INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)
Dundigal, Hyderabad -500 043

COMPUTER SCIENCE AND ENGINEERING

TUTORIAL QUESTION BANK

Course Name	:	**CLOUD COMPUTING**
Course Code	:	**A70519 - R15**
Class	:	IV B. Tech I Semester
Branch	:	CSE
Year	:	2018-19
Course Coordinator	:	Ms. CH. Sri Vidya, Assistant Professor, CSE
Course Faculty	:	Ms. A Jayanthi, Assistant Professor, CSE Ms. S. Swarajya Laxmi, Assistant Professor, CSE Mr. B Tejaswi, Assistant Professor, CSE

OBJECTIVES

To meet the challenge of ensuring excellence in engineering education, the issue of quality needs to be addressed, debated and taken forward in a systematic manner. Accreditation is the principal means of quality assurance in higher education. The major emphasis of accreditation process is to measure the outcomes of the program that is being accredited.

In line with this, Faculty of Institute of Aeronautical Engineering, Hyderabad has taken a lead in incorporating philosophy of outcome based education in the process of problem solving and career development. So, all students of the institute should understand the depth and approach of course to be taught through this question bank, which will enhance learners learning process.

S No	QUESTION	Blooms taxonomy level	Course Outcomes
	UNIT - I **SYSTEM MODELING, CLUSTERING AND VIRTUALIZATION**		
	Part - A (Short Answer Questions)		
1	Define distributed systems.	Remember	1
2	Write about parallel computing.	Understand	1
3	Write about virtual machines.	Understand	1
4	Define single system image.	Understand	1
5	Write about resources sharing in clusters.	Understand	2
6	Define public cloud.	Remember	1
7	Write about middleware support for virtualization.	Remember	2
8	Write about hybrid cloud.	Remember	2
9	Define virtual support at Operating System level.	Remember	2

10	List the disadvantages of extending Operating System level.	Remember	2
11	What are the basic characteristics of cloud computing?	Understand	2
12	How does cloud computing provides on- demand functionality.	Remember	2
13	Define multi core central processing unit.	Remember	1
14	What is Cloud Broker?	Remember	2
15	Define anything-As-A-Service.	Understand	1
16	Write about private cloud,	Understand	2
17	List the differences between Distributed and Parallel Computing.	Understand	2
18	Define Cloud Provider.	Understand	2
19	List the design objectives of Cloud Computing.	Remember	2
20	Why should one prefer public cloud over private cloud?	Remember	2
Part - B (Long Answer Questions)			
1	Write about distributed system models and enabling technologies.	Remember	1
2	Explain in detail about system models and distributed cloud Computing.	Understand	1
3	Explain about design principles of computer clusters.	Remember	2
4	List out the design goals of computer clusters.	Remember	2
5	Explain about computer clusters and massively parallel processing architectures.	Understand	2
6	Write about technologies for network based system with suitable diagrams.	Remember	2
7	Write about virtual clusters and resource management.	Understand	2
8	Explain the virtualization structure/tools and mechanisms.	Understand	1
9	Explain the cluster architecture in detail.	Understand	1
10	What is cloud computing? list and explain three service models, and four deployment models of cloud computing.	Remember	1
11	Explain the cloud eco system.	Understand	1
12	Write about nist cloud computing reference architecture.	Remember	2
13	Explain the infrastructure of grid computing in detail.	Remember	2
14	Write about Multithreading Model in detail.	Understand	2
15	Explain the architecture of p2p system.	Remember	2
16	Write about infrastructure of grid computing in detail.	Remember	1
17	Explain the system models for distributed and cloud computing.	Understand	2
18	Write about architectural design of compute and storage clouds.	Understand	1
19	What is meant by virtualization middleware?	Understand	1
20	List the design issues in clusters.	Remember	2
Part - C (Problem Solving And Critical Thinking Questions)			
1	What are the three computing paradigms for cloud computing?	Remember	2
2	Draw a neat graph for hype cycle for emerging technologies.	Understand	2
3	Sketch a three cloud service models in a cloud landscape of major providers.	Remember	2
4	Explain in detail about evaluation of service oriented architecture.	Understand	2
5	Write about infrastructure of grid computing in detail.	Remember	2

