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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.	0			9.	7	10		17.				25.			
2.	0			10.	7	10		18.				26.			
3.	0			11.				19.				27.			
4.	1			12.	4	4		20.				28.			
5.				13.		8		21.				29.			
6.				14.	0	0	EX	22.				30.			
7.				15.	0			23.				31.			
8.	2			16.				24.							

Question Paper Code No.

வினாத்தாள் எண் குறியீட்டு எண்

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Subject Name :

புடத்தின் பெயர்

CLOUD COMPUTING AND INTERNET OF THINGS

The user in the form the
 Eg:- provision himself much per his requirements
 (i) weather Monitoring systems
 (ii) Indoor air quality Monitoring systems
 (iii) Soil Moisture Monitoring systems
 (iv) Surveillance Monitoring systems
 (v) Structural Health Monitoring systems

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 torned 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

1.1. (b) (i) Essential Characteristics of Cloud Computing

The five Essential Characteristics of Cloud Computing are:

i) on-demand self-service

ii) Broad Network Access

iii) Location Independent and Resource Pooling

iv) Rapid Elasticity

v) Measured Service

i) on-demand self-service

Cloud Computing is a service that is available on-demand and does not require much human interaction. The user can provision himself resources much per his requirements.

The user in the form of the
Eg:- provision himself much per his requirements

i) weather Monitoring Systems

ii) Indoor air quality Monitoring systems

iii) Soil Moisture Monitoring systems

iv) Surveillance Monitoring Systems

v) Structural Health Monitoring Systems



CIPB Broad Network Access

Cloud Computing is accessible from the network generally over the Internet. The service are providers over heterogeneous devices such as mobile phones, laptops, offices, computers, tablets, etc.

Eg:- They are service in the providers devices on Broad Network Access connections called Cloud Computing.

CIPB Location Independent resource pooling

The Cloud must have large and flexible and resource pool to meet the consumers needs. Application require resources for their resource execution.

Eg:- There is an Independence Location ^{Independently} and resource pooling. In the resources Application.



(iv) Rapid Elasticity

Rapid Elasticity refers that

- When required the cloud can expand allocated quickly and efficiently.
- When not required the cloud can reduce allocated quickly and efficiently.

Eg:- When the flight passengers in the from the reserve trip in the called Rapid Elasticity

(v) Measured Service

The utilization is the process service of customer is backed for by the reported for each occupant.

Eg:- There is a mainly in the development is backed of customer reported for each is called Measured Service.



(C1) Components of Cloud
C1) Client Infrastructure
Client Infrastructure is the
Front end Component.

C11) Application
The Application may be
Software or Platform ~~to~~
Want to access.

C111) Service
There are often three
types of services are.

(a) Infrastructure as a Service (IaaS)
It is also known as
Cloud Infrastructure Services.

(b) Platform as a Service (PaaS)
It is also known as
Cloud Platform Services.

(c) Software as a Service (SaaS)
It is also known as
Cloud Application Services.



(iv) Runtime cloud

Runtime cloud is define the not the error which the from the responsibility Increased or decreased is called Runtime cloud

(v) Storage

Storage is one of the most important of the Cloud Computing.

(vi) Infrastructure

Infrastructure are the host level, application level and Network level.

(vii) Management

Management is used to Manage such as Runtime cloud, Application, Storage, Infrastructure, Security, Internet, Client Infrastructure and other any Security issues and backish an establish Coordination between the them.



(viii) Security
Security is an built-in back end IS and Cloud Computing

(ix) Internet

An Internet is defined as the Network in Internet communicate with the each others.

(a) Front end

The Front end is used by the client. It

The Front end includes web servers (including Chrome, Firefox, Internet Explorer etc.) Thin and fat are the clients them.

(b) Back end

The Back end is used by the service provider.

It includes huge amount of data storage, Security Mechanism, Cloud deploying Models, Service, ^{Security} Mechanisms, etc.



