THEORY ASSIGNMENT 3

Q1. IAAS

Infrastructure as service model where an organization outsources the equipment used to support storage, hardware, servers & networking components.

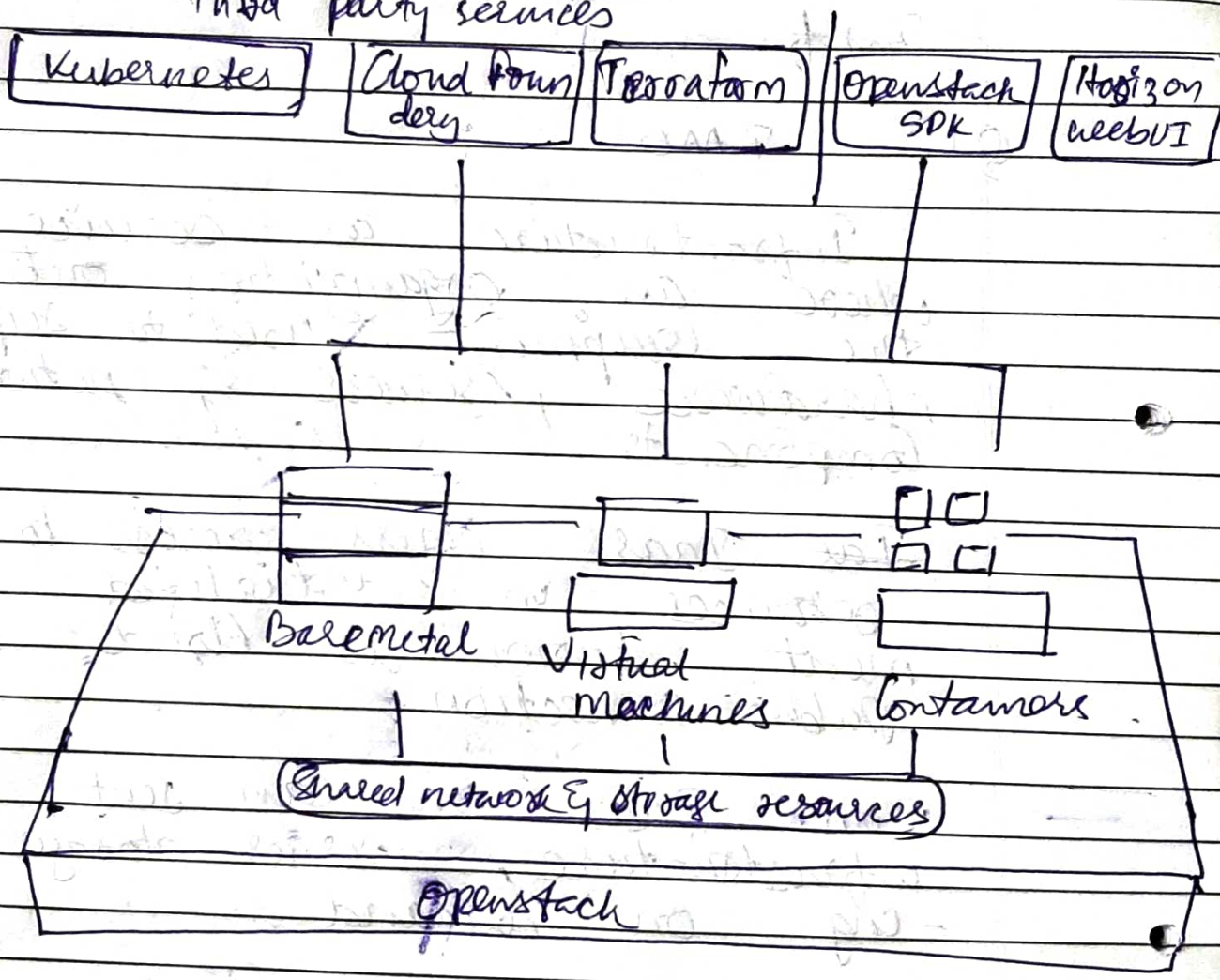
Iaas offers access to computer resources in a virtualized environment, known as cloud access public connection.

