INSTITUTE OF AERONAUTICAL ENGINEERING

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INFORMATION TECHNOLOGY

DEFINITIONS AND TERMINOLOGY QUESTION BANK

Course Name	:	**CLOUD COMPUTING**
Course Code	:	**AIT007**
Program	:	**B. Tech**
Semester	:	**VII**
Branch	:	**Information Technology**
Course Faculty	:	**Mr. A Praveen, Assistant Professor**

OBJECTIVES:

I	To help students to consider in depth the terminology and nomenclature used in the syllabus.
II	To focus on the meaning of new words / terminology/nomenclature

DEFINITIONS AND TERMINOLOGY QUESTION BANK

S.NO	QUESTION	ANSWER	Blooms Level	CO	CLO	CLO Code
		UNIT-I				
1	Define cloud application development	A cloud application, or cloud app, is a software program where cloud-based and local components work together. This model relies on remote servers for processing logic that is accessed through a web browser with a continual internet connection.	Remember	CO 1	CLO 01	AIT007.01
2	Define Cloud computing	It is a development that is meant to allow more open accessibility and easier and improved data sharing	Remember	CO 1	CLO 01	AIT 007.01
3	What is cloud computing model	Cloud computing is a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction.	Remember	CO 1	CLO 01	AIT 007.10
4	What is PaaS in cloud computing	Platform as a Service, often simply referred to as PaaS, is a category of cloud computing that provides a platform and environment to allow developers to build applications and services over the internet. PaaS services are hosted in the cloud and accessed by users simply via their web browser.	Remember	CO 1	CLO 14	AIT 007.14
5	Define Grid computing	Grid computing is envisioned to allow close interaction among applications	Understand	CO 1	CLO04	AIT 007.04

		running on distant computers simultaneously.				
6	What is Utility computing	Utility computing describes a business model for on-demand delivery of computing power; consumers pay providers based on usage ("payas-you-go"), similar to the way in which we currently obtain services from traditional public utility services such as water, electricity, gas, and telephony.	Remember	CO 1	CLO05	AIT 007.05
7	What is serviceIaaS	Infrastructure as a service (IaaS) is a form of cloud computing that provides virtualized computing resources over the internet. IaaS is one of the three main categories of cloud computing services, alongside software as a service (SaaS) and platform as a service (PaaS).	Remember	CO 1	CLO 09	AIT 007.09
8	Define Community cloud	Community cloud The infrastructure is shared by several organizations and supports a specific community that has shared concerns (e.g., mission, security requirements, policy, and compliance considerations).	Remember	CO 1	CLO 08	AIT 007.08
9	What is Hybrid cloud	Hybrid cloud is the infrastructure is a composition of two or more clouds (private, community, or public) that remain unique entities but are bound together by standardized or proprietary technology that enables data and application portability	Remember	CO 1	CLO 08	AIT 007.08
10	What is Service consumer	Service consumer Person or organization that maintains a business relationship with, and uses service from, service providers	Remember	CO 1	CLO 02	AIT 007.02
11	Define Physical data container	Physical data container A storage device suitable for transferring data between cloud subscribers and clouds (e.g., a hard disk). There must be a standard format that the provider supports	Remember	CO 1	CLO03	AIT 007.04
12	What is Virtualized infrastructur e layer	Virtualized infrastructure layer Software elements, such as hypervisors, virtual machines, virtual data storage, and supporting middleware components, used to realize the infrastructure upon which a computing platform can be established	Remember	CO 1	CLO04	AIT 007.04
13	What is Open-source cloud	Open-source cloud is any cloud service or solution that is built using open-source software and technologies. This includes any public, private or hybrid cloud model providing SaaS, IaaS, PaaS or XaaS built and operated entirely on open-source technologies.	Remember	CO 1	CLO04	AIT 007.04
14	What is Mobile Cloud Computing	Mobile Cloud Computing (MCC) is the combination of cloud computing, mobile computing and wireless networks to bring rich computational resources to mobile users, network operators, as well as cloud computing providers	Remember	CO 1	CLO15	AIT 007.15

