B.TECH. COMPUTER SCIENCE AND ENGINEERING (BTCSVI)

Term-End Examination

December, 2013

BICSE-017 : PARALLEL ALGORITHMS

00721

Time : 3 hours *Maximum Marks : 70*

Note : (i) *Answer **any seven** questions.*

(ii) *All questions carry **equal marks**.*

1. What is Multiprocessor ? How they are classified ? Explain each of them in detail. **10**

2. (a) Differentiate SIMD and MIMD programming. **5**

    (b) Explain various parallel processing functions in SEQUENT C. **5**

3. (a) Explain about the Matrix Multiplication on a hypercube SIMD model. **5**

    (b) Write about the Fast fourier transform in detail. **5**

4. Explain how Gauss-seidel algorithm exhibits fast convergence than the Jacobi algorithm. **10**

5. In the context of Manber and Lader's algorithm, explain which nodes to be locked by maintenance process and why ? **10**

6. (a) Discuss about the Hyper quicksort algorithm. **5**

(b) Explain how the elements are arranged in sequence using odd-even transposition sequence. **5**

7. (a) Differentiate Multiprocessor and Multicomputer. **5**

(b) Explain any two algorithm for multicomputers. **5**

8. What are the features of FORTRAN 90 ? Write the code to compute π(pie) using FORTRAN 90. **10**

9. Explain about all pairs shortest path algorithm. **10**

10. Design both data parallel and control parallel implementations to find the number of primers less than or equal to some positive integer n. **10**