With Iaas one can rent cloud infrastructure, server storage & network-ing on demand.

It offers scalability which is particularly useful for workloads that are volatile.

Iaas also offers utility style costing, location independence, no single point of failure & physical security of data centre locations.

eg Openstack



Q2 PaaS

Cloud Foundry

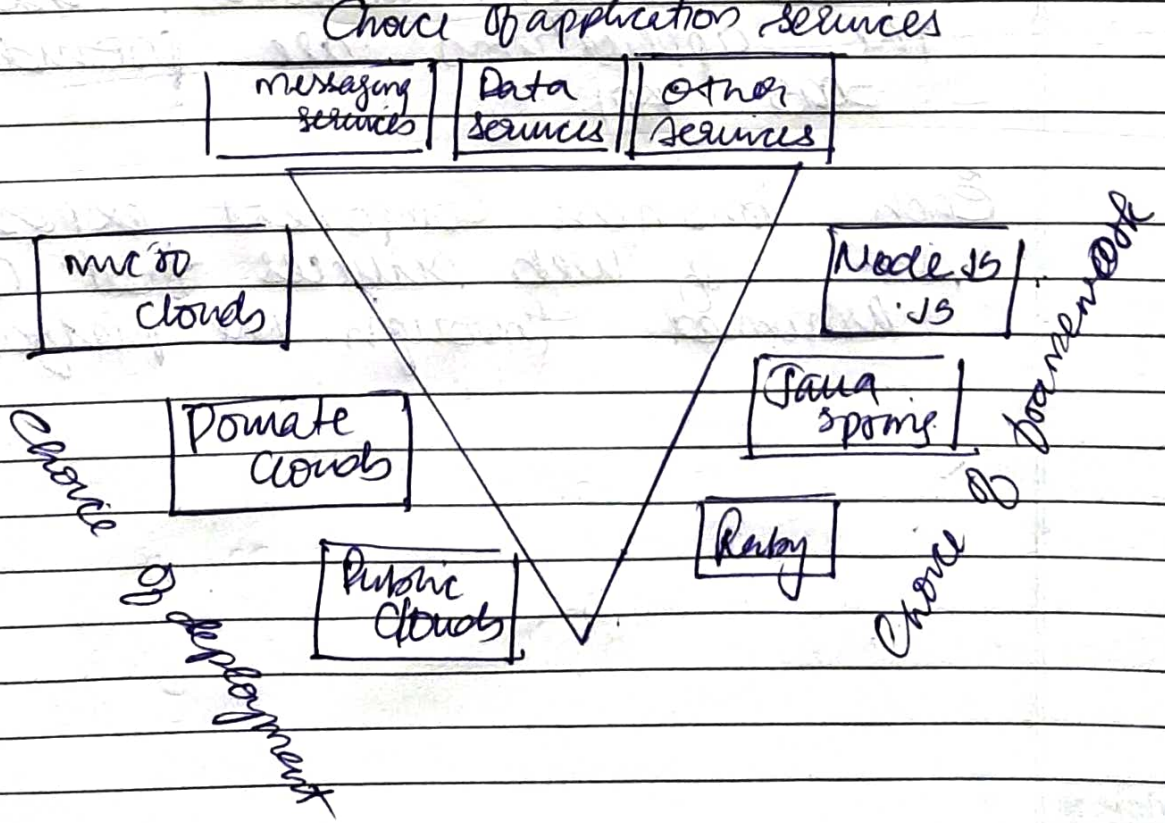
It is open PaaS, which provides the choice of clouds, developer framework & application services.

It makes an application development faster & easier.

We can build & deploy, test & scale applications with Cloud Foundry.

Its an open source project available through a variety of private cloud distributions & public cloud instances.

Supports multiple languages & runtimes like Java, Ruby, Scala, Spring etc.



