B.E. (Information Technology) Seventh Semester (C.B.S.)

Elective - II : Cluster & Grid Computing

P. Pages : 2 **NRJ/KW/17/4645**

Time : Three Hours * 0 4 8 3 * 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. Due credit will be given to neatness and adequate dimensions.
9. Illustrate your answers whenever necessary with the help of neat sketches.

1. a) Discuss the major trends in computing that have led to the emergence of cluster computing. **5**

b) Explain cluster architecture. **8**

OR

2. a) Explain the working of main networking protocols of clusters. **7**

b) How can you setup and administer a cluster? Explain the steps involved in setup process. **6**

3. a) Explain CONDOR architecture in detail. **7**

b) Explain the policies of Load Sharing and Load Balancing. **6**

OR

4. a) What do you mean by Highly Available Cluster? Discuss its technologies. **6**

b) What is distributed shared memory? Explain the issues in distributed shared memory with respective to clustering. **7**

5. a) What is grid computing? Explain its applications. **7**

b) Discuss different Grid types and topologies of grid. **7**

OR

6. a) Explain the various components and layers of grid computing and also mention the characteristics of grid. **9**

b) Discuss about the standard bodies in grid computing. **5**

7. a) Give the web services architecture with neat explanation. **7**

b) Explain briefly about Globous GT3 toolkit. **7**

OR

8.	a)	What is distributed computing? Explain briefly a paradigm for an application in distributed computing.	**7**
	b)	Write OGSA architecture and its goals.	**7**
9.	a)	Discuss the various features of Autonomic computing.	**6**
	b)	Explain about Semantic Grid Activities.	**7**

OR

10.	a)	Explain about semantic web services.	**6**
	b)	Define Metadata. Explain a layered structure of the semantic grid.	**7**
11.	a)	Explain GMA in detail.	**7**
	b)	Explain about Grid Security Infrastructure.	**6**

OR

12.	a)	Give an overview of grid scheduling.	**7**
	b)	Explain about Autopilot Architecture.	**6**

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