

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

00293

Term-End Examination

December, 2016

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.*

1. (a) Explain the concept of Virtual memory. 5
- (b) Draw the block diagram of a 4-bit binary incrementer. 5
2. (a) Differentiate between hard-wired and micro-programmed control unit. 5
- (b) Explain Auto increment/decrement mode of addressing. 5
3. Explain the importance of Associative memory and its operation. 10
4. (a) Define and explain the working of multiple interrupts. 5
- (b) Explain about RISC architecture. 5

5. Explain the following data transfer schemes with neat diagrams : 10
- (a) Interrupt driven data transfer
 - (b) DMA data transfer
6. (a) What do you understand by indexed addressing mode ? 5
- (b) What are the various functions of I/O module ? 5
7. (a) List out the methods used to improve the system performance. 5
- (b) Explain the architecture of a basic computer. 5
8. (a) Describe the techniques for handling control hazard in pipelining. 5
- (b) Explain the dynamic branch prediction technique. 5
9. Discuss shared memory multiprocessor with a neat diagram. Also define multithreading. 10
10. Write short notes on any *two* of the following : $2 \times 5 = 10$
- (a) DMA Controller
 - (b) Peripheral Component Interface Bus
 - (c) Non-Restoring Division Technique
-