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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

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