



B.TECH.

THEORY EXAMINATION (SEM-VIII) 2016-17

CLUSTER COMPUTING

Time : 3 Hours

Max. Marks : 100

Note : Be precise in your answer. In case of numerical problem assume data wherever not provided.

SECTION – A

- 1. Explain the following:** **10 x 2 = 20**
- (a) Define the term distributed system.
 - (b) List some of the examples of distributed system.
 - (c) Mention the various categories of Clusters?
 - (d) What is cluster middleware?
 - (e) Why is load sharing required in a cluster?
 - (f) Distinguish between the central grid approach and the distributed grid computing.
 - (g) What is Grid Computing?
 - (h) List the requirements of resource sharing
 - (i) What are the benefits of database integration with the grid?
 - (j) How does OGSA perform resource distribution with SOA?

SECTION – B

- 2. Attempt any five parts of the following questions:** **5 x 10 = 50**
- (a) Explain how resource sharing is done in the web
 - (b) What are the functionalities of the middleware in a cluster? Discuss.
 - (c) Explain the Cluster Architecture in detail.
 - (d) Contribute your comments on granularity and page replacement issues in the design of distributed shared memory systems.
 - (e) Explain shared nothing and shared storage architecture.
 - (f) Illustrate in detail about the various layers in grid architecture.
 - (g) Write about Authorization and Delegation in Grids?
 - (h) Explain WSRF Specifications in detail.

SECTION – C

- Attempt any two parts of the following questions:** **2 x 15 = 30**
- 3. Identify the challenges of distributed system. Discuss in detail.**
- 4. Explain the characterization of grid and its standard bodies.**
- 5. Write short notes on:**
- (i) Beowulf
 - (ii) COMPaS
 - (iii) NanOS
 - (iv) PARAM

