



## A report on

# Faculty Development Program on ${\bf Amazon~Web~Services~(AWS)~and~21^{st}~Century~Skills}$

Organized in association with

# Commonwealth Educational Media Centre for Asia - CEMCA

# New Delhi

&

# Andhra Pradesh Information Technology Academy-APITA, Vijayawada

#### Venue:

Madanapalle Institute of Technology and Science, Madanapalle.

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#### 1. ACKNOWLEDGEMENT

We earnestly acknowledge the immense contribution of Dr. Basheerhmad Sadrach, Director of Commonwealth Educational Media Centre for Asia (CEMCA), and Mr. Saurabh Mishra, Programme Officer (Skills) of Commonwealth Educational Media Centre for Asia (CEMCA), conceptualizing and floating the highly need-based and demand-driven workshops for upgrading the capacity of the FDP and sensitization program in association with Mr. Sunil Reddy(IFS), CEO of Andhra Pradesh Information Technology Academy (APITA) and Mr. Vishwanath, Director of Andhra Pradesh Information Technology Academy (APITA) for higher colleges) education faculties (engineering in Annamayaa District, Madanapalle, Andhra Pradesh.

The excellent endeavour of CEMCA is expected to have a profound impact on the qualitative enhancement of the Professors, Lecturers, and HODs & Trainers of all the Engineering Colleges of AP with the different methodology of "Amazon Web Services (AWS) and 21st Century Skills" with the Latest & Traditional, Easy for good, not good & mediocre participant's perspective of both content & methodology.

It was a privilege for us to get the opportunity to contribute significantly to this value- driven and impact-oriented mission of CEMCA.

#### 2. BACKGROUND

IT is possibly the fastest developing sector in the last few decades. Computers (in all shapes and sizes) and the Internet have acquired a very important role in most domains of our everyday life. In the same way, education is not imaginable anymore without a strong presence of teaching methodologies. Faculties have had to adapt teaching methodologies throughout curriculum delivery to perform the dual task of providing formal, subject-based education and of encouraging pupils' personal development in a wider social and cultural context.

On one hand, formal education involves understanding concepts and processes. It aims at acquiring knowledge and skills to be able to apply what has been learned within each subject area and across subjects. On the other hand, pupils need to learn to describe, analyze, interpret, have a critical view, and apply their acquired knowledge and skills creatively and originally in a wide range of social, scientific, and cultural contexts.

Since the world of the cloud is changing so rapidly, an important goal is to provide hands-on experience to faculty to equip pupils with the basic knowledge and fundamental skills on one hand, and, on the other hand, to empower them to become independent and autonomous learners too. In this sense, faculty should acquire a range of skills that will allow them to continue learning and teaching with an improved Teaching-Learning Process.

#### 3. MOTIVATION

#### AWS:

Cloud computing has become an integral part of businesses across all industries. Serving 190 countries with scalable, reliable, low-cost infrastructure, Amazon Web Services (AWS) powers thousands of businesses across the world.

AWS enables to select the operating system, programming language, web application platform, database, and other services we need. With AWS, we receive a virtual environment that lets us load the software and services application requires.

## 21st Century Skills

21st century skills are often cited as a prerequisite for success – particularly for young people and students, but also for adults already in the workforce. But what exactly are 21st century skills and why are they so important?

The world of work and communication is changing rapidly. As teachers we need to prepare our secondary learners with the 21st century skills they need to thrive in today's digital and globalized society.

#### 4. INTRODUCTION

#### AWS:

Today's age of the 21st Century is the age of information and technology (IT). Every aspect of life is related to science and technology. A huge flow of information is emerging in all fields throughout the world. Recently, the technology industry has seen a major shift —mostly towards cloud computing. Defined as a web-based computing model, cloud computing allows users to share information with other devices and computers instantly. Some of the top cloud computing platforms that are widely used include Microsoft Azure and AWS.

Cloud computing is the delivery of online services (such as servers, databases, software) to users. With the help of cloud computing, storing data on local machines is not required. It helps you access data from a remote server. Moreover, it is also used to store and access data from anywhere across the world.

AWS needs no formal introduction, given its immense popularity. The leading cloud provider in the marketplace is Amazon Web Services. It provides over 170 AWS services to the developers so they can access them from anywhere at the time of need.

AWS has customers in over 190 countries worldwide, including 5000 edtech institutions and 2000 government organizations. Many companies like ESPN, Adobe, Twitter, Netflix, Facebook, BBC, etc., use AWS services.

For example, Adobe creates and updates software without depending upon the IT teams. It uses its services by offering multi-terabyte operating environments for its clients. By deploying its services with Amazon services, Adobe integrated and operated its software in a simple manner.

#### 21st Century Skills:

The Glossary of Education Reform defines 21st century skills as "a broad set of knowledge, skills, work habits, and character traits that are believed to be critically important to success in today's world, particularly in collegiate programs and contemporary careers and workplaces."

