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myCOMPANION

# CC Unit Test - 2

Q.1) How the cloud will change Operating Systems ?

Ans) i) With the emergence of cloud computing, a new cloud computing based OS approach is gaining popularity.

ii) A cloud OS is a type of operating system designed to operate within cloud computing and virtualization environments.

iii) A cloud operating system manages the operation, execution and processes of virtual machines, virtual servers and virtual infrastructure, as well as back-end hardware and software resources.

iv) A cloud operating system developed to be used within a computing-specific environment will manage the processes and threads of a single or a cluster of virtual machines and servers.

v) Similarly, a light-weight cloud OS might provide end users with pre installed applications and services, accessed through an internet browser.

vi) Example - Microsoft Windows Azure and Google Chrome OS are some examples of current cloud operating systems.

Q.2) The future of cloud TV.

Ans) i) The cloud enables ~~easier~~ easier integration of OTT offerings with traditional service delivery and also provides more consistent video experience across all platforms.

ii) Therefore, more and more uptake is expected for cloud-based TV platforms.

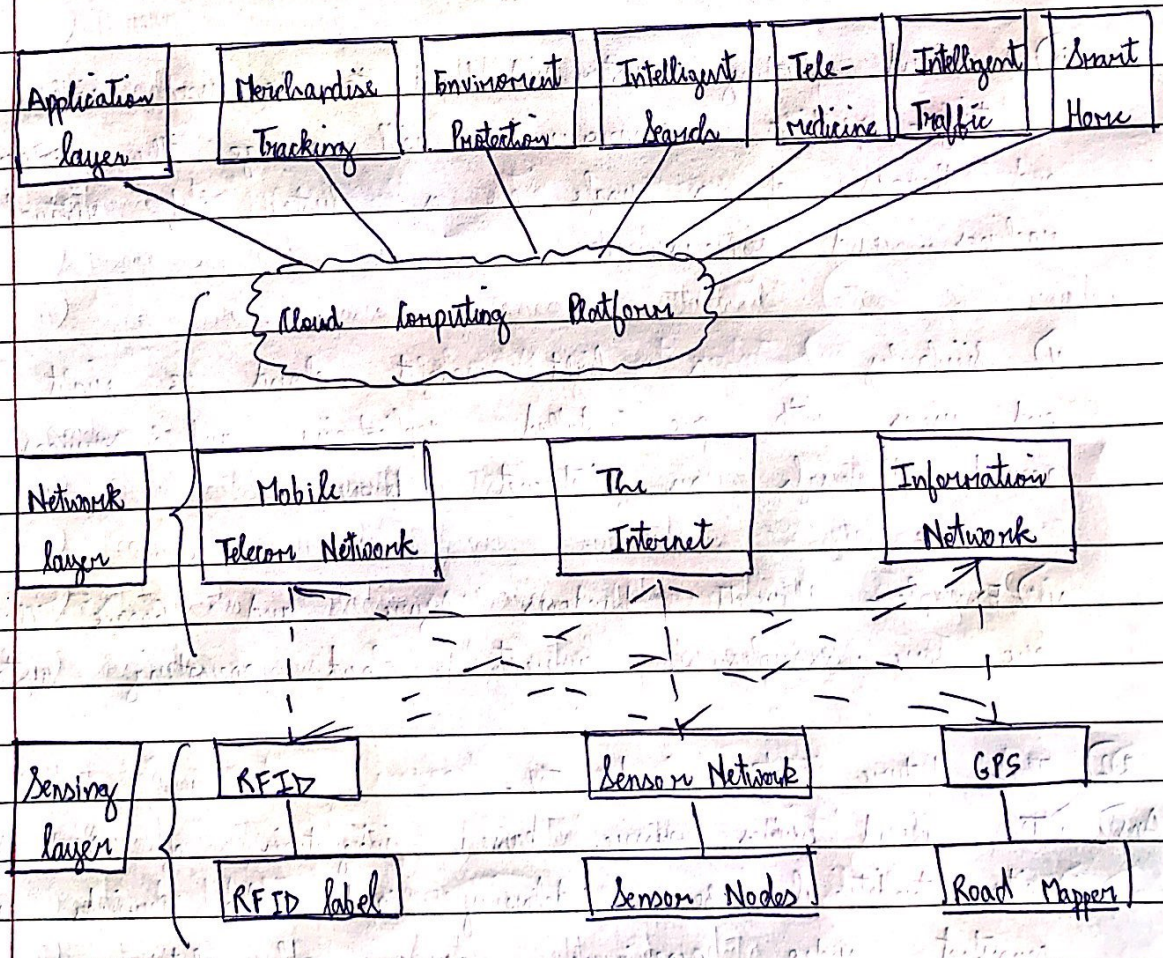
iii) Ensuring that the platform is future - ready is critical as companies expand globally and incorporate new technologies.

