For Office use	Space for Digital Data

தமிழ் நாடு அரசு

தொழில்நுட்பக் கல்வித் துறை, சென்னை 600 025 – வாரியத் தேர்வுகள்

அடுத்தப் பக்கத்தில் கொடுக்கப்பட்டுள்ள குறிப்புகளை படிக்கவும் (Read the instructions given in the next page)

Q. No.	A	B	C	Q. No.	A	B	C	Q. No.	A	B	C	Q. No.	A	B	C
1.				9.				17.				25.			
2.				10.				18.				26.			
3.				11.				19.				27.			
4.				12.				20.				28.			
5.				13.				21.				29.			
6.				14.				22.				30.			
7.				15.				23.				31.			
8.				16.				24.				Total Marks			

For Revaluation

For Central Valuation

Q. No.	A	B	C	Q. No.	A	B	C	Q. No.	A	B	C	Q. No.	A	B	C
1.	2			9.	0			17.				25.			
2.	2			10.	0			18.				26.			
3.	2			11.	~~1~~ 0			19.				27.			
4.	3			12.		12		20.				28.			
5.	0			13.		14		21.				29.			
6.	2			14.		~~7~~ 13		22.				30.			
7.	2			15.		0		23.				31.			
8.	2			16.				24.				Total Marks		58	

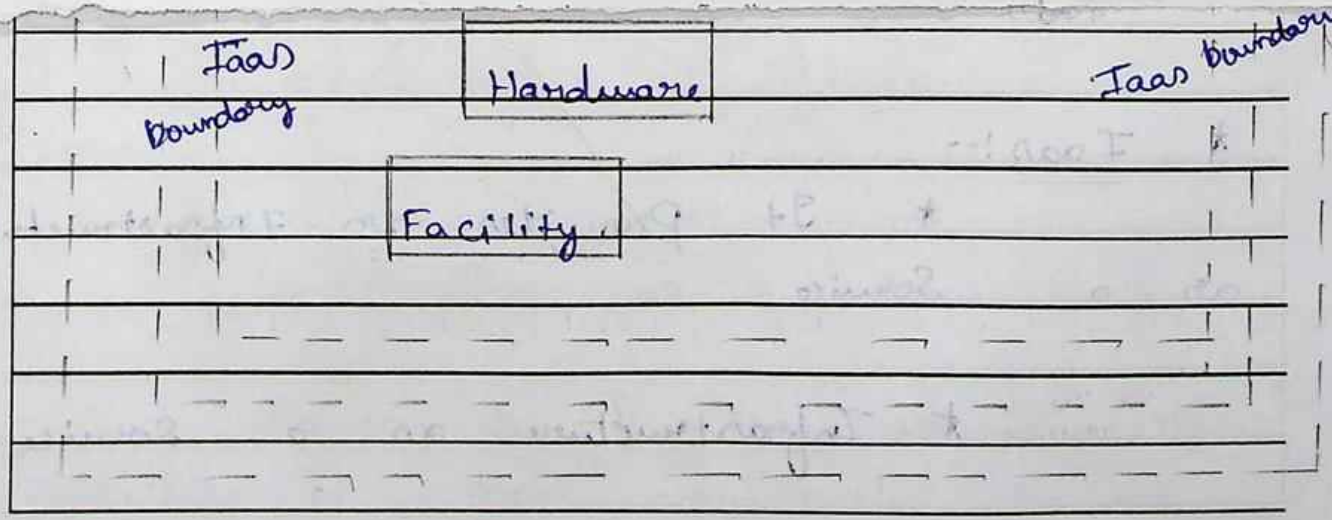
Question Paper Code No. வினாத்தாளின் குறியீட்டு எண் 1684

