

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

**Term-End Examination**

**June, 2014**

**BICS-025 : ADVANCED COMPUTER  
ARCHITECTURE**

*Time : 3 hours*

*Maximum Marks : 70*

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**Note :** Answer any **seven** questions.

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1. Define parallel processing. Explain the various ways of classification of parallel processing according to Flynn's classification. 10
2. Explain instruction pipelining. Also mention difficulties that may prevent the instruction pipeline from operating at its maximum rate. 10
3. Explain with example the use of reservation table to show how successive pipeline stages are utilized. 10
4. Briefly explain the various instruction prefetch and branch-control strategies for designing pipelined instruction units. 10
5. Explain SIMD computer organisation with diagram. 10

6. Describe Mesh-connected and Cube-connected networks in interconnected networks. 10
7. What is the motivation for developing SIMD array processor ? Explain parallel sorting algorithm on array processor. 10
8. What is the principal characteristics of a multiprocessor system and how is it achieved ? Explain time shared or common bus interconnection network. 10
9. Differentiate between control flow and data flow computers. Explain the data flow graph for data flow computers. 10
10. Write short notes on : 5×2=10
- (a) Static data flow computers.
  - (b) Systolic array architecture.
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