CLOUD COMPUTING
MID SEM-02

Q1

Answer> 3 types of cloud service models are present:-

(1) Software as a Service (SAAS)
It is for using providers whole system including application, infrastructure.

(2) Platform as a services (PaaS)
Use platform of provider when you are having their your own Application

(3) Infrastructure as a service (Iaas)
providers computing resources and services.

Q.1 Risk related to each models

① Saas : ① Data security
② Data breaches
③ Data Confidentiality
④ Availability

② Paas : ① Database security
② SOA security
③ web services security

③ Iaas : ① virtualization issues
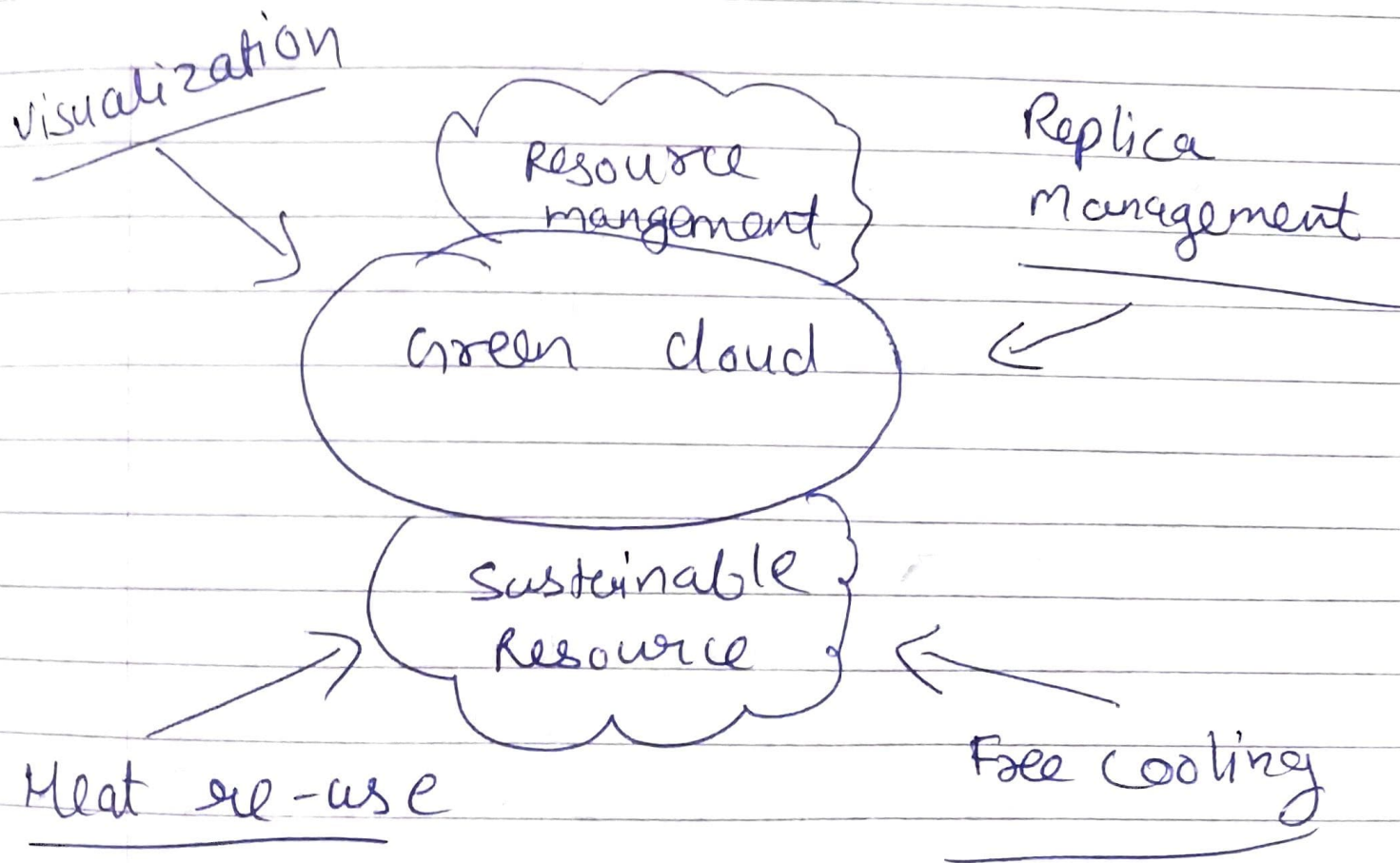② Multi-tenancy side effects
③ Physical issues.

Q2

Answer: Green computing is Eco-friendly use of computers and their resources. It is also defined as the study and practice of designing, engineering, manufacturing and disposing computing resources with minimal environmental damage.

(green cloud computing is using Internet services from a service provider that has taken measure to reduce their environmental effects

It is very important in present real world as:-

① Their is a need of Energy conservation. The carbon foot point is needed to be reduced which is causing damage to environment. shifting common software to cloud reduces it by 87%.