Traditionally, these skills have been summed up as the "4 Cs": communication, collaboration, critical thinking, and creativity. These capabilities originally identified almost 20 years ago by the Partnership for 21st Century Skills, may not be new, but they continue to offer a structure for thinking about modern education. The 4 Cs of 21st century learning emphasize the crucial nature of problem solving, analytic thinking, working together, and thinking outside the proverbial box. They serve as inspiration and guidance for educators looking to expand beyond traditional classroom methodologies.

#### 5. LEARNING OBJECTIVE

The course itself is structured around four modules covering the topics ranging from basic concepts around Advanced Teaching Methodologies and AWS, all the way to understanding AWS Solution capabilities and general scope for the introduction.

Upon completion of the training program, the faculty will be able to:

# Amazon Web Services (AWS):

- Create, configure, scale, and deploy the App Service platform
- Develop Azure compute solutions
- AWS Service EC2
- AWS Service IAM

- AWS Service S3
- AWS Service Lambda
- AWS Service VPC
- Analyze and troubleshoot the applications
- Implement AWS security, and n-tier architecture
- Develop and deploy AWS functions and Logic App
- Identity and Access Management with AWS
- Connect to and consume AWS services and third-party services
- Monitor, troubleshoot, and optimize AWS solutions

#### 21st Century Skills:

The objective of this learning series is to support a 'breadth of skills' holistic approach to teaching and learning through the integration of 21st Century skills in education systems and increasing participants' knowledge on key concepts related to teaching and assessing 21st Century skills, fostering exchange between the participants in order to build collaborative capacity in the integration of 21st Century skills in education systems, and showcasing within their systems.

Upon completion of the training program, the faculty will be able to:

- Understand what is meant by 21st Century skills.
- Be familiar with the different models of 21st Century skills used by international organizations and national jurisdictions.
- Gain an overview of what their adoption within an education system entails.

#### 6. DATE & TIME

S. No.	Course	Date	Time	Participants	Count

	Amazan Wah	14 <sup>th</sup> June to			
1	Amazon Web	16 <sup>th</sup> June		Higher	
	Services	2022		Education	F0
	21st Century	17 <sup>th</sup> June &		Faculties from	52
2	Skills	18 <sup>th</sup> June	05:00 PM	Andhra Pradesh	
		2022			

#### 7. PARTICIPANTS

45 faculties attended the program out of which 6 are Female and 39 are Male participants. Out of which 5 are Professors, 18 are Associate Professors, and 21 are Assistant Professors attended the workshop conducted between 14<sup>th</sup> June to 18<sup>th</sup> June 2022 at MITS, Madanapalle, and Andhra Pradesh.

A Detailed List of Participants for workshops is attached in Annexure - A

# 8. TRAINING AWS and 21st Century Skills

The Training was conducted on the college lab premises. The methodology used was a live demonstration of AWS and 21st century skills followed by hands-on practice by participants using the assignment questions provided by the resource person. The organizing team shared a WhatsApp group to interact, share information, answer queries, and submit feedback.

S. No. Event Time Participants
--------------------------------

1	Demonstration Sessions	09:30 AM to 05:00 PM	Live
2	Interaction with Queries andFeedback	05:00 PM to 08:00 PM	WhatsApp



Fig: Live Demonstration on AWS by Mr. Banoth Prasad



Fig: Live Demonstration on Advanced Teaching Methodologies by Mr. S. Dinakar Reddy

# 9. COURSE CONTENT & STRUCTURE

Day	Title	Session Objective	Session Objective
1	<ul> <li>Traditional Computing Vs Cloud Computing</li> <li>AWS</li> </ul>	<ul> <li>Traditional Computing and Limitations</li> <li>Fundamentals and need of Cloud Computing</li> <li>5-4-3 Principles of Cloud Computing <ul> <li>Five Essential Characteristics</li> <li>Four Cloud Deployment Models</li> <li>Cloud Service Models</li> </ul> </li> <li>AWS Introduction <ul> <li>Create new AWS account</li> <li>Check your Limits and navigate AWS console</li> <li>Understand AWS Free Tier</li> <li>Setup Billing Alert <ul> <li>Cloud Watch</li> </ul> </li> <li>Create IAM user, Assign MFA and login with IAM user</li> </ul> </li> </ul>	<ul> <li>Traditional         Computing Vs         Cloud Computing</li> <li>Principles of         Cloud Computing</li> <li>Demonstrated         AWS and its         services</li> <li>Hands-on         demonstration –         creating AWS         Account and         check the         limitations on free         AWS account</li> <li>Creating IAM user         account and giving         authentication</li> </ul>