SaaS

This architecture bases the communication layer on a Service Oriented architecture

It is composed of several components

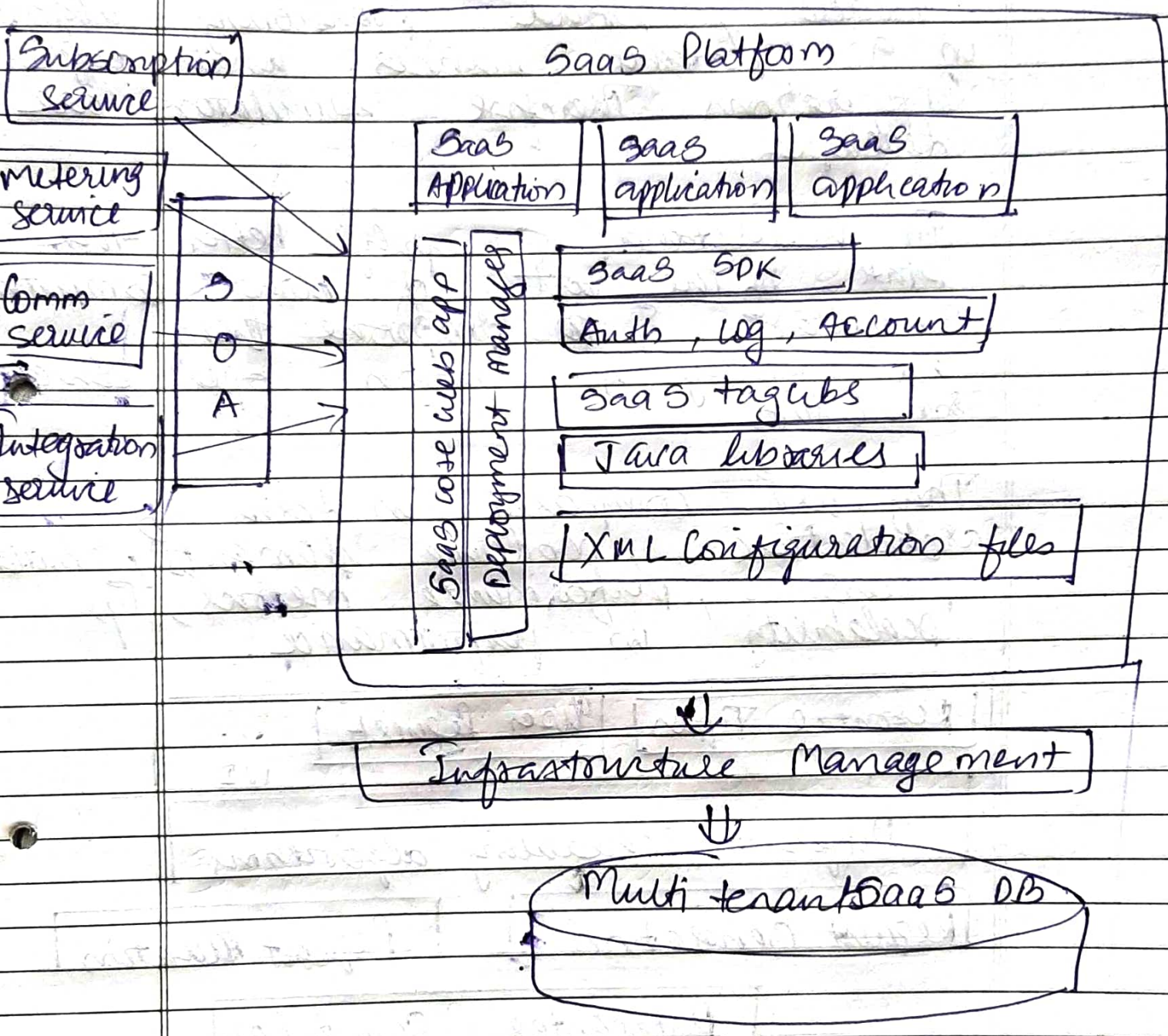
Each component is integrated in an Apache Tomcat container.