② Green cloud computing helps you go paperless which aar saves trees, forest and therefore environment

③ It focuses of on reducing the computing resources which leads to less environment waste of its residues. Therefore improving disposal and recycling procedures.

visualization   Replica Management

Resource mangement

Green cloud

Sustainable Resource

Heat re-use   Free cooling

Q4

Answer Advantages of Mobile computing:

① Backup and Recovery : As all
the data is stored to the
cloud platform which stores
its in the fault tolerance manner

② Real time availability of data
whenever needed

③ multiple platform support : easily
access any application stored
in cloud.

Cons :-

① Data security : users shares
their data which might be
sensitive and store them to the
cloud. If cloud is not secure
or prone to attacks, the data
might be misused.

② Connectivity issue: Internet connectivity
issues might lead to poor performance

Q3

Answer Identity and Access Management
(IAM) encompasses the components
and policies necessary to control
and track user identities.
IAM products provides organisations
managers with tools and technologies
for controlling user access to
critical information within an
organisation.

It has following components namely:

① Authentication
② User Mangement
③ Authorization
④ Credential managment

A well profound part of
Identity as a service (IDAS)
module is "SSO" [Single sign-on]
It helps to implement IAM.
SSO is a centralized session and
user authentication service in
which one set of login credentials
can be used to access multiple
application.

With one security token [username
and password pair], you can
enable and disable user access
to multiple systems, platforms, apps
and other resources.

Q,5

overall Power = 90 units
Power delivered to equipment

= 75 units

formula

$$\text{Power usage Effectiveness (PUE)} = \frac{\text{overall Power}}{\text{Power delivered}}$$

$$PUE = \frac{90}{75} = \underline{1.2}$$

Answer : $\boxed{\therefore PUE = 1.2}$

Q6

Answer: 4 building blocks of IOT are:-

① Gateway:- Gateway block is used for connectivity purpose and is an intermediate block between "things" & "Networks"

② Things: These are the concentrated areas where the data is collected through the sensors or the actuators

③ Networks infrastructure: help

These blocks provides the control over the information provided. and allows secure flow of it.

(4) <u>Cloud infrastructure</u>: equipped with

data storage and computing profi
- ciencies.

sensors
↳ → | Things | → | Gate way | → | Network |
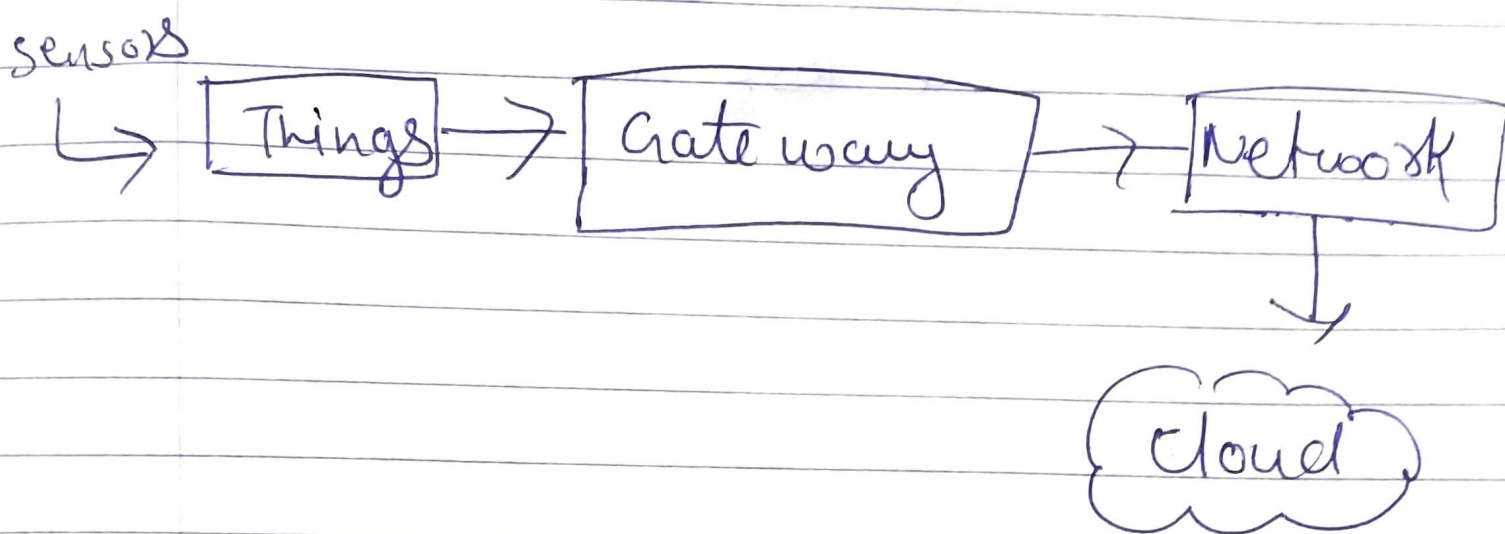
Cloud

Advantages gained by the integration
of IOT & clouds are:-

① Iot benefits from scalability,
performance, pay-as-you-go
nature of computing

② Iot application produces large
volumes of data. and processing
and storing real time data
becomes very easy with cloud.

③   On demand scaling for real time large chunk of data becomes very easy and efficient. Moreover, their are more opportunities of data backup in case we loss it.