6	Explain about parallel and distributed programming models.	Understand	2
7	Discuss Graphics processing unit clusters for massive parallelism.	Remember	2
8	How does cloud architecture overcome the difficulties faced by traditional architecture? What are the three differences that separate out cloud architecture from the tradition one?	Understand	2
9	Explain the virtualization for data center automation.	Remember	2
10	Explain the concept dynamic deployment of virtual clusters.	Remember	2
UNIT – II FOUNDATIONS			
Part – A (Short Answer Questions)			
1	Define Cloud.	Remember	4
2	How does cloud computing provides on demand functionality?	Remember	3
3	Define Cloud Computing.	Understand	3
4	List out characteristics of cloud computing.	Remember	3
5	Define Utility computing.	Remember	3
6	List out the features of cloud computing.	Remember	3
7	Define Grid Computing.	Understand	3
8	What is Autonomic Computing?	Understand	3
9	List out the challenges in cloud.	Remember	3
10	What is Boomi Software?	Remember	3
11	List the design goals for generic cloud.	Remember	3
12	List the cloud enabling technologies.	Understand	4
13	What are the Operating System factors in cloud?	Understand	4
14	Define Hardware Virtualization.	Remember	4
15	What is Storage Virtualization?	Remember	4
16	Define Virtual machine Cloning.	Understand	4
17	What is Runtime Support Service?	Understand	4
18	Define Software Stack.	Remember	4
19	List out different layers which define cloud architecture.	Remember	4
20	What is the use of “eucalyptus” in cloud computing?	Understand	4
Part - B (Long Answer Questions)			
1	What is cloud computing? enlist and explain three service models, and four deployment models of cloud computing?	Understand	3
2	Explain the system models for distributed and cloud computing.	Remember	4
3	Write about the architecture of P2P system?	Remember	4
4	Explain architectural design of compute and storage clouds?	Understand	4
5	Write about the infrastructure of grid computing in detail?	Understand	3
6	Explain any six benefits of software as service in cloud computing.	Understand	3
7	Why is cloud called as eco system? Justify.	Remember	4
8	Difference between process virtual machines, Native Vmms.	Remember	4
9	Explain the importance of Virtualization.	Remember	3
10	“Service oriented architecture as step forward Cloud Computing”, Explain?	Understand	4
11	Discuss inter-cloud resource management.	Remember	3

12	Discuss in detail about global exchange of cloud resources.	Understand	4
13	Mention some Large Cloud Providers and Databases.	Understand	4
14	"As a Infrastructure as a Service" What are the resources that are provided by it?	Understand	4
15	Write about different levels of Virtualization implementation.	Understand	4
16	Explain the Operating System level virtualization? List the pros and cons of Operating System level virtualization.	Understand	5
17	Explain in details the tools and mechanisms for Virtualization.	Remember	5
18	Explain the different types of virtualization in detail.	Understand	5
19	Write about virtualization of central processing unit, memory and i/o devices.	Understand	5
20	Explain the virtualization of multi core processor?	Remember	6
Part – C (Problem Solving And Critical Thinking)			
1	Explain cloud computing architecture and cloud components?	Understand	4
2	Explain the nist reference architecture of cloud computing in detail?	Remember	4
3	Explain risk from multi tenancy environment. how ids can be used in environment ?	Understand	4
4	Explain about enriching the integration of service paradigm for cloud era.	Remember	4
5	Explain information and data model for virtual machine.	Understand	4
6	How does cloud architecture overcome the difficulties faced by traditional architecture? what are the three differences that separate out cloud architecture from the tradition one?	Remember	4
7	Explain the infrastructure of grid computing in detail?	Remember	4
8	Explain Multithreading Model in detail?	Understand	5
9	Mention some open source cloud computing platform databases?	Remember	5
10	Explain the difference between cloud and traditional datacenters?	Understand	6
UNIT-III INTER PROCESS COMMUNICATION: INFRA STRUCTURE AS SERVICE (IAAS) & PLATFORM AND SOFTWARE SERVICE(PAAS/SAAS)			
Part - A (Short Answer Questions)			
1	Define Fault Tolerance.	Remember	5
2	What is Load Balancing?	Understand	5
3	List public cloud and infrastructure services.	Understand	5
4	Write about Google App Engine.	Understand	5
5	Sketch the Aneka Architecture.	Understand	5
6	Draw a neat diagram for Open Nebula High Level Architecture.	Understand	5
7	Write about Virtual machine life cycle.	Remember	5
8	List private cloud and infrastructure services.	Remember	5
9	Write About Microsoft Windows Azure.	Understand	5
10	Define On Demand Service.	Remember	5
11	List the design goals for Generic cloud.	Understand	5
12	List the cloud enabling technologies.	Understand	5
13	List the Quality of Service factors in cloud.	Remember	6