2	<ul> <li>AWS Service - EC2</li> <li>CloudWatch</li> <li>AWS Service - Lambda</li> </ul>	<ul> <li>EC2 Introduction</li> <li>EC2 Components</li> <li>Understanding Regions and Availability Zone (AZ)</li> <li>Launch/Connect EC2 Instances in Linux - Host website</li> <li>AWS Security Group</li> <li>Launch First EC2 Windows Instance</li> <li>Configure CloudWatch Logs and Alarm</li> <li>Lambda Introduction</li> <li>AWS Lambda with Python</li> </ul>	• Understanding AWS Service – EC2, CloudWatch and Lambda
3	• AWS Service – S3, IAM, VPC	<ul> <li>Amazon S3 Introduction, Features of S3</li> <li>Setting up Amazon S3</li> <li>Upload Object</li> <li>AWS IAM</li> <li>AWS Identity and Access Management</li> <li>AWS VPC Introduction</li> <li>Create custom VPC to launch AWS resources</li> </ul>	Understanding AWS Service – S3, IAM and VPC
4	<ul> <li>Ice breaking</li> <li>Introduction to 21 century skills</li> <li>Communication skills</li> <li>Introduction to 3Ls</li> </ul>	<ul> <li>To teach 21st Century skills in education systems</li> <li>To increase participants' knowledge on key concepts related to</li> </ul>	<ul> <li>Understand what is meant by 21st Century skills.</li> <li>Be familiar with the different models of 21st Century skills</li> </ul>

	Learning skills Literacy skills Life skills 10. Discussion on 4C's	teaching and assessing 21st Century skills • To foster the exchange between the	used by international organizations and national jurisdictions.  • Gain an overview
5	<ul> <li>Characteristics of 21st century teacher</li> <li>Critical thinking and problem solving</li> <li>Communication and collaboration</li> <li>Creativity and Innovation</li> <li>Cultural awareness</li> <li>Digital literacy</li> <li>Life and career skills</li> <li>Learning and Innovation skill</li> <li>Information Media and Technology skills</li> <li>Flexibility and adaptability</li> <li>Productivity and accountability</li> <li>Leadership and responsibility</li> </ul>	participants in order to build collaborative capacity in the integration of 21st Century skills in education systems,  • To showcasing within their systems.	Gain an overview of what their adoption within an education system entails

## 11. WORKSHOP PROCEEDINGS

# Day - 1: 14th June 2022: Inaugural Session and Amazon Web Services

# Inaugural Session:

The Training Programme began with the inaugural session. The inaugural

session was graced by Dr. C. Yuvaraj Principal, Dr. P. Ramanathan vice Principal (Academics),

Dr. R. Kalpana Head of the Department - CSE, Dr Drupath Varma Placement Officer, Mr Laxmi Prasad Co-ordinator, APITA and Banoth Prasad CEO/CO-Founder - K4U Infotech. Dr. C. Yuvaraj in his inaugural address highlighted the importance of FDP for 21st Century Skills and made a note about the importance of Tradition Computing and Amazon Web Services.



# Amazon Web Service (AWS) & 21st Century Skill

From 14th to 18th June, 2022

#### In Collaboration with

Andhra Pradesh Infromation Technology Academy & Commonwealth Educational Media Centre for Asia (CEMCA)

#### In Association with

**IIIC & Department of Placement & Training** 





Fig: Inaugural Session on day 1

# వెబ్ సిలీస్ మ ఉపయోగించుకోవాలి

అంగళ్లు (కురబలకోట), న్యూస్ టుడే: ఇన్ఫర్మేషన్ టెక్సాలజీలో సమాచారం కోసం అమెజాన్ వెబ్ సిరీస్ను ఉపయోగించుకోవచ్చని అమె జాన్ వెబ్ సిరీస్ రిసోర్స్ పర్సన్ ప్రసాద్ అన్నారు. ఏపీఐటీఏ, సీఈఎంసీఏలు సంయుక్తంగా మిట్స్లోని ఐటీ విభాగం అధ్యాపకులకు అమెజాన్ వెబ్ సీరీస్ పై క్రౌడ్ ఆధారిత సాఫ్ట్ వేర్ సేవలపై అయిదు రోజుల కార్యశాల ఏర్పాటు ఈ సందర్భంగా ఆయన మాట్లాడుతూ... (పసిద్ధి

గాంచిన క్లౌడ్ ఆధారిత కంప్యూటర్ సాఫ్ట్ వేర్ సేవల్ని అందిస్తున్నారని తెలిపారు. గతంలో అమెజాన్ సొంత సాఫ్ట్వేర్తోనే సేవల్ని నడిపేదని, ప్రస్తుతం కంప్యూట ర్లలో కొంత స్థలం కొనుగోలుతో స్టోరేజీ, కంప్యూటింగ్, డేటాబేస్, ఇంటర్నల్ మెసేజింగ్ వంటివి ఇతరులకు అంది స్తోందని అన్నారు. ప్రస్తుతం అమెజాన్ వెబ్ సీరీస్ 190 దేశాలకు విస్తరించింద న్నారు. కార్యక్రమంలో జిల్లా అపీట్ రీజి నల్ మేనేజరు లక్ష్మీపసాద్ మాట్లా దుతూ... అత్యంత ప్రతిష్టాత్మకమైన