15	What is Metering	Metering Providing a measurement capability at some level of abstraction appropriate to the type of service (e.g., storage, processing, bandwidth, and active user accounts).	Remember	CO 1	CLO03	AIT 007.03
UNIT-II						
1	Define Cloud Architecture	Cloud Architecture refers to the various components in terms of databases, software capabilities, applications, etc. engineered to leverage the power of cloud resources to solve business problems. Cloud architecture defines the components as well as the relationships between them.	Remember	CO 2	CLO 09	AIT 007.09
2	What is BSP Cloud	BSP Cloud is a programming model for cloud computing, its goal is to provide a programming model which performance can predicted. The programmer can rely on a simple yet realistic cost model when designing a cloud computing program.	Remember	CO 2	CLO 08	AIT 007.08
3	Define Cloud Computing Architecture	The cloud infrastructure is closely related to its architecture & comprises of many cloud component which is loosely connected.	Remember	CO 2	CLO 08	AIT 007.08
4	Define Hybrid cloud	Hybrid cloud is a cloud computing environment that uses a mix of on-premises, private cloud and third-party, public cloud services with orchestration between the two platforms.	Remember	CO 2	CLO 04	AIT 007.04
5	Define process terminates	Cloud services are usually divided into three basic levels, or tiers, that are traditional Web applications that include a complete multi-tenant SaaS architecture.	Remember	CO 2	CLO 10	AIT 007.10
6	What is compute- and data-intensive	Mobile devices have limited resources; here as new generations of smart phones and tablet computers are likely to use multicore processors and have a fair amount of memory, power consumption is, and will continue to be, a major concern in the near future. Thus, it seems reasonable to delegate compute- and data-intensive tasks to an external entity, e.g., a cloud	Remember	CO 2	CLO 08	AIT 007.08
7	What is Coordinatio n of multiple activities	Many cloud applications require the completion of multiple interdependent tasks; the description of a complex activity involving such an ensemble of tasks is known as a workflow.	Remember	CO 2	CLO 07	AIT 007.07
8	What is Workflows	It describe desirable properties of a workflow description, workflow patterns, reach ability of the goal state of a workflow, and dynamic workflows and conclude with a parallel between traditional transaction systems and cloud workflows.	Remember	CO 2	CLO 10	AIT 007.10
9	What is Hybrid Cloud	Hybrid cloud is a cloud computing environment that uses a mix of on-premises, private cloud and third-party,	Remember	CO 2	CLO 08	AIT 007.08

		public cloud services with orchestration between the two platforms.				
10	Define parallel computation	parallel computation involves multiple stages, and all concurrent activities must finish one stage before starting the execution of the next one; this barrier synchronization further reduces the speed-up.	Remember	CO 2	CLO 08	AIT 007.08
11	What is Data-intensive computing	Data-intensive computing is a class of parallel computing applications which use a data parallel approach to process large volumes of data typically terabytes or petabytes in size and typically referred to as big data.	Remember	CO 2	CLO 08	AIT 007.08
12	What is Zookeeper	Zookeeper is an open source Apache project that provides a centralized service. It introduces the role of the cloud and NoSQL technologies and discusses the	Remember	CO 2	CLO 10	AIT 007.10
13	What is Cloud computing architecture	Cloud computing architecture components typically consist of a front end platform (fat client, thin client, mobile device), back end platforms (servers, storage), a cloud based delivery, and a network (Internet, Intranet, Inter cloud). Combined, these components make up cloud computing architecture.	Remember	CO 2	CLO 08	AIT 007.08
14	Define redundant	Redundancy in cloud architecture ensures that any individual failure has a fallback within the architecture. That means in the event of a disturbance to IT operations, business can continue as normal. To make sure that they're covered, businesses should be sure to look at four key areas: hardware, processes, network, and geography.	Remember	CO 2	CLO 08	AIT 007.08
UNIT-III						
1	What is resource virtualization	Resource Virtualization. resource virtualization is to create a layer of abstraction between actual physical hardware providing resources and the logical or semantic activities which consume those resources.	Remember	CO 3	CLO11	AIT007.11
2	What is virtualization in cloud computing	In computing, virtualization means to create a virtual version of a device or resource, such as a server, storage device, network or even an operating system where the framework divides the resource into one or more execution environments.	Remember	CO 3	CLO 13	AIT 007.13
3	What is the concept of virtualization	In computing, virtualization means to create a virtual version of a device or resource, such as a server, storage device, network or even an operating system where the framework divides the resource into one or more execution environments.	Remember	CO 3	CLO 14	AIT 007.14
4	What is virtualization	There are three ways to create virtual servers: full virtualization, para-virtualization and OS-level virtualization.	Remember	CO 3	CLO 14	AIT 007.14

