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BICS-013

B.Tech. – VIEP – COMPUTER SCIENCE AND ENGINEERING (BTCSVI)

Term-End Examination

December, 2015

BICS-013 : COMPUTER ORGANISATIONS

Time : 3 hours *Maximum Marks : 70*

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

1. (a) Describe the generations of computer. *5*

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

2. (a) Differentiate between hardwired and micro-programmed control unit. *5*

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

3. (a) Design an array multiplier that multiplies two 4-bit numbers. *5*

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

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

(b) Explain the functional units of a computer. 5

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

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

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

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

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

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

8. (a) Explain the hardware implementation and flow chart for Booth's algorithm. 5

(b) Describe the computer instruction formats. 5

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

(b) Differentiate between synchronous and asynchronous serial communication. 5

10. Write short notes on any ***two*** of the following : *2×5=10*

(a) Interrupt

(b) Addressing Modes

(c) Hamming Code