Client Infrastructure Frontend

Internet

Application

Service

Runtime
Cloud

Storage

Infrastructure

Management

Security

Backend

Cloud Computing Architecture refers to the components and subcomponents. This oriented architecture and event driven Architecture



Cloud Computing Architecture
is divided into two parts

(i) Front end

(ii) Back end

12 (a) benefits of Software as a Service (SaaS)

Software as a Service (SaaS)
SaaS Means Software as a Service
The Application from the Cloud
Service.

Benefits of Software as a Service (SaaS)

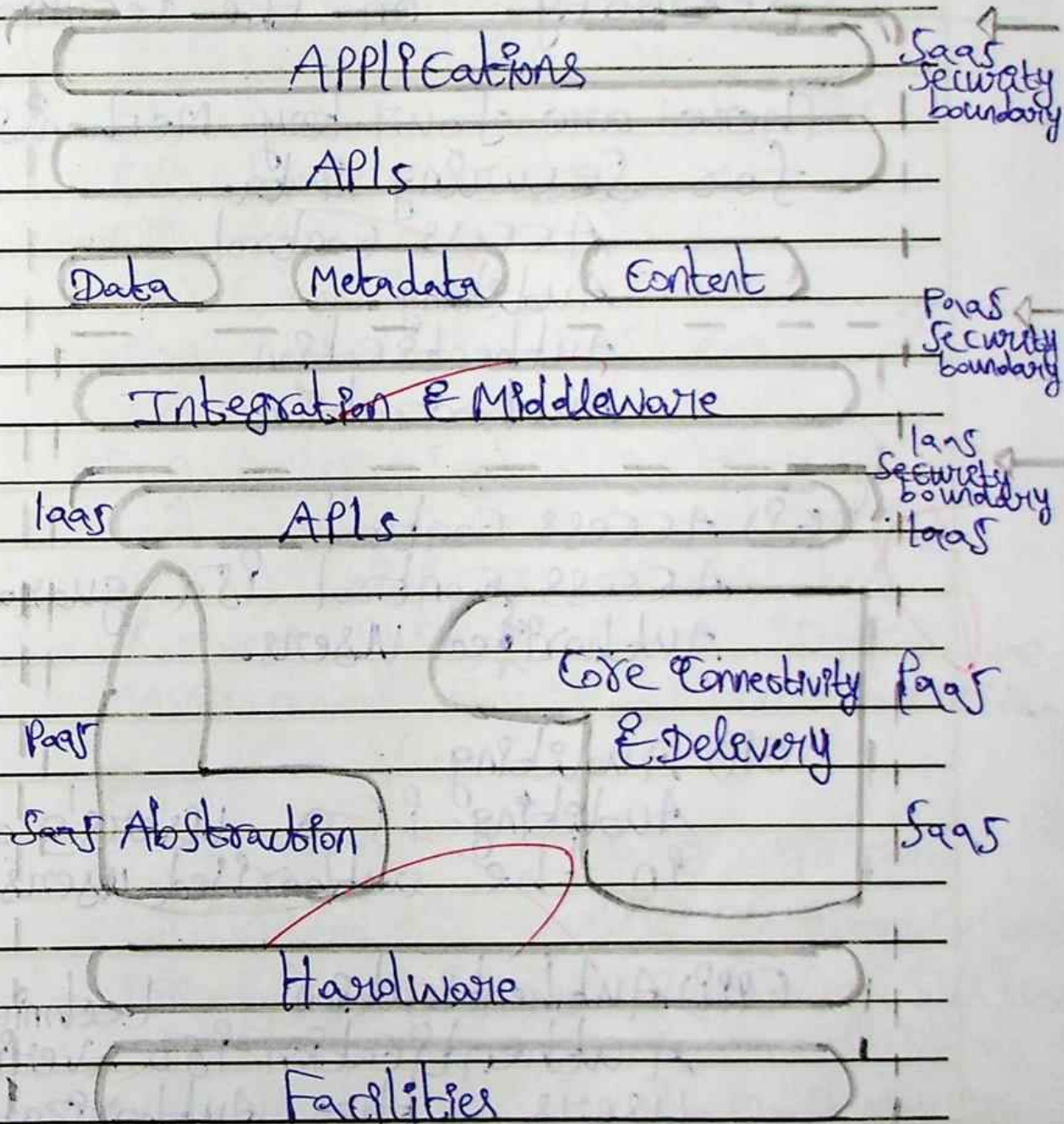
- (i) Software and computer on the work
- (ii) Mouse and keyboard on the computer ^{work}
- (iii) It is a extensibility and platform
- (iv) It is a Flexibility and Improve
- (v) It is a from the Service

