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

Elective – I : Parallel & Network Algorithm

P. Pages : 2 **NIR/KW/18/3576**

Time : Three Hours * 1 9 1 4 * 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) Classify the parallel computers based on Flynn's taxonomy. **7**

b) Define parallel processing. State law of measurement of performance of parallel processing. **7**

OR

2. a) What are different modes of parallel computing? **7**

b) What are network topologies? **7**

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

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

OR

4. a) What are different types of dependencies considered in parallel processing? **7**

b) Explain loop independent dependency with example. **6**

5. Explain in detail hyper quick sort in view of parallel processing. **13**

OR

6. a) Binary search can be implemented in parallel processing. Give suitable program using open MP or MPI. **7**

b) Is it possible to use selection sort in parallel environment? If yes give parallel algorithm for the same. **6**

7. Explain in detail parallel solutions to a linear equation with suitable example. **13**

OR

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

OR

10.	Design a algorithm for shortest path for parallel processing.	**13**
11.	Name and explain any five platforms which can participate in grid computing.	**14**

OR

12.	Explain with suitable example depth first search algorithm in parallel processing environment.	**14**

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