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<b>KLNCIT</b>	<b>CENTRALISED INTERNAL TEST QUESTION</b>	Format
		No. :ACD11A-I
		Issue No. :01
		Rev No. :00

**Subject Code/Subject Name : CS6703-Grid and Cloud Computing CIT No. : I**

**Year and Branch : IV /CSE & IT**

**Total marks :50**

**Date:19-08-2017**

**Duration :1Hour 30Mins**

**I. Course outcomes, Question Number, Marks**

COs	CO1	CO2	CO3	CO4	CO5
Q.Nos	1,2,3,4, 11(a)/11(b)	5, 6, 7, 8, 9, 10, 12(a)/12(b)			
Marks (Max)	23	27			

**II. Knowledge skill outcomes**

Level	Remember (K1)	Understand (K2)	Apply (K3)	Analysis (K4)	Evaluate (K5)	Create (K6)
Q.Nos	3, 4, 5, 6, 7, 8, 9	1,2, 10, 11(a)/ 11(b), 12 (a)/ 12 (b)				
Marks (Max)	14	36				

**PART – A**

**10 × 2 = 20 Marks**

**Answer all the questions**

**1. Compare and contrast public and private cloud. (K2)**

- Public and Private clouds offer the infrastructure for running and deploying the cloud applications
- Public cloud promotes standardization, preserve capital investment and offer application flexibility whereas private cloud provides higher efficiency and customization, resiliency, security and privacy.

**2. Explain the importance of the term cloud computing? (K2)**

- Provisioning of elastic resources on demand through hardware, software and data sets dynamically.
- Moving desktop computing to service oriented platform using server clusters and huge databases.

**3. Find the differences between high performance computing and high throughput computing. (K1)**

S.No	High Performance Computing	High Throughput Computing
1	Cluster of homogenous nodes to share computing resources	Peer to Peer nodes are used for distributed file sharing
2	Efficiency is measured in terms of utilization rate	Efficiency is measured in terms of job throughput, data access, storage and power efficiency.

**4. Name the basic operations carried out by a VM? (K1)**

- Multiplexing
- Suspension
- Provision
- Migration

**5. What are the security concerns associated with the grid. (K1)**

- Integration
- Interoperability
- Trust models

**6. List out the functional requirements of resource sharing in a grid. (K1)**

- Interoperability and support for dynamic and heterogeneous environments.
- Resource sharing across organization
- Optimization
- Quality of Services assurances
- Data services
- Job Execution
- Security
- Availability, Scalability and Ease of use.

**7. Define OGSA. (K1)**

OGSA defines what Grid services are, what they should be capable of, what type of technologies they should be based on.

**8. How do you understand by the term “data intensive”. (K1)**

Dealing with massive amounts of data in a grid application where discovering, transferring and manipulating of data will take place is considered as data intensive.

**9. Recall the services provided in OGSA. (K1)**

- Infrastructure
- Execution management
- Data management
- Resource management
- Security
- Information
- Self management

**10. Explain about GSR ? (K2)**

It is network wide pointer to a specific Grid Service instances that is hosted in an environment where it could be executed. All the instance specific information are encapsulated in a single abstraction is called as Grid Service reference (GSR).

**PART – B**

**2 × 15 = 30 Marks**

**11. (a) Illustrate the architecture of virtual machine and brief about the operations. (15) (K2)**

Definition (2)  
Virtual Machines- Architecture (4), Primitive Operations (6)  
Virtual Infrastructures- (3)

**(OR)**

**(b) Explain about the interaction between the GPU and CPU in performing parallel execution of operations (15) (K2)**

Advances in CPU Processors, Multicore CPU and Many-Core GPU architectures (4)  
Multithreading Technology (4)  
GPU computing to Exascale- Working and Programming Model (6)

**12. (a) Illustrate the architecture of OGSA Security models. (15) (K2)**

Various Protection levels  
Key Management- Binding security (3),  
User Management (2),  
Policy Management- Policy expression and exchange (4),  
Antivirus,(2),  
Intrusion detection-Secure conversation, Credential and identity transaction (4)

**(OR)**

**(b) Demonstrate the data intensive grid service models with suitable diagrams. (15) (K2)**

Data Replication and Unified Namespace (2)  
Data Access Models- Monadic, Hierarchical, Federation, Hybrid, along with architecture (13)