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BICS-013

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

Term-End Examination

June, 2013

BICS-013 : COMPUTER ORGANISATIONS

Time : 3 Hours *Maximum Marks : 70*

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

1. (a) What is bus ? Describe common bus system with block diagram. 5

   (b) List most commonly used registers and its operation for a basic computer system. 5

2. (a) Define access time, seek time, transfer time track and circles. 5

   (b) Explain functional units of a computer. 5

3. (a) Differentiate von newman's and Harvard architecture. 5

   (b) Write advantage and disadvantages of fixed point number system. 5

4. (a) Draw the block diagram of the hardware that implements the following register transfer statement. 5

$xy : R_{n-1} \leftarrow R_n$, $R_n \leftarrow R_{n-1}$.

(b) Explain look ahead carry adder with necessary diagram. 5

5. (a) Design an array multiplier that multiplies two 4 bit number. 5

(b) Define instruction cycle. Write the register transfer language for fetch phase. 5

6. (a) A computer uses RAM chips at 1024×1 capacity. How many chips are needed and how should their address lines be connected to provide a memory capacity at 1024 bytes. 5

(b) Differentiate horizontal and vertical micro programming. 5

7. Draw a block diagram for 521×8

(a) ROM Chip. 5

(b) Differentiate static RAM and dynamic RAM. 5

8. (a) Define the term address mapping and replacement with example. 5

(b) Describe the generation of digital computer. 5

9. (a) Explain Modes of Data Transfers with examples. 5

(b) Differentiate magnetic tape and optical disks. 5

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

(a) Addressing modes

(b) Hardware interrupt

(c) Memory - mapped I/O.