

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

00927

**Term-End Examination**

**June, 2014**

**BICS-022 : COMPUTER ARCHITECTURE**

*Time : 3 hours*

*Maximum Marks : 70*

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**Note :** *Attempt any seven questions. Each question carries equal marks.*

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1. (a) Discuss the difference between tightly coupled and loosely coupled multiprocessors. 5
- (b) Explain about Memory Addressing. 5
2. (a) Explain how node duplication helps in achieving superior performance in a multiprocessor scheduling environment. 5
- (b) Discuss various types of pipelining hazards. 5
3. (a) Define Instruction level Parallelism with an example. 5
- (b) Discuss High performance Instruction delivery. 5
4. What is Virtual Memory ? Discuss protection of a segmented virtual memory in the Pentium. 10

5. Explain the four types of communication patterns in Multicomputer Networks. 10
6. Explain the computer classification based on the following : 10
- (i) SISD
  - (ii) SIMD
  - (iii) MISD
  - (iv) MIMD
7. Draw and discuss the pipelined execution of task in a Superscalar and VLIW processor. Make necessary assumptions of your choice. 10
8. (a) Explain practical issues in interconnecting networks. 5
- (b) Explain ways of reducing Cache Miss penalties and Miss rate. 5
9. Show with timing diagrams, instances of synchronous bus output to a slave from a bus master. 10
10. Explain any *two* of the following : 5×2=10
- (a) Multithreading
  - (b) RISC and CISC
  - (c) Multicore architecture