No. of Pages எழுதப்பட்ட ப 30

Date of Examination : தேர்வு நாள் 14-11-2024

Subject Name : பாடத்தின் பெயர் Cloud co... Internet of Things

591-1684-23506293

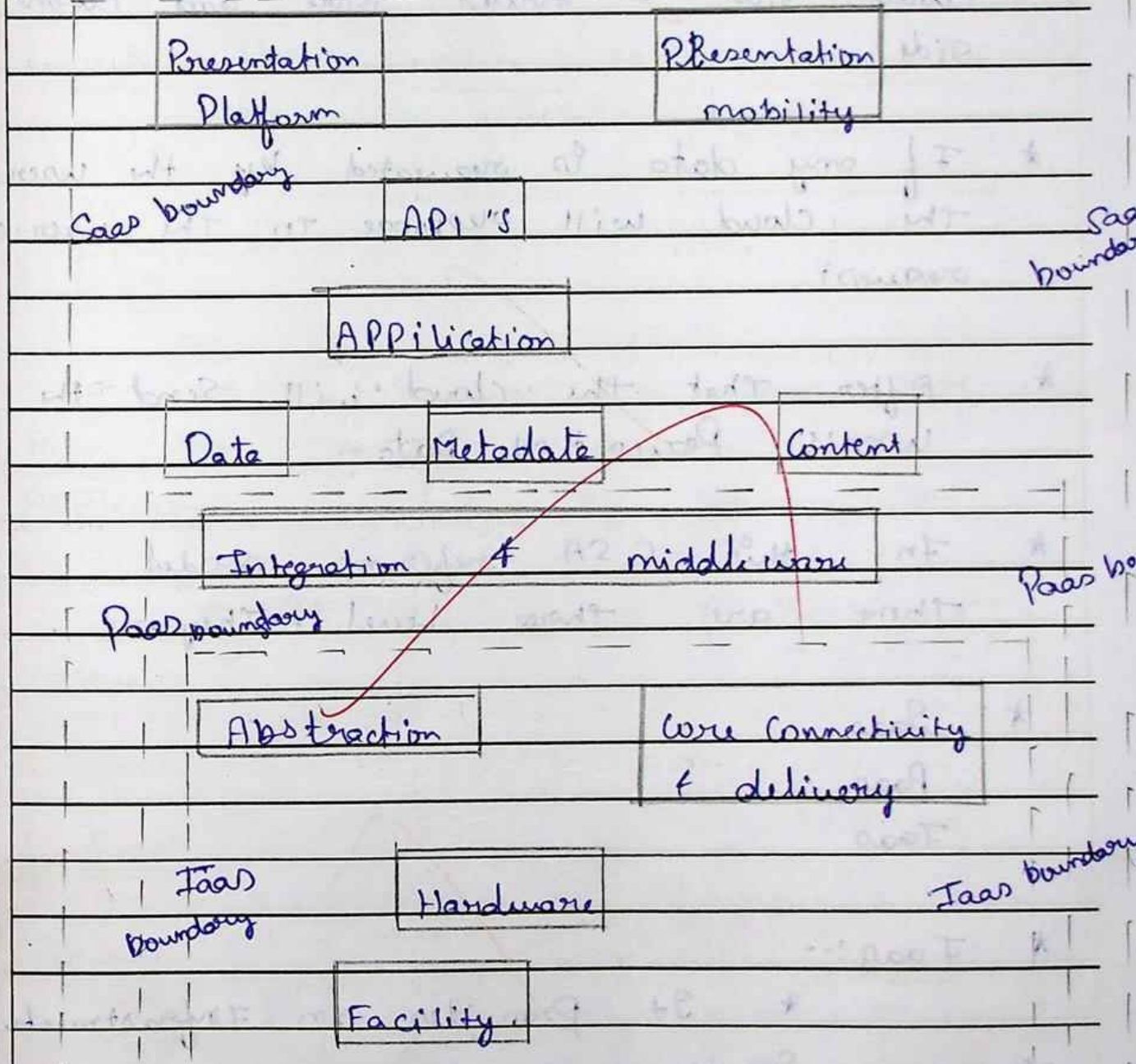


தேர்வாளர்களுக்கான அறிவுரைகள்
INSTRUCTIONS TO CANDIDATES

1. விடைத்தாள் மாற்றிப் பெறுவதற்கு.
   Get the answer book replaced, if
   - விடைத்தாள் சரியாக சேர்ந்து பின் செய்யப்படாமல் இருந்தால்.
   - it is not stapled properly
   - விடைத்தாள் புத்தகப் பக்கங்களின் வரிசை எண் விடுபட்டிருந்தாலோ அல்லது வரிசையாக இல்லாமலிருந்தாலோ (மொத்தம் 30 பக்கங்கள்).
   - the page numbers are missing or not in order (there shall be 30 pages continuously numbered)
   - தலைப்பு பக்கத்தில் விடைத்தாள் புத்தகத்தின் கீழ்பகுதியில் வரிசை எண் அச்சிடப்படாமலிருந்தால்.
   - the serial number of the answer book is not printed at the bottom of the title page
2. உங்களுடைய பதிவு எண்ணையும், பெயரையும் அதற்காக கொடுக்கப்பட்டுள்ள தலைப்பு பக்கத்தின் கீழ்பகுதியில் மட்டும் எழுதவும்; அதைத் தவிர்த்து பதிவு எண், பெயர் ஆகியவற்றை விடைத்தாளில் மற்றப் பக்கங்களில் எழுதக்கூடாது. எந்தவிதமான அடையாளக் குறியீட்டையும் விடைத்தாளில் எழுதக்கூடாது.
   You are prohibited from writing your REGISTER NUMBER or NAME in any part of the answer book, other than the space provided at the bottom of the title page. You are prohibited from writing or leaving any distinguishing marks so as to identify your answer book.
3. தலைப்புப் பக்கத்தில் கொடுக்கப்பட்டுள்ள அதற்குரிய கட்டங்களில் விவரங்களை எழுதவும்.
   Fill up all the particulars, in the relevant boxes, in the title page.
4. கேள்விகளுக்கு பதில் எழுதும் போது விடைத்தாளில் இரண்டு பக்கங்களையும் பயன்படுத்த வேண்டும். பக்கங்களில் தொடர்ந்து விடை எழுதாமல் வெற்றிடம் விடக் கூடாது.
   Use both sides of the paper for answering questions, without leaving spaces/ lines in between.
5. இந்த விடைத்தாள் புத்தகம் போதுமான பக்கங்களை கொண்டிருக்கிறது. இதைத் தவிர கூடுதல் விடைத்தாள் அளிக்கப்படமாட்டாது.
   This answer book contains sufficient pages and no additional sheets will be issued.
6. கேள்விக்கு விடையளிக்கும் முன்பு வினாத்தாள் எண், வருடம், மாதம், காலம் இவைகளை சரிபார்க்கவும்.
   Check the Code Number, Month and year of Examination, Duration etc., in the question paper before answering the questions.