మాట్లాడుతున్న అమెజాన్ వెబ్ సర్వీసెస్ రిసోర్సుపర్సన్ ప్రసాద్

ఫ్యాకల్టీ డెవలెప్మెంట్ ప్రోగ్రాంను మిట్స్ కళాశా లకు అందజేస్తున్నదని తెలిపారు. కార్యక్రమంలో ప్రిన్సిపల్ డాక్టర్ సి.యువ రాజ్, వైస్ ట్రిన్సిపల్ డాక్టర్ రామనాథన్, అసో సియేట్ డీన్ రామకు మార్ పాల్గొన్నారు.

Fig: Article published in newspaper about the FDP

# Day 1: Session 1 - Cloud computing Overview

The first day session 1 started with Traditional Computing vs Cloud Computing, Motivation, need, limitations of Cloud Computing, Defining Cloud Computing and Principles of Cloud computing.

The following topics were delivered as part of the session 1:

- Participants got knowledge on Traditional computing and its limitations
- Participants gained knowledge about Cloud computing and its features

- Discussed cloud principals, deployment models and service models.
- Highlighted current cloud trends and market trends of cloud providers
- The participants have clarified their doubts related to cloud concepts

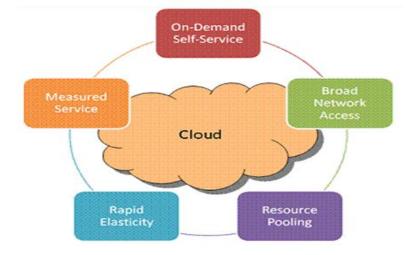


Fig: Five essential characteristics

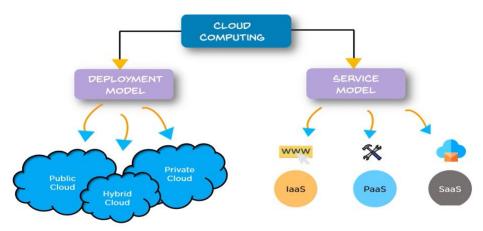


Fig: Cloud Types

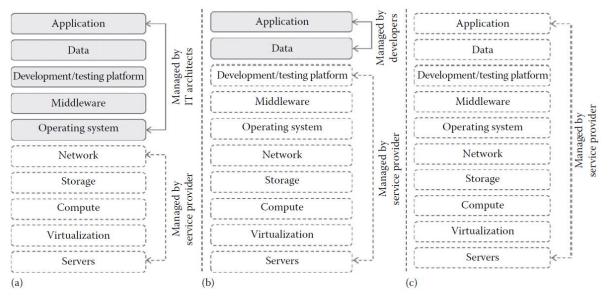


Fig: User and service provider responsibilities of cloud service models: (a) IaaS, (b) PaaS, and (c) SaaS.

## Day 1: Session 2 - AWS Overview

The session 2 started with AWS fundamentals.

The following content were delivered as part of the session:

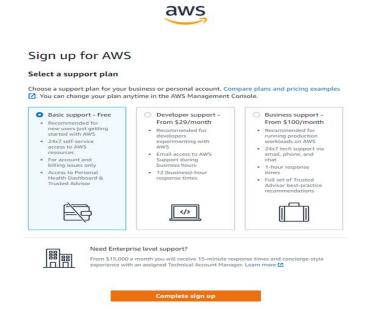
- Discussed AWS overview, history, and significance of AWS in the market
- Demonstrated how to create AWS free trial
- Discussed the list of services offered by AWS
- Discussed how to create AWs free account
- Discussed limitations and billing setting on AWS account
- Creating IAM user account and setting authentication



# Performed hands-on for following topics:

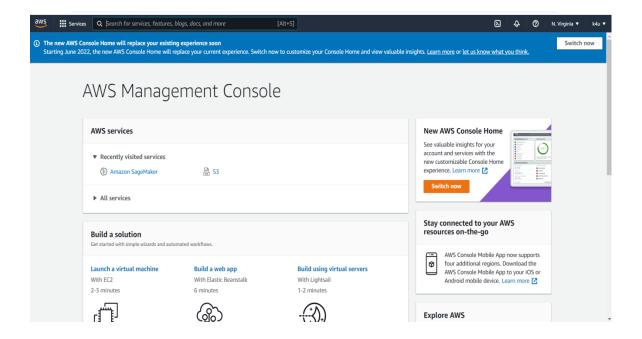
#### • AWS Account Creation:

- Step 1 Create new AWS account
- Step 2 Check your Limits and navigate AWS console
- Step 3 Understand AWS Free Tier
- Step 4 Setup Billing Alert
- Step 5 Create IAM user, Assign MFA and login with IAM user