iv) The benefits are that the service is primarily software based → so one does not need a physical location to run the operations. As a result → real estate → infrastructure and manpower reduces dramatically.

v) Cloud based TV allows for a quick turnaround time including the ability to create and dismantle channels easily.

Q.3) Draw and explain architecture of Internet of Things.

Ans)




Architecture of IOT

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The ~~wsbt~~ architecture consists of 3 layers →

1. Application layer
2. Network layer
3. Sensing layer

1. Application layer :-

It further consists of various data sources and applications. It is sub-divided into →

i) Merchandise tracking
ii) Environment protection
iii) Intelligent search
iv) Tele-medicine
v) Intelligent traffic
vi) Smart home

2. Network layer :-

Connects the sensors with the application layer.

i) Mobile Network
ii) Internet
iii) Information Network

3. Sensing layer :-

It consists of various sensors such as RFID, GPS etc. It is basic layer.

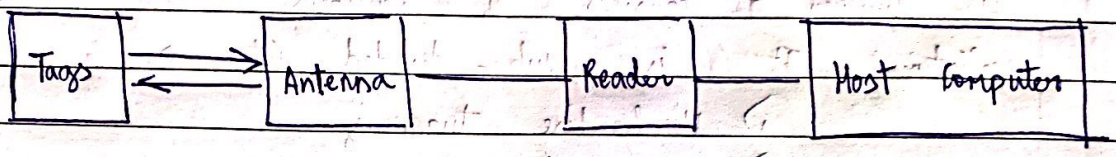
Q4) What is RFID? Draw a diagram and explain each block in detail.

Ans) i) RFID stands for Radio Frequency Identification.

ii) It refers to small electronic device that consist of a small chip and an antenna.

iii) The chip can typically convey 2000 bytes of data.

iv) It's advantages are →
i) Tag, backed by massive data processing system
ii) No line-of-sight required
iii) Re-programmable
iv) More dynamic tracking




Tags :-
i) Device made up of an electronic circuit and an integrated antenna.
ii) RF used to transfer data btw tag and antenna
iii) Portable memory
iv) Read-only or read/write

Antenna :-
i) Receives and transmits electromagnetic waves.
ii) One or more antennae attached to a reader

Reader :-
i) Communicates with the tag via antenna
ii) Receives commands from application software
iii) Interprets radio waves into digital signal
iv) Provides power supply to passive tags.

Host computer :-
i) Reads/writes data from/to the tags through the reader
ii) Stores and evaluates obtained data
iii) Links the transceiver to applications.

Q.5) How to measure security wrt cloud computing ?

Ans) Security concerns associated with cloud computing fall into two broad categories :-

1. Security issues faced by cloud providers
2. Security issues faced by the end customers

The provider must ensure that their infrastructure is secure and that their client's data and applications are protected, while the user must take measures to ~~their~~ fortify their application and use strong passwords and authentication methods.

When an organisation elects to store data or host applications in the public cloud, it looses its ability to have physical access to the servers hosting the information. As a result, potentially sensitive data is at risk from insider attacks.

Q.6) What are the measures to improve security ?

Ans) 1. Deploy Multi-Factor Authentication :- MFA is the cheapest and most effective ways ~~to~~ of keeping hackers from accessing your account.

2. User Access Control :- Deploying various levels of privileges associated with respective user ~~acc~~ account.

3. Monitor, log and analyze user activities with automatic solutions to detect intruders

4. Create a comprehensive off boarding process to protect against departing employees.

5. Provide anti-phishing training for employees

6. Consider cloud to cloud backup solutions.