

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

**Term-End Examination**

**December, 2014**

00416

**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 pipelining. Briefly explain the concept of arithmetic pipelining. 10
2. Pipelining is termed as an overlapped parallelism; justify. Differentiate between static and dynamic pipelines. 10
3. Explain the design of arithmetic pipeline. 10
4. Briefly explain data-buffering and busing structures for smoothing pipelined operations. 10
5. Explain briefly the various interconnection networks suggested for SIMD computers. 10
6. What is the motivation for developing SIMD array processors ? Explain SIMD matrix multiplication algorithm. 10

7. Explain loosely coupled and tightly coupled multiprocessors in detail. 10
8. What is the principal characteristics of a multiprocessor system and how is it achieved ? Explain cross-bar and multiport memories interconnection network. 10
9. What is the goal of providing a high level language for data flow computers ? Explain high level language for data flow computers in brief. 10
10. Write short notes on the following : 5+5=10
- (a) Dynamic data flow computers
  - (b) Application of parallel processors
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