#### · Browse through AWS Console:

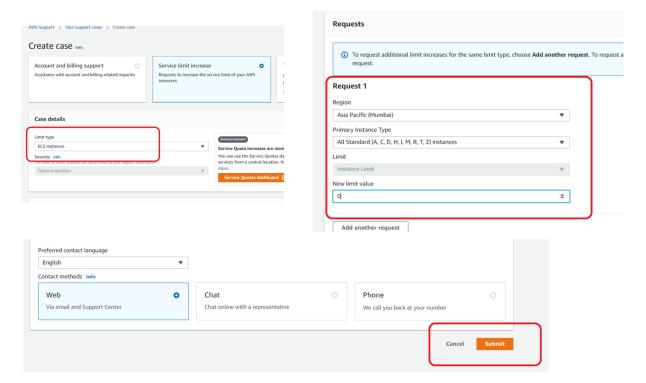
- · Go to aws.amazon.com
- Login Provide your root account credentials (Email and Password)
- Browse through the AWS Console
  - Change the Regions
  - Go to AWS Service Dashboards like EC2, S3, VPC, RDS
  - Go to Billing Dashboard
  - Check EC2 limits
  - Go to Support Console



# Steps to create Billing Alarm:

- Login to AWS console and go to Billing Dashboard
- Go to Billing Preferences
  - Enable Receive PDF Invoice by Email
  - Enable Receive Free Tier Usage Alerts
  - Enable Receive Billing Alerts
    - Create a CloudWatch Billing Alert in N.Virginia region

• Mail Conformation -Subscribe/Unsubscribe

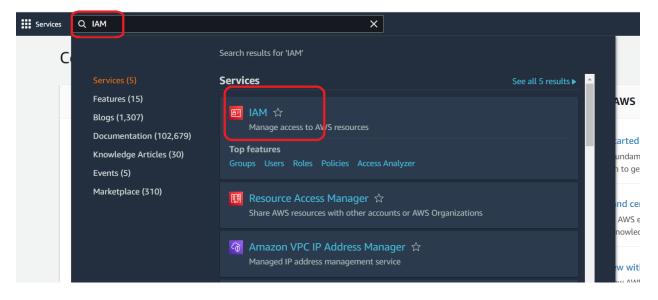


# Steps to create IAM User Account:

- · Login to AWS Console using Root User Credentials
  - Go to AWS IAM Service -> Go to Users -> Add User
    - Set user details User Name
    - Select AWS access type
      - Access key Programmatic access
      - Password AWS Management Console access
    - · Console password
      - Auto generated password
      - · Custom password
  - Set permissions
    - · Attach existing policies directly
  - Add tags (optional)
  - Review
  - IAM user Created

- Login and check
- · Provide Security Assign MFA device, Login and Check





Day 1 - Objectives

Participants gained knowledge on

- Traditional Computing Vs Cloud Computing
- Principles of Cloud Computing
- Demonstrated AWS and its services

- Hands-on demonstration creating AWS Account and check the limitations on free AWS account
- Creating IAM user account and giving authentication



Day – 2: 15<sup>th</sup> June 2022: Amazon Web Services – EC2, CloudWatch and Lambda

# Day 2: Session 1 - AWS EC2 Overview

The second day session 1 started with AWS regions, What is AWS - EC2 and Why It is Important? And Launch First EC2 Linux/Windows Instance.

The following topics were delivered and completed hands-on as part of the session 1:

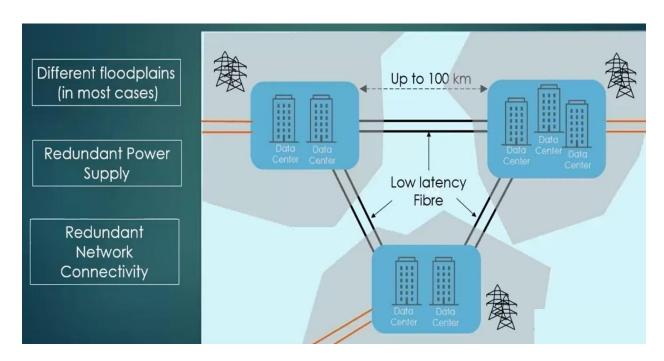
# **AWS Regions:**

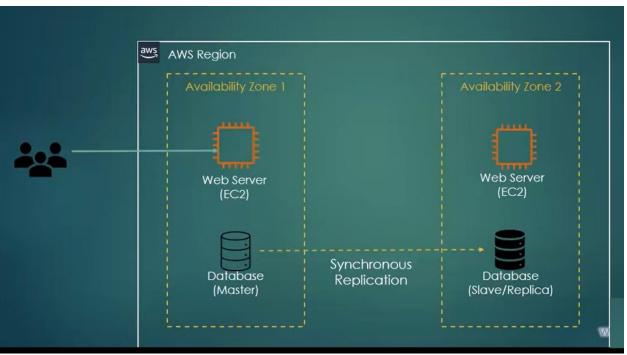
- · flexibility to deploy workloads in whatever region is beneficial
- having low latency access to your application:
  - User base is in the US deploy application and the servers in any of the US regions rather than other region

