BIELE-015

B.Tech. – VIEP – ELECTRONICS AND COMMUNICATION ENGINEERING (BTECVI)

Term-End Examination

June, 2016

00816

BIELE-015 : COMPUTER ARCHITECTURE

Time : 3 hours   *Maximum Marks : 70*

Note :   Attempt any **seven** questions. All questions carry equal marks. Any missing data may be suitably assumed and mentioned.

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1. (a)   Mention the different types of instruction formats.   5

    (b)   List few advantages of memory-mapped I/O techniques.   5

2. Explain the following mapping procedures for the organisation of cache-memory :   10
    (a)   Associative mapping
    (b)   Direct mapping

3. (a)   Compare RISC and CISC machines.   5

    (b)   Draw a flow chart for Booth's multiplication algorithm.   5

4. (a) What is the difference between parallel processing and pipelining ? Explain. *5*

(b) What is DMA ? Explain its advantages. *5*

5. Explain the floating point addition/subtraction algorithm with a flow chart. *10*

6. Explain the phases of an instruction cycle with necessary control functions and micro-operations. *10*

7. (a) Explain about Von Neumann machine. *5*

(b) Explain about the basic components of a computer. *5*

8. Explain the segmented page mapping technique with the help of a numerical example. *10*

9. Explain Polling and Daisy chain priority interrupt-initiated I/O mode of data transfer. *10*

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

(a) Asynchronous Communication Interface

(b) Array Processors

(c) Magnetic Disks