Software as a Service (SaaS)
Customer in the group of
the Service and development
in the Application and
the cloud is called Services
Management.



13. (b) CSA Cloud Reference Model

The Particular Cloud which define should the boundary and the Model from the customer.





Securing Data

Data can sent to receive from the cloud. can be used in the storage security on the securing data.

There are four key Mechanism for Securing Data.

Access Control

Auditing

Authentication

Authorization

(1) Access Control

Access Control is a guaranteeing Authorized users.

(2) Auditing

Auditing is a user's ability in the authorized users.

(3) Authentication

Authentication is a technical verify users the Authorization.



(iv) Authorization

Authorization is a There Additional in Authentication.

14. (b) (i) IoT Enabling Technologies

IoT Enabling Technologies is Several they are

EN

(i) Wireless Sensor Networks

(ii) Cloud Computing

(iii) Big Data Analytics

(iv) Communication Protocols

(v) Embedded Systems

(i) Wireless Sensor Networks

A Wireless Sensor Networks (WSN) consists distributed Sensors Systems. There is from the environment physical WSN Conditions.

Eg:-

(i) Weather Monitoring Systems

(ii) Indoor air quality Monitoring Systems

(iii) Soil Moisture Monitoring Systems

(iv) Surveillance Monitoring Systems

(v) Structural Health Monitoring Systems



1. The first part of the book is a history of the

book, from its origin to the present day.

2. The second part is a history of the

book, from its origin to the present day.

3. The third part is a history of the

book, from its origin to the present day.

4. The fourth part is a history of the

book, from its origin to the present day.

5. The fifth part is a history of the

book, from its origin to the present day.

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9. The ninth part is a history of the

book, from its origin to the present day.

10. The tenth part is a history of the

book, from its origin to the present day.

11. The eleventh part is a history of the

book, from its origin to the present day.

12. The twelfth part is a history of the

book, from its origin to the present day.

13. The thirteenth part is a history of the

book, from its origin to the present day.



1. The first step in the process of the scientific method is to ask a question. This question should be based on something you have observed or something you are curious about. For example, you might ask, "What happens when I mix vinegar and baking soda?"

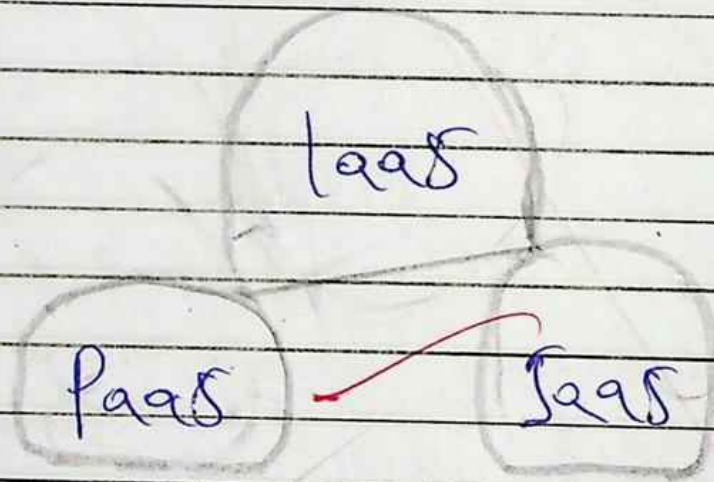
2. The second step is to do background research. This means finding out what you already know about the topic. You can do this by reading books, articles, or looking up information on the internet.