Each service application is deployed as common web application.

SAAS components manage & interact with web applications.

Provides common libraries used by the applications are provided by SOAS API.

Each business component exposes some set of web services that can be accessed through the platform.



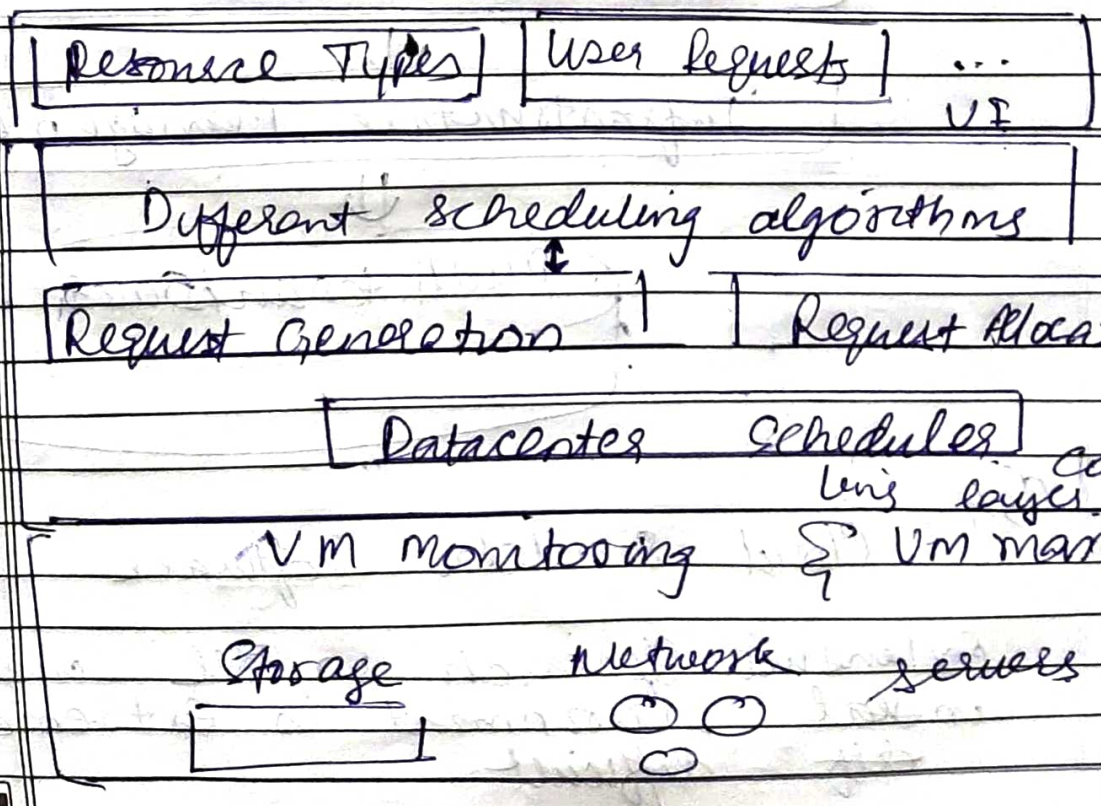
Q4 Cloud Simulator Software

Extensive research in all issues in real environment is extremely difficult.

Performance evaluation of workload models & cloud provisioning algorithms in a repeatable manner under different configurations. Therefore simulators are developed.

To understand & apply better the state of the art of cloud computing simulators & to improve them we study 4 known open source simulators.

They are compared in terms of architecture, modeling elements, simulation process, performance metrics, & scalability in performance.