14	Define Hardware Virtualization.	Understand	6
15	Write about Storage Virtualization.	Remember	6
16	Define Virtual machine Cloning.	Remember	6
17	Define Runtime Support Service.	Understand	6
18	Write about Software Stack.	Remember	6
19	Define Dynamic Resource Deployment.	Understand	6
20	Write about Provisioning of Compute resources.	Remember	6
Part – B (Long Answer Questions)			
1	Explain the layered cloud architecture development.	Understand	5
2	What is Aneka Cloud Platform?	Remember	5
3	Explain the technologies for data security in cloud computing.	Remember	6
4	Implement in detail about hybrid cloud.	Understand	6
5	Explain the importance of quality and security in clouds.	Remember	6
6	Explain in detail about hybrid cloud implementation.	Understand	6
7	Draw a neat sketch for architectural overview.	Understand	6
8	Explain about Aneka resource provisioning service.	Remember	6
9	Draw a neat a of autonomic cloud bridging.	Understand	6
10	List out the importance of quality and security in cloud.	Remember	6
11	Explain the cloud architecture with suitable block diagram?	Understand	6
12	Write about layered cloud architecture development.	Remember	6
13	Explain the various design challenges for effective cloud computing environment.	Understand	6
14	Explain the cloud service tasks and trends. Explain the different methods of resource provisioning and platform deployment in detail with a neat diagram.	Understand	6
15	Explain the provisioning of storage resources in detail.	Understand	6
16	What is Quality Of Service monitoring in a cloud computing? Enlist and explain different issues in inter-cloud environments.	Remember	5
17	What is the use of “Eucalyptus” in cloud computing?	Remember	6
18	Mention some open source cloud computing platform databases.	Understand	6
19	Mention some large cloud providers and databases.	Remember	6
20	“As A Infrastructure As A Service” What are the resources that are provided by it?	Understand	6
Part – C (Problem Solving and Critical Thinking)			
1	Explain in detail about Virtual machine provisioning process.	Understand	6
2	Sketch a neat diagram for a deployment scenario network.	Remember	6
3	Explain Virtual machine life cycle and Virtual machine monitoring.	Understand	6
4	Write about infrastructure enabling technology.	Remember	6
5	Explain in detail about automatic and selection process.	Understand	6
6	List out the technologies for data security in cloud computing.	Remember	6
7	Explain about scheduling techniques for advance reservation of capacity.	Understand	6

8	Explain the technologies for data security in cloud computing.	Remember	6
9	Explain the cloud architecture with suitable block diagram.	Understand	6
10	Write about layered cloud architecture development.	Remember	6
	UNIT-IV **MONITORING, MANAGEMENT AND**		
	Part – A (Short Answer Questions)		
1	Write about federation.	Remember	7
2	Define Isolation.	Understand	7
3	Write about the virtual execution environment manager.	Remember	7
4	Sketch a neat diagram for host of applications on servers.	Remember	7
5	Define federation scenarios.	Understand	7
6	Draw a flow chart of the service-level agreement management in cloud.	Remember	7
7	Write about Elasticity.	Understand	7
8	Define Grid and Cloud.	Remember	7
9	Write about the virtual execution environment host.	Understand	8
10	List out the technical benefits of cloud computing.	Understand	7
11	Define Big table.	Remember	8
12	Write about Hadoop Distributed File System.	Understand	8
13	Define the Google's distributed lock service.	Understand	8
14	Write about Sap System.	Remember	7
15	Write about Federation.	Understand	7
16	Define Google File System	Remember	7
17	Write about Block Replication.	Remember	7
18	List The characteristics of Hadoop Distributed File System.	Understand	8
19	Write about control flow of Map reduce.	Understand	8
20	Define Heart Beat in Hadoop.	Remember	8
	Part – B (Long Answer Questions)		
1	Write about sap systems in detail.	Remember	7
2	List out the business benefits of cloud computing.	Understand	8
3	Explain in detail Google's distributed lock service.	Remember	7
4	Write about service-level agreement management in cloud.	Understand	8
5	Explain about security considerations.	Remember	9
6	Draw a neat sketch for automated policy based management with brief explanation.	Understand	9
7	Write about High-performance computing systems and High-performance computing on clouds.	Remember	10
8	List out the technical benefits of cloud computing.	Understand	7
9	Explain in detail about decouple your components.	Remember	8
10	List out the basic principles of cloud computing.	Understand	9
11	Write about Amazon Web Services of Cloud.	Understand	10
12	Explain the dataflow and control flow of Map reduce.	Remember	7
13	Explain the architecture of Map reduce in Hadoop.	Understand	8
14	Explain a user view of Google app engine with suitable block schematic.	Remember	7
15	Explain the structure of Big table data model.	Understand	8

