Subject Code: RCS072

PAPER ID-410113

Roll No: | | | | | | | | | | | | | |

B. TECH.
(SEM-VII) THEORY EXAMINATION 2021-22
HIGH PERFORMANCE COMPUTING

Time: 3 Hours ***Total Marks: 70***

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt *all* questions in brief. **2 x 7 = 14**

a. Why do we understand by grid computing?
b. Define cloud.
c. What is meant by parallel programming?
d. Define GLOBUS toolkit.
e. Explain middleware.
f. Define mesh connected network in brief.
g. Define concept of multiprogramming.

SECTION B

2. Attempt any *three* of the following: **7 x 3 = 21**

a. Write a note on High Performance Application Development Environment.
b. Discuss static and dynamic interconnection networks for SIMD computers.
c. le.
d. Explain the classification of Clusters in detail.
e. Discuss parallel computing with suitable examples.

SECTION C

3. Attempt any *one* part of the following: **7 x 1 = 7**

(a) Discuss the significance of GLOBUS toolkit with applications.
(b) Give a detailed overview of Beowulf system architecture.

4. Attempt any *one* part of the following: **7 x 1 = 7**

(a) What do you mean by cluster? Also discuss components for clusters.
(b) Describe the processes scheduling in cluster.

5. Attempt any *one* part of the following: **7 x 1 = 7**

(a) ı.
(b) Differentiate between PVM and MPI.

6. Attempt any *one* part of the following: **7 x 1 = 7**

(a) Describe the Service Oriented Architecture of cloud computing.
(b) Discuss various applications of high-performance computing.

7. Attempt any *one* part of the following: **7 x 1 = 7**

(a) Discuss various security concern in HPC.
(b) Write a note on cloud computing architecture.