		They have little in common. Physical server is called host				
5	What are virtualization techniques	Virtualization Techniques in Cloud Computing. ... 'Virtualization' is defined as the act of "creating a virtual (rather than actual) version of something, including virtual computer hardware platforms, storage devices, and computer network resources" – Wikipedia	Remember	CO 3	CLO 11	AIT 007.11
6	What are the advantages and disadvantages of using a virtual machine	Disadvantages: Virtual machines are less efficient than real machines because they access the hardware indirectly. Running software on top of the host operating system means that it will have to request access to the hardware from the host. That will slow the usability.	Remember	CO 3	CLO 11	AIT 007.11
7	What is paravirtualization	Para virtualization is an enhancement of virtualization technology in which a guest OS is recompiled prior to installation inside a virtual machine. Para virtualization allows for an interface to the virtual machine that can differ somewhat from that of the underlying hardware. 0 votes. 0 votes.	Remember	CO 3	CLO 13	AIT 007.13
8	What does virtual machine monitor mean	A Virtual Machine Monitor (VMM) is a software program that enables the creation, management and governance of virtual machines (VM) and manages the operation of a virtualized environment on top of a physical host machine.	Remember	CO 3	CLO11	AIT 007.11
9	What is a virtual machine and how does it work?	Hardware, server, or platform virtualization is the technology of running a virtual operating system inside of another operating system. Basically, you now have two computers going. (If you don't already know, operating systems are what "run" your computer. Without them, you couldn't do much.	Remember	CO 3	CLO 11	AIT 007.11
10	Is virtual machine an example of hypervisor	Examples of this type of hypervisor include VMware Fusion, Oracle Virtual Box, Oracle VM for x86, Solaris Zones, Parallels and VMware Workstation. In contrast, a Type 1 hypervisor (also called a bare metal hypervisor) is installed directly on physical host server hardware just like an operating system	Remember	CO 3	CLO 14	AIT 007.14
11	What is the main function of a hypervisor	Its primary function is to allocate system resources properly to each virtual machine it manages, ensuring they all operate properly and efficiently.	Remember	CO 3	CLO 13	AIT 007.13
12	What is the difference between hypervisor and virtual machine	The second meaning is 'Virtual Machine Monitor'. ... A type I VMM is one that runs directly on the hardware without the need of a hosting operating system. Type I VMMs are also known as 'hypervisors' - so the only true difference	Remember	CO 3	CLO14	AIT 007.14

		between a VMM and a hypervisor is where it runs				
UNIT-IV						
1	Define Resource bundling	Resources in a cloud are allocated in bundles, allowing users get maximum benefit from specific combination of resources. Indeed, along with CPU cycles, an application needs specific amounts of main memory, disk space, and network band width.	Remember	CO 4	CLO11	AIT 007.11
2	Define Combinatorial Auctions	Combinatorial Auctions. Auctions in which participants can bid on combinations of items, or packages, are called combinatorial auctions	Remember	CO 4	CLO 15	AIT 007.15
3	Define Fair queuing	Fair queuing is a family of scheduling algorithms used in some process and network schedulers. The algorithm is designed to achieve fairness when a limited resource is shared, for example to prevent flows with large packets or processes that generate small jobs from consuming more throughput or CPU time than other flows or processes	Remember	CO 4	CLO 19	AIT 007.19
4	What is objective of borrowed virtual time	The objective of the borrowed virtual time (BVT) algorithm is to support low-latency dispatching of real-time applications as well as a weighted sharing of the CPU among several classes of applications	Remember	CO 4	CLO 19	AIT 007.19
5	Define Elasticity	Elasticity is defined as "the degree to which a system is able to adapt to workload changes by provisioning and de-provisioning resources in an autonomic manner, such that at each point in time the available resources match the current demand as closely as possible".	Remember	CO 4	CLO 12	AIT 007.12
6	What are the Scheduling Policies	The most common scheduling policies used to determine the order of execution of the tasks are First in, first out (FIFO). The tasks are scheduled for execution in the order of their arrival.	Remember	CO 4	CLO15	AIT 007.15
7	What is Scalability	Scalability is the property of a system to handle a growing amount of work by adding resources to the system	Remember	CO 4	CLO 19	AIT 007.19
8	What is Horizontal Scaling	Scaling horizontally (out/in) means adding more nodes to (or removing nodes from) a system, such as adding a new computer to a distributed software application.	Remember	CO 4	CLO 15	AIT 007.15
9	What is Vertical Scaling	Scaling vertically (up/down) means adding resources to (or removing resources from) a single node, typically involving the addition of CPUs, memory or storage to a single computer.	Remember	CO 4	CLO 13	AIT 007.13
10	What is Database scalability	Scalability for databases requires that the database system be able to perform additional work given greater hardware resources, such as additional servers, processors, memory and storage.	Remember	CO 4	CLO 15	AIT 007.15