7. கொடுக்கப்பட்டுள்ள வரைப்படத்தாள் / கிராப் ஷீட் தவிர வேறு எந்த விடைத்தாளையும் சேர்க்க கூடாது. விடைத்தாள் புத்தகத்திலிருந்து எந்த பக்கத்தையும் கிழிக்கக் கூடாது.
   No extra sheet is to be attached except the drawing/graph sheets supplied and no sheet is to be teared from the answer book.
8. கைபேசி, துண்டுக் காகிதம் மற்றும் தடை செய்யப்பட்ட இதர பொருட்கள் வைத்திருத்தல், தேர்வுக்கு எதிரான முறைகேடுகளில் ஈடுபடுதல் அனைத்தும் தேர்வு வாரிய விதிகளின்படி தண்டனைக்குரிய குற்றமாகும்.
   POSSESSION OF ANY PROHIBITED MATERIAL, CELL PHONE, BITS OF PAPERS, etc., AND INVOLVEMENT IN MALPRACTICE OF ANY NATURE SHALL BE PUNISHABLE AS PER BOARD'S RULES.

Part - B

(13) b) CSA : Cloud reference model



* Cloud Reference model use to split up the boundaries between cloud side or server side and client side

* If any data is requested by the user the cloud will response to the user's request

* After that the cloud will send the user's Requested Data.

* In this CSA reference model there are three level, They are.

* Saas
  Paas
  Iaas

* Iaas :--

  * It Provides an Infrastructure as a Service

  * Infrastructure as a Service

* It Provides a hardware to Run the application

* The applications are created by the clients

* Paas :-

* It Provides a good platform For the hardware used to Run the Application created by Server user

* It provides a platform as a Service

* Saas :-

* It provides a Software as a Service

* It has another name as a application as a Service.

* user can Run those application without Installing it from any web Browser.

* In CSA Reference model It has 3 level.

* Iaas is the least level compared to Both Saas, Paas

* Paas is the medium level

* Saas is the higher level compared to Both other level.

* When the user request Data to the cloud. It takes and send the data to the cloud by these three level.

* When the level in being increased it interprates with other level to provide more security.

* So the data may be transfered to the user.

* The transfered data will be more secure when It comes to Saas level

* when the CSA model is creates a boundary between cloud & user after the third level. It is the responsible for the user to take care of the data.

* After that the Server boundary is closed And the client boundary starts.