16	Explain the programming structure of Amazon ec2.	Remember	9
17	Explain the architecture of Amazon ec2.	Understand	9
18	Explain the Microsoft azure programming support.	Understand	10
19	Discuss the architecture and components of open nebula.	Remember	7
20	Explain the architecture of open stack system.	Understand	10
Part – C (Problem Solving And Critical Thinking)			
1	List out the basic principles of cloud computing.	Remember	9
2	Sketch a neat diagram for reservoir.	Understand	10
3	Explain about security considerations.	Remember	10
4	Write about automated policy based management.	Understand	9
5	Explain about traditional approaches to service-level agreement management.	Remember	10
6	Write about Amazon web services cloud	Understand	9
7	Draw a flow chart of the service-level agreement management in cloud	Understand	9
8	Write about elasticity.	Remember	10
9	Discuss the cloud software environment of eucalyptus in detail.	Remember	10
10	Mention what is hypervisor in cloud computing and their types.	Understand	9
UNIT-V GOVERNANCE AND CASE STUDIES			
Part - A (Short Answer Questions)			
1	List out the strengths of information cards.	Understand	11
2	Draw a neat sketch of perception of quality.	Remember	11
3	Distinguish direct versus indirect distribution.	Remember	11
4	Write about cloud service life cycle.	Remember	11
5	List out the weakness of information cards.	Remember	11
6	Define service strategy.	Understand	11
7	Write about acceptance testing.	Remember	11
8	What is digital entity?	Remember	11
9	Write about service design.	Understand	12
10	What is data security?	Remember	12
11	What are the security challenges in cloud computing?	Remember	11
12	Define security governance.	Understand	12
13	Explain the security awareness in cloud.	Remember	12
14	Define third party risk management.	Understand	12
15	What are the layers in security architecture design?	Remember	12
16	Define virtual machine security.	Remember	11
17	Explain change management.	Remember	11
18	Define security images.	Remember	11
19	What is meant by vulnerability assessment?	Remember	11
20	Define data shredding technique.	Understand	11
21	What is mean by password assurance testing?	Remember	11
Part - B (Long Answer Questions)			

1	Explain about a framework to comprehend the competitive environment.	Understand	11
2	Explain about digital identity and data security.	Understand	12
3	Write about quality of service and value composition.	Understand	12
4	Explain about common change management models (cmmm).	Remember	11
5	List out the cloud contracting models.	Remember	11
6	List out the data privacy and security issues.	Understand	11
7	Explain about management maturity model.	Remember	11
8	Write about acceptance testing.	Understand	12
9	Explain the security challenges in cloud computing in detail.	Understand	12
10	Write about the security architecture in detail.	Understand	12
11	Explain the following a) Security governance b) security monitoring	Remember	12
12	Write about the secure software development life cycle.	Remember	12
13	Explain in detail about software-as-a-service security.	Remember	12
14	Write about application security in detail.	Understand	11
15	Explain the data security and virtual machine security in detail.	Remember	11
16	Write about identity management and access control in detail.	Understand	11
17	Explain the two fundamental functions, identity management and access Control, which are required for secure cloud computing.	Remember	11
18	Explain the following a) Autonomic security b) Risk management	Understand	12
19	What are the measures included in guest hardening techniques?	Understand	11
20	How is intrusion detection implemented under Software as a service model?	Understand	11
Part – C (Problem Solving And Critical Thinking)			
1	Write about a need for cloud mash ups.	Understand	11
2	Explain about cloud contracting models.	Understand	11
3	Write about quality of service and value composition.		12
4	Explain about common change management models.	Remember	12
5	Write about data security and virtual machine security in detail.	Understand	12
6	Explain about a framework to comprehend the competitive environment.	Understand	12
7	Define distributed denial-of-service attack.	Remember	12
8	Which security mechanism provides an effective control for data Confidentiality and integrity?	Understand	12
9	Define security governance.	Remember	12
10	Explain the layers in security architecture design.	Remember	12

Prepared By:

Ms CH Srividya, Assistant Professor, CSE
Ms A Jayanthi, Assistant Professor, CSE
Ms S Swarajya Laxmi, Assistant Professor CSE
Ms. B Tejaswi, Assistant Professor, CSE

HOD, CSE