11	What does Map Reduce mean	Map Reduce is a programming model introduced by Google for processing and generating large data sets on clusters of computers.	Remember	CO 4	CLO 13	AIT 007.13
12	What is Task Replication	The task replication process works as a semi-active replication technique for fault tolerance, with the difference that here tasks are replicated across performance- independent hosts rather than failure independent locations	Remember	CO 4	CLO 13	AIT 007.13
UNIT-V						
1	What is cloud security	cloud security refers to a broad set of policies, technologies, applications, and controls utilized to protect virtualized IP, data, applications, services, and the associated infrastructure of cloud computing	Remember	CO 5	CLO 13	AIT 007.13
2	What is Deterrent controls	This controls are intended to reduce attacks on a cloud system. Much like a warning sign on a fence or a property, deterrent controls typically reduce the threat level by informing potential attackers that there will be adverse consequences for them if they proceed	Remember	CO 5	CLO 13	AIT 007.13
3	What is Preventive controls	Preventive controls strengthen the system against incidents, generally by reducing if not actually eliminating vulnerabilities. Strong authentication of cloud users, for instance, makes it less likely that unauthorized users can access cloud systems, and more likely that cloud users are positively identified.	Remember	CO 5	CLO 12	AIT 007.12
4	What is Detective controls	Detective controls are intended to detect and react appropriately to any incidents that occur. In the event of an attack, a detective control will signal the preventative or corrective controls to address the issue.[8] System and network security monitoring, including intrusion detection and prevention arrangements, are typically employed to detect attacks on cloud systems and the supporting communications infrastructure.	Remember	CO 5	CLO 19	AIT 007.19
5	What is Corrective controls	Corrective controls reduce the consequences of an incident, normally by limiting the damage. They come into effect during or after an incident. Restoring system backups in order to rebuild a compromised system is an example of a corrective control.	Remember	CO 5	CLO 12	AIT 007.12
6	What is Physical security	Cloud service providers physically secure the IT hardware (servers, routers, cables etc.) against unauthorized access, interference, theft, fires, floods etc. and ensure that essential supplies (such as electricity) are sufficiently robust to minimize the possibility of disruption. This is normally achieved by serving cloud applications from 'world-class'	Remember	CO 5	CLO15	AIT 007.15

		(i.e. professionally specified, designed, constructed, managed, monitored and maintained) data centers				
7	What is Personnel security	Various information security concerns relating to the IT and other professionals associated with cloud services are typically handled through pre-, para- and post-employment activities such as security screening potential recruits, security awareness and training programs, proactive.	Remember	CO 5	CLO 15	AIT 007.15
8	What is Hard deadlines	If the task is not completed by the deadline, other tasks which depend on it may be affected and there are penalties; a hard deadline is strict and expressed precisely as milliseconds, or possibly seconds.	Remember	CO 5	CLO 15	AIT 007.15
9	What is Soft deadlines	Soft deadlines can be missed by fractions of the units used to express them, e.g., minutes if the deadline is expressed in hours, or hours if the deadlines is expressed in days	Remember	CO 5	CLO 13	AIT 007.13
10	What does Cloud Compliance mean	Cloud compliance is the general principle that cloud-delivered systems must be compliant with standards that the cloud customers face. This is a very important issue with new cloud computing services, and it is something that lots of IT professionals look at very closely.	Remember	CO 5	CLO 15	AIT 007.15
11	What is SECaaS	Security as a service (SECaaS)-provide security solutions against threats, corruption and hacking. Data is provided through structured authentication with specific role and responsibility.	Remember	CO 5	CLO 13	AIT 007.13
12	What is Cloud compliance	Cloud compliance issues arise as soon as you make use of cloud storage or backup services. By moving data from your internal storage to someone else's you are forced to examine closely how that data will be kept so that you remain compliant with laws and industry regulations.	Remember	CO 5	CLO11	AIT 007.11
13	What is Multi-tenancy issues	Multi tenancy issues in cloud computing for SaaS environment. Multiple data centers have to be combined together which are coming from different organizations for business needs. Using multi-tenancy support, many client tenants are used together in order to reduce the cost issues.	Remember	CO 5	CLO 15	AIT 007.15

Signature of the Faculty **Signature of HOD**