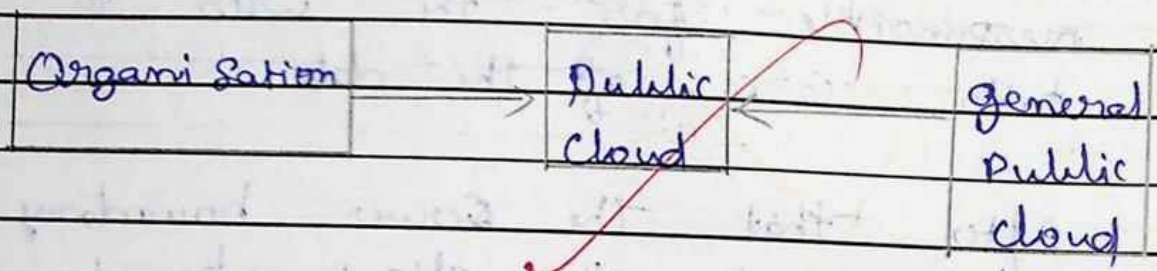
* This is process of the CSA model.

12) b) Cloud deployment model :

* There are four cloud deployment model They are :

* Private cloud model
* Public cloud model
* hybrid cloud model
* community cloud model.

i) Public Cloud model:



* user can store the data in the cloud

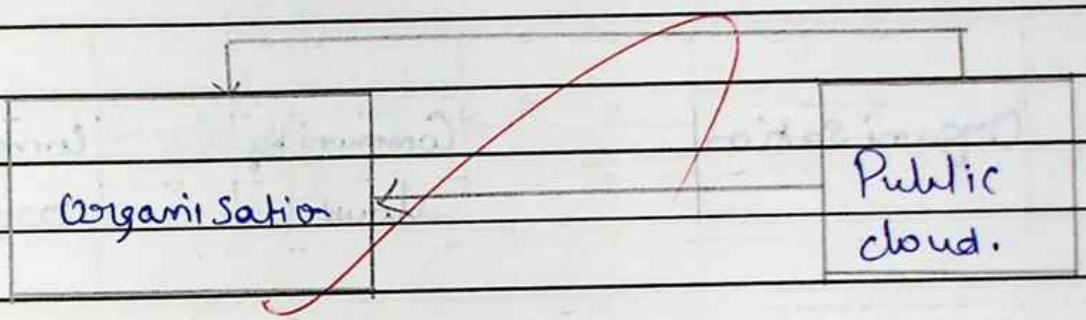
* The Stored data will be Secured

* but the cloud can be ~~uses~~ not only used by you many others will use the cloud. and store thier data on this cloud.

* many user can access whom your data is calle : public cloud.

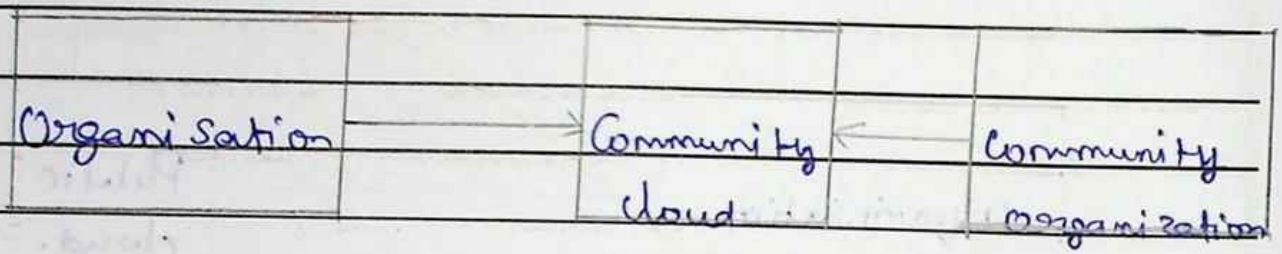
* This Type of cloud model only have less ~~security~~ concerns.

ii) Private cloud model.



* This is private model
* only one user can use it. he
* he can store data on it
* The security level of it is high compared to other cloud model because This cloud is used by only one user No one can access the stored data without his permissions
* This is more secured model used only by one user.

iii) Community model.



