

10. (a) What is Autonom Computing ? 4  
 (b) What are the different features of Autonomic Computing ? 6  
 (c) What are various Autonomic Computing Projects ? 3
11. (a) What are the possible vulnerabilities ? 5  
 (b) Give an overview of Grid Monitoring System. 8

**OR**

12. (a) What is Grid Security Infrastructure ? Discuss authorization modes in GSI. 7  
 (b) Explain how grid scheduling works in brief. 6

**Faculty of Engineering & Technology**  
**Seventh Semester B.E. (Infor. Tech.) (C.B.S.)**  
**Examination**  
**ELECTIVE-II : CLUSTER AND GRID**  
**COMPUTING**

Time—Three Hours]

[Maximum Marks—80

**INSTRUCTIONS TO CANDIDATES**

- (1) All questions carry marks as indicated.
- (2) Solve Question No. **1 OR** Question No. **2**.
- (3) Solve Question No. **3 OR** Question No. **4**.
- (4) Solve Question No. **5 OR** Question No. **6**.
- (5) Solve Question No. **7 OR** Question No. **8**.
- (6) Solve Question No. **9 OR** Question No. **10**.
- (7) Solve Question No. **11 OR** Question No. **12**.
- (8) Assume suitable data wherever necessary.
- (9) Illustrate your answers wherever necessary with the help of neat sketches.

1. Define the following terms in detail :

- (i) Grid
- (ii) Cluster
- (iii) Data center. 14

**OR**

2. (a) What are the different Cluster Middleware design objectives ? 7
- (b) Discuss various levels and layers of Single System Image (SSI). 7
3. (a) What is meta computing ? Discuss in brief. 6
- (b) Give the overview of Resource Management and scheduling in Cluster. 7

**OR**

4. (a) Define the following terms with respect to Cluster.
- (i) Queues
  - (ii) Hosts
  - (iii) Resources
  - (iv) Jobs
  - (v) Policies. 6

(b) What is distributed shared memory ? Why is it required in a Cluster ? 7

5. (a) Discuss the working of Global Grid Forum ? Explain four document types produced by GGF. 6
- (b) Discuss the characterization and architecture of Grid. 7

**OR**

6. (a) What are the key functional requirements in Grid Computing ? 8
- (b) What are the standards in Grid Computing ? 5
7. Discuss the following :
- (i) OGSA
  - (ii) Global toolkit 3. 14

**OR**

8. (a) What are the various traditional paradigms for distributed computing ? 7
- (b) What is GT4 ? Explain. 7
9. (a) Explain Ontology in the Semantic Web. 6
- (b) Explain a layered structure of the semantic grid. 7

**OR**