



**B.TECH.**

**THEORY EXAMINATION (SEM-VIII) 2016-17**

**HIGH PERFORMANCE 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) What are the derivatives of grid computing?
- (b) How can business grids be defined?
- (c) What is OGSA?
- (d) Mention the requirements of open grid services.
- (e) What is cluster computing?
- (f) List the alternate approaches to parallel computing.
- (g) What is HPC cluster used for?
- (h) Mention the benefits of Cloud.
- (i) Sketch the architecture of Cloud.
- (j) List the types of cloud service development.

**SECTION – B**

**2. Attempt any five parts of the following questions:**

**5 x 10 = 50**

- (a) Write about the high performance application development Environment.
- (b) What are the types of grids? Explain
- (c) Explain the architecture and functionality modules of GT4.
- (d) Define a cluster and explain its basic architecture.
- (e) Write short notes on parallel programming with MPL.
- (f) Give a detailed overview of Beowulf system architecture.
- (g) List and explain the implementations of Cloud Computing.
- (h) Sketch the architecture of cloud with neat diagram.

**SECTION – C**

**Attempt any two parts of the following questions:**

**2 x 15 = 30**

- 3** Explain some of the grid application and their usage patterns.
- 4** Write short notes on:
  - (i) PVM,
  - (ii) Beowulf Project,
  - (iii) Berkeley NOW Architecture,
- 5** Discuss about the components of cloud computing.