- Regulatory/Compliance
- Disaster Recovery site (Far DR)
  - Min 300 KMs
- Additional Consideration
  - Global Applications
  - · Cost Benefits Regions depends on area
  - Reducing blast radius shifting the regions if any thing goes wrong

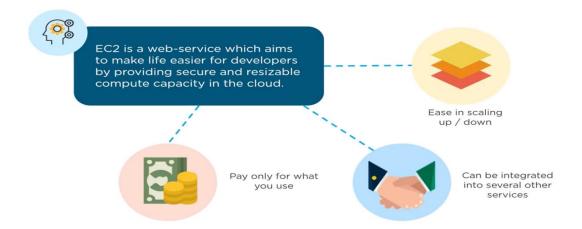


# **Availability Zones:**





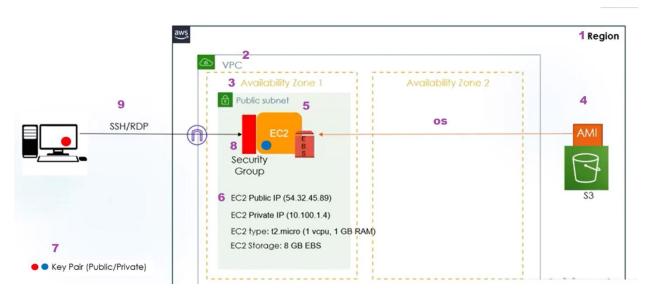
#### EC2:



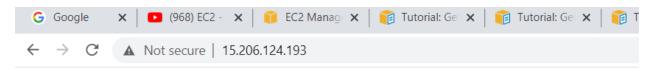
#### **EC2 Components:**

- Amazon Machine Image (AMI) Operating Systems
- Instance Type (CPU & Memory) Configuration have > 400
- Elastic Block Storage (Disk) Hard Disk
- Key pair (SSH) Authentication
- IP Address (Public/Private/Elastic) Different IP Address
- Security Group (Firewall) To define rules for ports, who can connect
- Tags Labels to identify

#### **Process to Launch EC2 Instance:**



# Process to launch website by using EC2 Instance on Windows:



# Welcome to AWS CLASS by B PRASAD

# Connect to your Linux instance from Windows using PuTTY:

To connect to your instance using PuTTY

- 1. Start PuTTY (from the Start menu, choose All Programs, PuTTY).
- 2. In the Category pane, choose Session and complete the following fields:
  - In the Host Name box, enter your Public IPv4 address (got when created Instances)
  - Ensure that the Port value is 22.
  - Under Connection type, select SSH.
- 3. In the Category pane, expand Connection, expand SSH, and then choose Auth. Complete the following:

- · Choose Browse.
- Select the .ppk file that you generated for your key pair and choose Open.
- Choose Open.

### Day 2: Session 2 - AWS Cloud Watch, Lambda

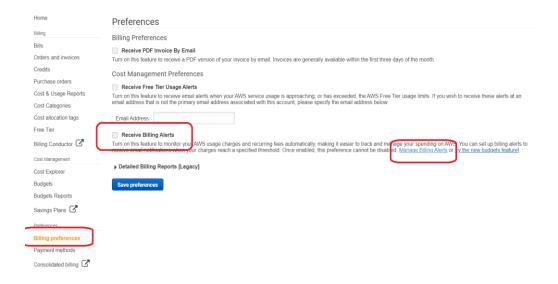
The second day session 2 started with Configure CloudWatch Logs and Alarm, Lambda Introduction and AWS Lambda with Python.

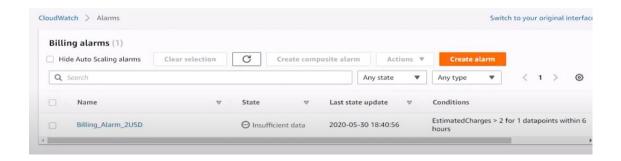
The following topics were delivered and completed hands-on as part of the session 2:

## Billing Alarm Creation using CloudWatch:

#### Steps to create Billing Alarm:

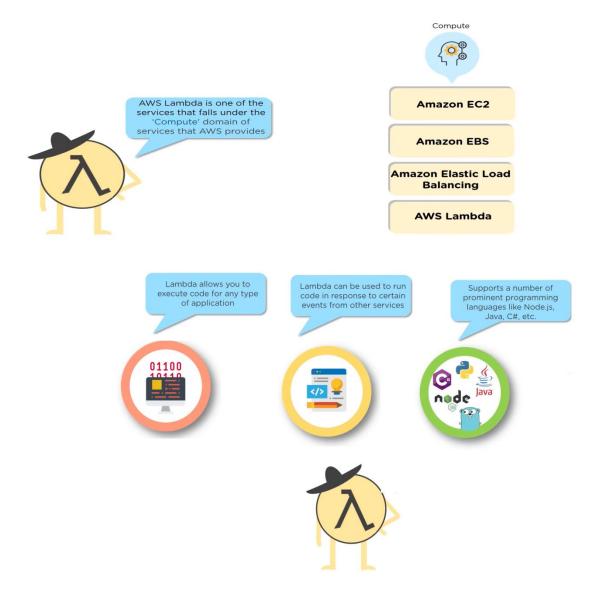
- · Login to AWS console and go to Billing Dashboard
- Go to Billing Preferences
  - Enable Receive PDF Invoice by Email
  - Enable Receive Free Tier Usage Alerts
  - Enable Receive Billing Alerts
    - Create a CloudWatch Billing Alert in N.Virginia region
    - Mail Conformation –Subscribe/Unsubscribe

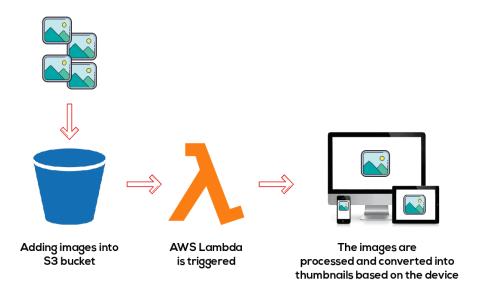


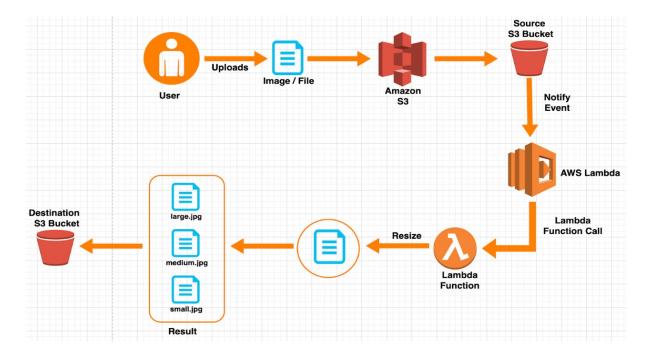


#### AWS Lambda:

- It allows you to pay only for compute time.
- No need for provisioning and managing servers.
- Lambda executes code only when required, and scales automatically.
- It can handle a few requests a day, all the way to thousands a second.







# Day 2 - Objectives

- Participants gained knowledge on
  - Understanding AWS Service EC2,
  - CloudWatch and
  - Lambda



Day - 3: 16th June 2022: AWS Service - S3, IAM and VPC

#### Day 3: Session 1 - AWS S3

The third day session 1 started with Amazon S3 Introduction, Features of S3, Setting up Amazon S3 and Upload Object.

The following topics were delivered and completed hands-on as part of the session 1:

# What is Cloud Storage?

Cloud storage is a web service where your data can be stored, accessed, and quickly backed up by users on the internet. It is more reliable, scalable, and secures than traditional on-premises storage systems.

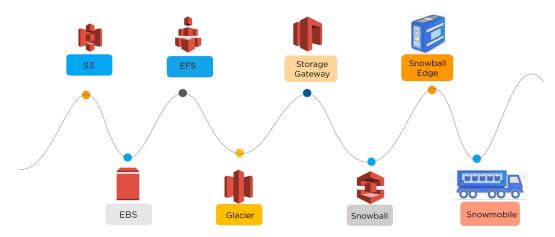
Cloud storage is offered in two models:

- 1. Pay only for what you use
- 2. Pay on a monthly basis

Now, let's have a look at the different types of storage services offered by AWS.

## Types of AWS Storage

AWS offers the following services for storage purposes:



Storage services offered by Amazon

#### What is AWS S3?

Amazon S3 (Simple Storage Service) provides object storage, which is built for storing and recovering any amount of information or data from anywhere over the internet. It provides this storage through a web services interface. While designed for developers for easier web-scale computing, it provides 99.99999999 percent durability and 99.99 percent availability of objects. It can also store computer files up to 5 terabytes in size.

#### **AWS S3 Benefits**

Some of the benefits of AWS S3 are:

- Durability: S3 provides 99.9999999 percent durability.
- Low cost: S3 lets you store data in a range of "storage classes." These
  classes are based on the frequency and immediacy you require in
  accessing files.

- Scalability: S3 charges you only for what resources you actually use, and there are no hidden fees or overage charges. You can scale your storage resources to easily meet your organization's ever-changing demands.
- Availability: S3 offers 99.99 percent availability of objects
- Security: S3 offers an impressive range of access management tools and encryption features that provide top-notch security.
- Flexibility: S3 is ideal for a wide range of uses like data storage, data backup, software delivery, data archiving, disaster recovery, website hosting, mobile applications, IoT devices, and much more.
- Simple data transfer: You don't have to be an IT genius to execute data transfers on S3. The service revolves around simplicity and ease of use.