* This created for one community

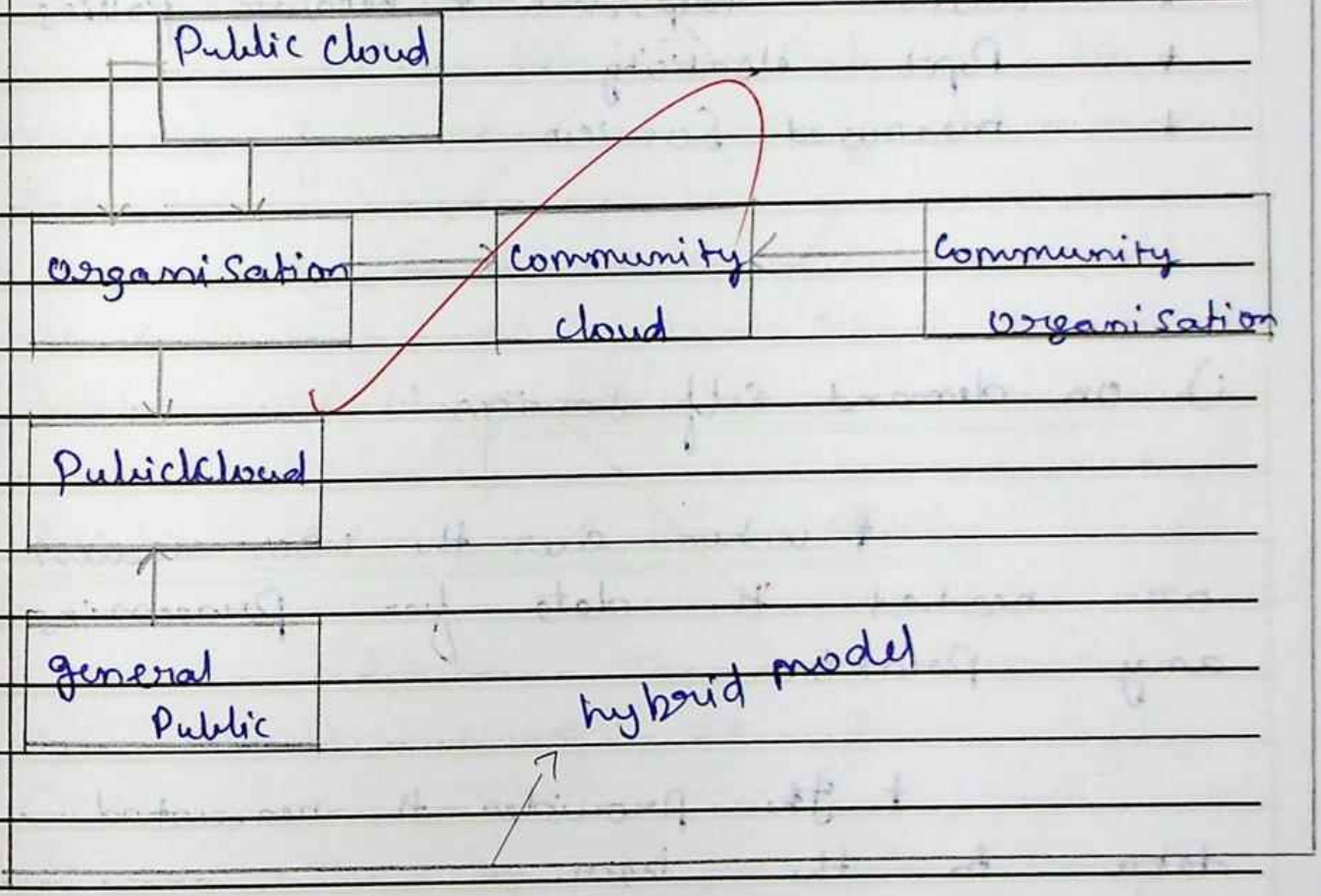
* Those member of community can be store the data inside this cloud.

* This same as public cloud. but the stored data can be viewed by the members only.

* The security level is high compared to public cloud.

* And low compared to private cloud.

iv) hybrid model:



* It is the combination of all other cloud model.

* It has the advantages & disadvantages of other cloud model

* It is the combinations of Public, Private, Community cloud.

11) a) ii) essential characteristics of Cloud Computing

* ondemand Self Services
* Board Network access
* Location Independent & Resource Polling
* Rapid elasticity
* measured Services

i) On demand Self Services :

* when ever the user request or needed the data for processing any Problem.

* The provides the requested data to the user.

