify your answer. 5

2. (a) Explain auxiliary memory with examples. 5

   (b) Differentiate computer organization and computer architecture. 5

3. (a) Describe the generation of computer. 5

   (b) How do you define memory read and write operation ? Explain it with the help of block diagram. 5

4. (a) Represent the following conditional control statement by register transfer statement with control function. 5
if (A=1) then ($R_1 \leftarrow R_2$) else if
(B=1) then ($R_1 \leftarrow R_3$).

(b) Explain with the help of diagram to implement hardware for signed-magnitude addition and substraction. 5

5. (a) Explain the hardware implementation and flowchart for Booth Algorithm. 5

(b) Describe computer instruction formats. 5

6. (a) How can you visualized the total memory capacity of a computer system ? Explain with example. 5

(b) How many 128x8 RAM chips are needed to provide a memory capacity of 2048 bytes ? 5

7. (a) Differentiate hardwired and micro programed control unit. 5

(b) Draw a block diagram for a typical RAM chip and explain the function table for it. 5

8. (a) Define the terms : locality of reference and hit ratio with examples. 5

(b) Differentiate synchronous and asynchronous serial communication. 5

9. (a) Why are the read and write control lines in a DMA controller bidirectional ? Explain. 5

(b) Differentiate programmed I/O and interrupt initiated I/O with examples. 5

10. Write short notes on ***any two*** : 2x5=10

(a) Interrupt

(b) Addressing modes

(c) Standard Communication interfaces.