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B.E. (Computer Science & Engineering) Seventh Semester (C.B.S.)

Elective - I : Parallel & Network Algorithms

P. Pages : 2 **NRT/KS/19/3576**

Time : Three Hours * 0 2 6 1 * Max. Marks : 80

Notes :
1. All questions carry marks as indicated.
2. Solve Question 1 OR Questions No. 2.
3. Solve Question 3 OR Questions No. 4.
4. Solve Question 5 OR Questions No. 6.
5. Solve Question 7 OR Questions No. 8.
6. Solve Question 9 OR Questions No. 10.
7. Solve Question 11 OR Questions No. 12.
8. Assume suitable data whenever necessary.
9. Illustrate your answers whenever necessary with the help of neat sketches.

1. a) Describe in brief about parallel architectures and topologies. **7**

b) Give Flynn's classification of computer architecture. Suggest suitable model that can be implemented as parallel computer. **7**

OR

2. a) What are the network topologies. **7**

b) What are the different modes of parallel computing. **7**

3. a) What is meant by tiling transformation? Discuss the situation where tiling transformation is used. **7**

b) What is meant by loop independent dependency? Explain with suitable example. **6**

OR

4. a) Explain loop splitting with example. **7**

b) What are the remedies for control dependency. **6**

5. a) Can bubble sort implemental in parallel processing why? Give the solution. **7**

b) Give sequential and parallel program for any one sorting method. **6**

OR

6. a) Explain in detail hyper quick sort in view of parallel processing. **13**

7. a) Explain Gauss method's steps for parallel program. **7**

b) Write short note on: Fourier transform. **6**

OR

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8.	a)	Write short note on Fourier transform.	**6**
	b)	Explain gauss method's step for parallel program?	**7**
9.		Design Dijkstra algorithm for parallel processing.	**13**

OR

10.	a)	Explain the design of all pair shortest path algorithm in open MP.	**13**
11.	a)	Is graph coloring algorithm for parallelize? If yes give algorithm.	**14**

OR

12.	a)	Name & explain any five platform which can participate in grid computing.	**14**

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All our dreams can come true if we have the courage to pursue them.

~ Walt Disney