* whenever the user need it Provides as Service is called on demand Self services.

ii) Board Network Access:

* The data can be viewed over the Internet

* So Recieved Data can be viewed from anywhere any place using Internet

* The Data is visible on all devices such as mobile phone, PC, IOS laptop, I Pad, Tablite etc.

iii) Location Independant & Resource Polling:

* when the user stores a data in the cloud It stores safely

* The user need not to be worry about the Data Stored in which location format etc.

* If the data is needed. It return back's to the user.

iv) Rapid elasticity :

* When ever the user needs the Cloud Storage.

* Increase the Storage for certain use of the user

* After the usage of user it return back to its original size is called Rapid elasticity.

v) measured Services

* Vendour provides a Service for the user who request for their user

* The Cloud tracks about the user's usage of the Service

* According to the usage user must pay for it

* This is called as measured services

11) b) i) IoT protocols - Network layer.

Network layer of IoT Protocols.

* used to transfer or recieve the data through Internet this protocol is used.

* It has three types of Network protocol using those protocols we can send or recieve the data using Internet They are

* IPV4 -
* IP66 -
* 6LOWPAN -

i) IPV4

* IP - Internet Protocol
* IPv4 - Internet Protocol version 4
* It is most widely used Protocol for communicating with user & server side.

* It has 32 bit address perform the operations Very Quickly

* So the Operations are very Quickly done in the speed of 2^{32} bit per second

ii) IPV6 - Internet protocol version 6

* It is the New generation of Internet protocol used to perform the process data

* The process data in 128^2 bit address

* It has 2^{128} bit address which Perform very faster & Quick Compared to IPV4

* It is the updated version of IPV4.

14) b)ii) wireless Sensor Network:

* Sensors:

* It is the thing used to sense the change occur in daily enviroment.

* And the sensor stores the sensed data through wire or wireless.

* There are two types of sensor they are

* wired Sensor Networks
* wireless Sensor Networks.

* wirless Sensor Network

* Sensor is an IoT device used to sensed the environmental change.

* All the Sensor are Connected to the Internet and Cloud.

* Wireless Sensor is nothing but a normal Sensor used to sense the temperature & humidity, smoke, fire, rain, air flow etc.

* It Senses the data, After that the Sensed data will be moved to Cloud and Stored on the Cloud.

* whenever the data is need we can Take the data from cloud.

ex:

* In an Company Fire accident is held, this Sensor which Sense the Smoke level, Temperature level And Store it on the cloud

* Via Internet the Data Passes to the user And Called For Fire extinguisher office.

15) b) Iot devices :- Raspberry Pi :

There are many Iot device. They are :