Q5 Open source Distributed systems Software

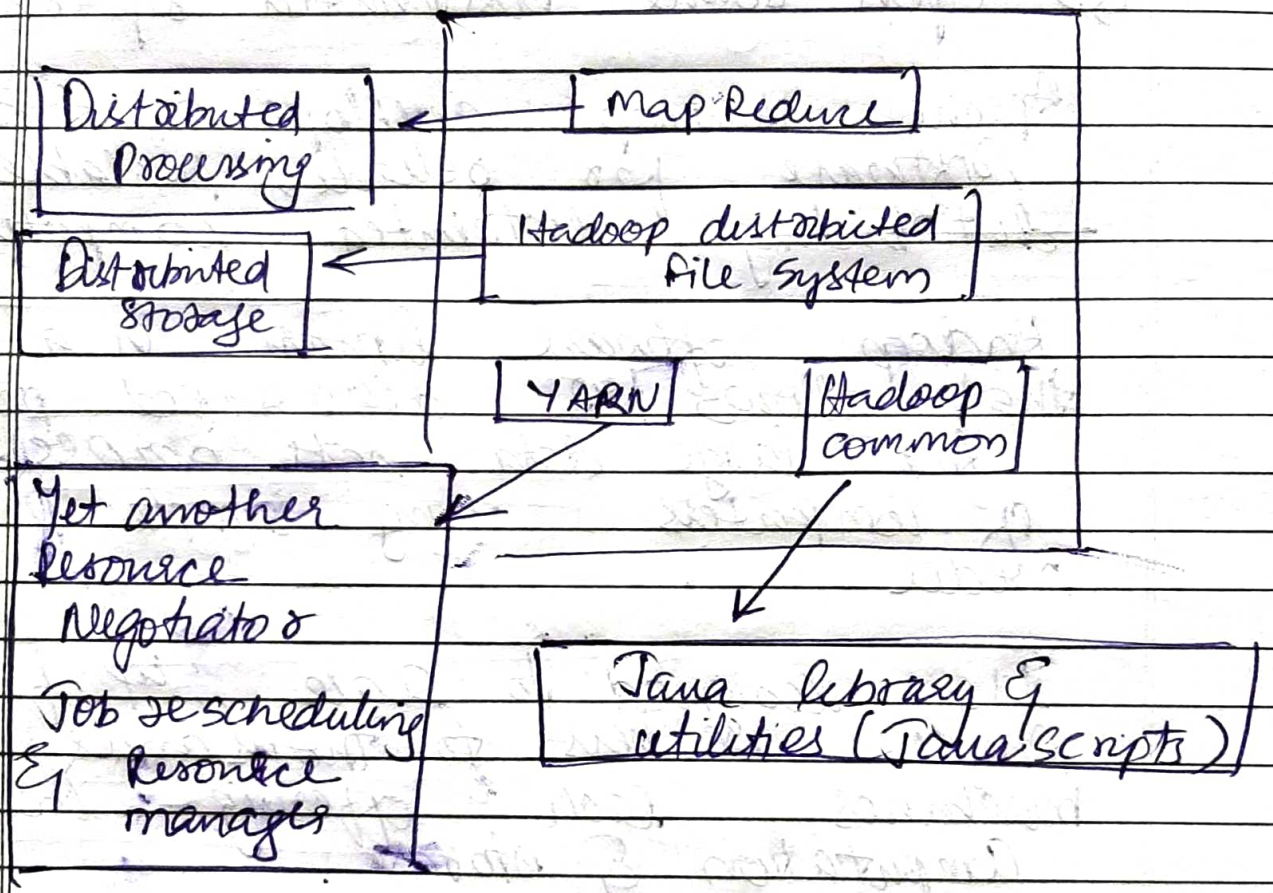
Apache Hadoop develops open source software for reliable, scalable distributed computing.

Hadoop software library is a framework that allows for distributed processing for large data sets across clusters of computers using simple programming model.

It's designed to scale up from single servers to thousands of machines each offering local computation & storage.

Rather than rely on hardware to deliver high availability, the library itself is designed to detect & handle failures at the application layer.

So delivering a highly available service on top of a cluster of computer each of which may be prone to failures.


Distributed Processing
Map Reduce
Distributed storage
Hadoop distributed file system
YARN
Hadoop common
Yet another Resource Negotiator
Job rescheduling & Resource manages
Java libraries & utilities (Java scripts)