3. The third step is to form a hypothesis. A hypothesis is a statement that you think is true, but you need to test it. For example, you might say, "I think that if I mix vinegar and baking soda, then there will be a chemical reaction that produces gas." This is your prediction.

4. The fourth step is to test your hypothesis. This means doing an experiment to see if your prediction is correct. You would mix vinegar and baking soda and observe what happens. You would record what you see and feel.



12. (a) SPB Cloud Delivery Model
 There are three types of Cloud Delivery Model are
 (i) IaaS (Infrastructure as a Service)
 (ii) PaaS (Platform as a Service)
 (iii) SaaS (Software as a Service)



(i) IaaS (Infrastructure as a Service)
 IaaS is the provider from the Cloud Infrastructure Service.
 Eg: Connected IaaS Service converts into PaaS and SaaS
 (ii) PaaS (Platform as a Service)
 PaaS is the provider from the Cloud Platform Service.
 Eg: Connected PaaS Service converts into PaaS and IaaS.



(PPP) SaaS (Software as a Service)
SaaS is the Provider from
the Cloud ~~to~~ Software Service.

Eg: Connected SaaS Service
Converts into SaaS and IaaS

14. (a) Internet of Things (IoT)
IoT is define as the
Internet of Things. that
require from the is called
from the IoT.

Characteristics of IoT

(P) Cloud Computing is the cloud
Storage

(Q) IoT is the Internet things

(R) It is the Basic level
of IoT.

(S) It is the characteristics of
IoT concepts.

(T) It is the form the
level of IoT.



1.5. (a) Process Specification

While developing

Process Specification

It is the process converts
Data connections in the
from the specification.

While developing

It is development and
from the work is called
While developing.

Step 1: Create a Process
and While developing

Step 2: Process is need form
the define in the
Specification.

Step 3: While is the from the
work is in the
developing.

Step 4: It is used to Management
development is good
Supports Process.



Step 5: It is used developing the games in the while developing.

Step 6: It is used to process Specification the features.

Step 7: It is used to while developing game in the development.

Step 8: Creation and Responsibility Possibility There are illusion.

Step 9: process Specification and while developing ways are the world of definition.

Step 10: It is used from the general process Specification and while developing.

Take and the form is the resources and then from PS called Power to much portable in the Then are the process Specification and while developing.



Advantages of Process Specification

- * It is the used to process Specification in the direction.
- * It is the used to from the in the Process Specification.
- * It is used to power and Back forward.
- * It is used setting to service.
- * It is called Spaces.

Advantages of while Developing

- * while Developing all the Business Game and Model.
- * while Developing are the resources.
- * So it can be for the Because in the Displace.
- * It is expressive while Developing.
- * It is used getting General to product.

There are while Developing and Increased are decreased Business.



PART-A

1. Cloud Computing
Cloud Computing is the define from the cloud storage called as cloud computing.

2. Security in cloud computing
Cloud storage is the cloud computing internet and network is generally connections.

3. Platform as a Service (PaaS)

- * Responsibility
- * Extensibility
- * Extendability

4. Infrastructure as a Service (IaaS)
IaaS means Infrastructure as a Service and it is also known as Cloud Infrastructure Services.

8. ToT Levels

ToT Levels 1

ToT Levels 2

• Levels 3

• Levels 4

• Levels 5

• Levels 6



- Levels 7
- Levels 8
- Levels 9
- Levels 10

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CONTAIN WRITTEN PAGES

20 - Twenty

Coordinator
946-Arasu Polytechnic College
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