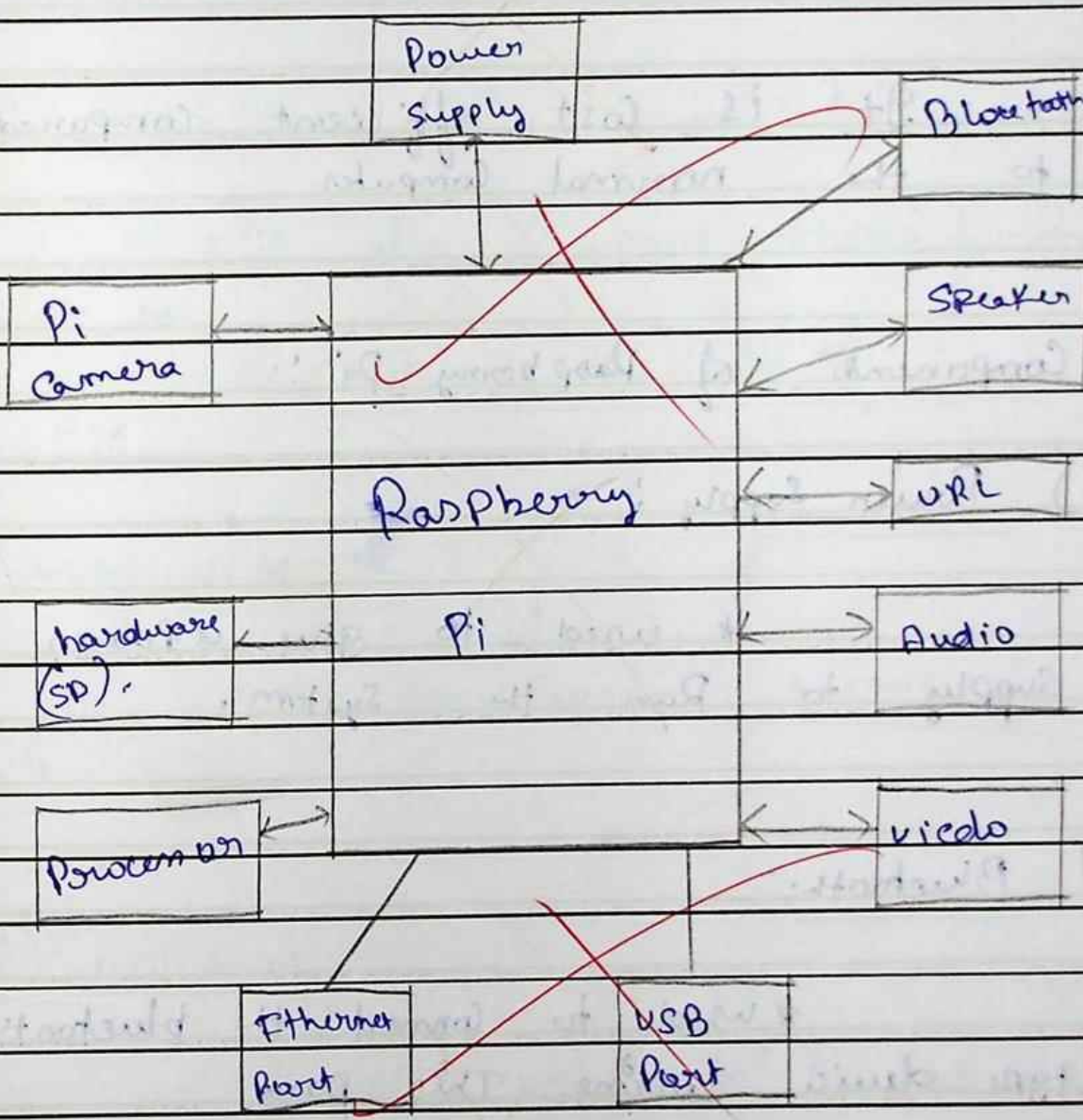
* Arudino Uno
* Raspberry Pi
* Pcduino Board
* Bread Black Board
* Cosmical board
etc.

* These are devices used to Perform an Iot operations.

* Without the board we can Perform The Iot operations on browser

* There certain website for doing IoT operation. They are Wokwi etc.

Raspberry Pi Diagram:



* Raspberry Pi is a Chip or Credit card size Computer System

* It has the same attribute like Computer System.

* It is cost efficient compared to the normal Computer

Components of Raspberry Pi :-

i) Power Supply :-

* used to give a Power Supply to Run the System.

iii) Bluetooth :-

* used to connect the bluetooth type device using this port

iii) Speaker :-

It gives an Sound Quality

moderatly compatble to the normal computer.

iv) Audio :-

* It also support Audio formatted file

* ex mp3 with all the sound Quality.

v) ~~viedo~~ Video :-

* It does support to mp4 format file

vi) USB Port :-

* It is used to connect other devices through USB Cable from one to another

* The data also can Transfer Through it

vii) Ethernet :

* used to provide the Internet for the daily use

* This Port is used

viii) Processor :

* It has the Processor which Performs the operations in Time

* It Can Perform the operation which are upto this processor Capacity Quickly

ix) hardware :

* used to Run many applications. & Perform more operations

x) Camera Pi :

* The normal Camera

we used can be connected to Raspberry Pi by this Port.

xi) Storage:

* The Performed data can be Stored inside this System whenever it is needed. User can Take it from there.

* SD Card is used to stre data.

Part-A:

(1) Cloud Computing is

* It is method of Storing the data on the cloud. and Joining all the cloud. Singly.

* whenever the data is need we can request to the cloud.

(2) * User need not to be worry about the security of their data which is stored in cloud.

* because Cloud will be provide a better security level to the data's

* No one can access the data until the user permission.

(3) * Google Apps
* Microsoft Azure
* Version
*

Paas

- It is a platform as an service which provide a hardware to Run the Operations.

* The above mentioned are three service providers.

(4) Iaas :-

* Iaas means Infrastructure as a Service

* It Provides a better Infrastructure for Running the Software & hardware which performs the data.

* It Provides the Infrastructure.

(5) * when the data is transfered to user from cloud it is privately.

* before the data comes in hand of user the data can be viewed.

* so the data is converted from readable to unreadable format ~~and with~~ with the help of mathematical problem & algorithm

* The Answer for those Problem will be only Known by the Sender & Reciever

This is Knowns as encryptions.

