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

Elective - I : Parallel & Network Algorithm

P. Pages : 1

Time : Three Hours

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Max. Marks : 80

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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.

1.	a)	Give Flynn's classification of computer architecture. Suggest suitable model that can be implemented as a parallel computer.	**7**
	b)	Define parallel processing. Given its strengths and threats.	**7**

<div align="center">OR</div>

2.	a)	What is the significance of parallel algorithm ? What are the measures of parallel processing Performance.	**7**
	b)	What are network topologies.	**7**

3.	a)	What are different types of dependencies considered in parallel processing ?	**7**
	b)	Give the example of loop carried dependency ? Is it possible to remove each dependency for parallel processing.	**6**

<div align="center">OR</div>

4.	a)	What are different methods of transformation to eliminate dependency explain any one.	**7**
	b)	What are the remedies for control dependency.	**6**

5.	a)	Explain Binary search using open MP or MPI for parallel processing.	**6**
	b)	Is it possible to use selection sort in parallel environment ? If yes give parallel algorithm for the same.	**7**

<div align="center">OR</div>

6.		What is Hyper quick sort ? Can this algorithm be parallelize ?	**13**

7.		Suggest suitable parallel algorithm for finding roots of non-linear equations.	**13**

<div align="center">OR</div>

8.		A linear equations of independent unknown can be solved using Gauss Method. Explain steps involved in obtaining parallel program for the same.	**13**

9.		Name and explain any five platforms which can participate in grid computing.	**13**

<div align="center">OR</div>

10.		Discuss the parallel algorithm based on Kruskal's algorithm for minimum cost spanning tree.	**13**

11.		Suggest suitable algorithm for graph processing that can be implemented on parallel environment ? Justify your answer.	**14**

<div align="center">OR</div>

12.		Is graph coloring algorithm for parallelize ? If yes give the algorithm.	**14**

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