

**B.Tech. – VIEP – COMPUTER SCIENCE AND  
ENGINEERING (BTCSVI)****Term-End Examination****December, 2015****BICS-025 : ADVANCED COMPUTER  
ARCHITECTURE***Time : 3 hours**Maximum Marks : 70*

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**Note :** Answer any *seven* questions. All questions carry equal marks.

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1. Explain various types of interconnection networks. 10
2. Explain various types of array and associative processors. 10
3. Explain the design of various types of pipelines. 10
4. Explain loosely and tightly coupled microprocessors. 10
5. What is the purpose of pipelines ? Briefly describe about the instruction pre-fetching and branch handling in pipelines. 10

6. Explain SIMD Matrix Multiplication, with an example. 10
7. (a) Explain auxiliary memory with examples. 5  
(b) Describe the computer instruction formats. 5
8. What are the applications of parallel processors ? How is this mechanism used to enhance the performance of a computer system ? 10
9. (a) Explain the hardware implementation and flow chart for Booth's Algorithm. 5  
(b) What is a parity bit ? How is it used for detecting errors ? Explain both for even and odd parity bits. 5
10. Explain array computers and multiprocessor systems, with their areas of application. 10
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