(5) IoT levels :- There are Seven level in IoT They are :-

* LevelD
* Level 1
* Level 2
* Level 3
* Level 4
* Level 5
* Level 6

(6) * When a data is Stored on a device

* Virtual Security means, the original Id will in the Secured place

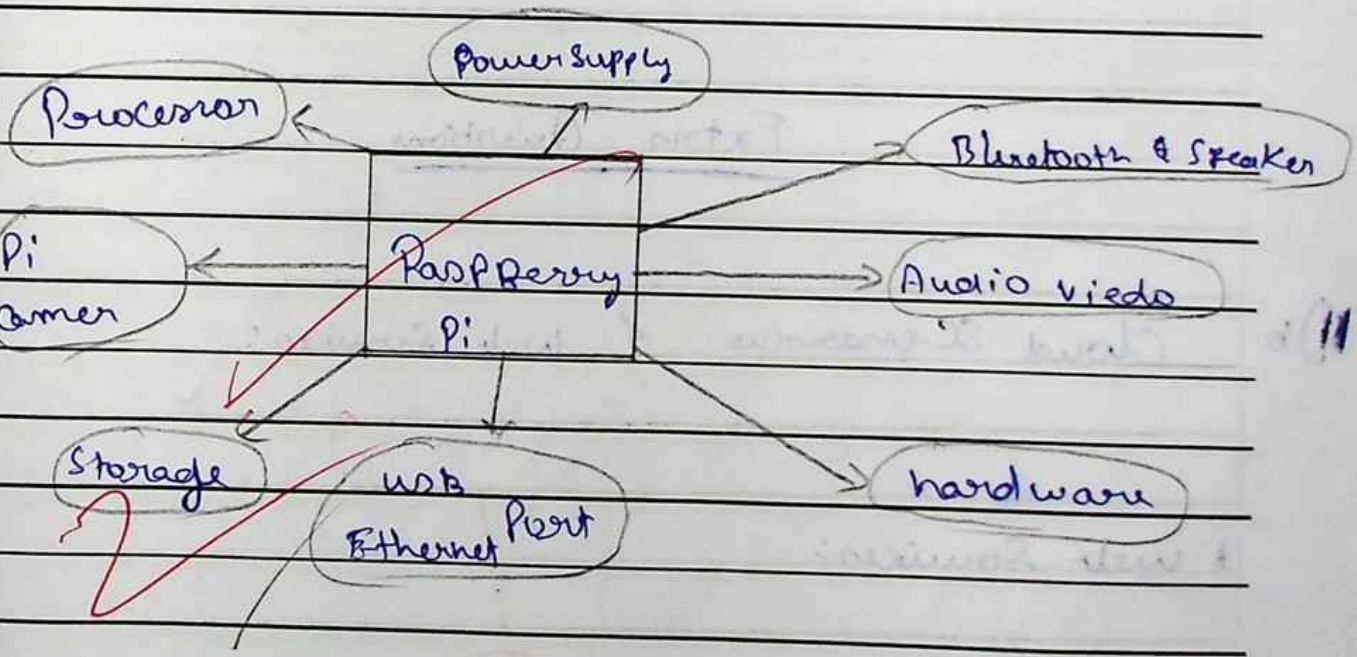
* The date present in it will be modified lightly and virtually a date Shown.

* This process is Known as virtualization of Security management

(10) * This is an Iot device used to do Iot operation of Program

* The commands used in Raspberry Pi is :-

* ~~Print~~ Serial. println
* Serial. begin
* Pin mode.
* Include header File.

(11) 

(9) Components of IoT:

* IoT Devices
* Cloud Storage
* Network
* Internet

by the Above mentioned The IoT devices can be access and Intergrate the data.

Extra Questions

11) b Cloud Scenarios & web Services:

* web Services:
* when an user needs

A Service Over the Internet It provides an Interface according To the user.

* For every usage using in the web we need to pay for it

* There are many model based on web Services & Applications

They are: * Netflix
* Amazon Prime
* Disney + hotstar

* for normal use They don't need to Pay for it

* If the user needs more services after given by them he/she needs to pay for it wheather he use or not.

* all of the cloud Services are based on the Pay per use method.

* The Service which are Provide by an web Application we need not be pay for it

* If the user need's more Service he/she needs to Pay am use the reouried Services

* This is called as web Services.

0/