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**BTECH**  
**(SEM VII) THEORY EXAMINATION 2023-24**  
**HIGH PERFORMANCE COMPUTING**

**TIME: 3 HRS****M.MARKS: 100**

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

**SECTION A****1. Attempt all questions in brief.****2 x 10 = 20**

Qno.	Question	Marks
a.	Differentiate between cluster computing and grid computing.	2
b.	Define high performance grid.	2
c.	List the capabilities of open grid service architecture.	2
d.	Describe security issues in grid computing.	2
e.	Define a cluster in computing environment.	2
f.	Define cluster middleware.	2
g.	Define advantages of parallel programming.	2
h.	List advantages of Beowulf model.	2
i.	Define various types of cloud models.	2
j.	Explain advantages of cloud computing environment.	2

**SECTION B****2. Attempt any three of the following:****10 x 3 = 30**

a.	Explain the architecture of high performance grid. Also list the advantages and applications of high performance grid.	10
b.	Explain the capabilities and security concerns in open grid service architecture.	10
c.	Explain the role of resource management in high performance computing.	10
d.	Define the role of MPL in parallel programming.	10
e.	Explain different types of cloud deployment models.	10

**SECTION C****3. Attempt any one part of the following:****10 x 1 = 10**

a.	Describe various models and protocols used in grid computing.	10
b.	Contrast Peer-to-Peer computing. Also list the advantages of it.	10

**4. Attempt any one part of the following:****10 x 1 = 10**

a.	Explain various job schedulers used in the GT4 architecture. List their advantages also.	10
b.	Explain in detail about the GSI security layer.	10

**5. Attempt any one part of the following:****10 x 1 = 10**

a.	Explain cluster analysis. Explain the steps to cut hierarchical clustering into flat clustering.	10
b.	Define Cluster Computing. Explain various types of clusters with neat diagrams.	10



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**(SEM VII) THEORY EXAMINATION 2023-24**  
**HIGH PERFORMANCE COMPUTING**

**TIME: 3 HRS****M.MARKS: 100****6. Attempt any *one* part of the following:****10 x 1= 10**

a.	Explain Parallel Virtual Machine in detail.	10
b.	Explain Beowulf system architecture with suitable diagram.	10

**7. Attempt any *one* part of the following:****10 x 1= 10**

a.	Discuss the advantages of cloud computing. List some major cloud service providers.	10
b.	Explain various types of services provided by cloud. Also discuss the challenges faced in each type.	10

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