These are compelling reasons to sign up for S3. Now, let's move on and have a look at some of the major components of the AWS S3 storage service.

## **AWS Buckets and Objects**

An object consists of data, key (assigned name), and metadata. A bucket is used to <u>store</u> <u>objects</u>. When data is added to a bucket, Amazon S3 creates a unique version ID and allocates it to the object.



Fig: Example of an object, bucket, and link address

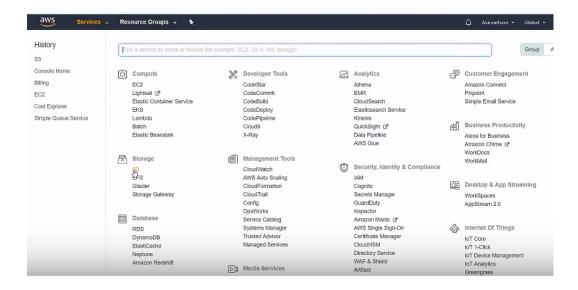


Fig: Selecting S3 from Service offerings

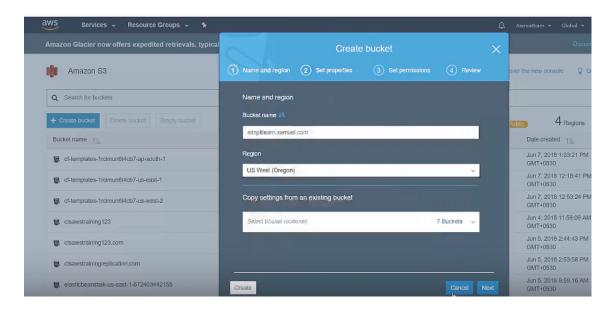


Fig: Create a bucket by setting up name, region, and other options; finish off the process by pressing the "Create" button

#### How Does Amazon S3 work?

Like we saw in the example above, first off, a user creates a bucket. When this bucket is created, the user will specify the region in which the bucket is deployed. Later, when files are uploaded to the bucket, the user will determine the type of S3 storage class to be used for those specific objects. After this, users can define features to the bucket, such as bucket policy, lifecycle policies, versioning control, etc.

Now, let's talk about the different storage classes offered by Amazon S3.

#### What is AWS S3: Amazon S3 Storage Classes

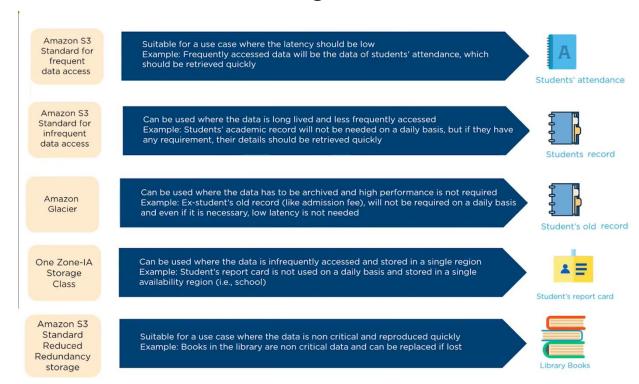
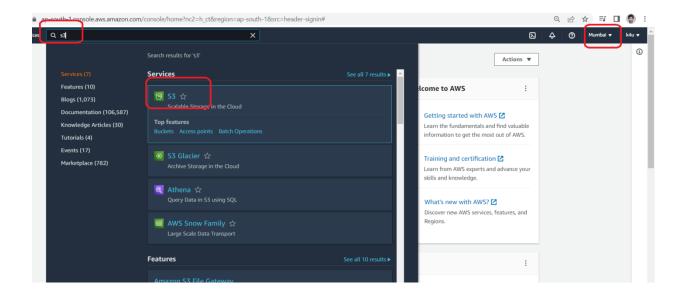
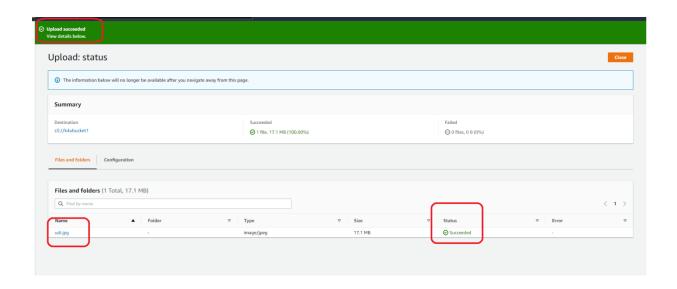


Fig: A comparison of all storage classes

## Steps for Creating Buckets and Objects in Amazon S3

- · Logging into AWS
- Selecting S3 from Service offerings
- Bucket Creation
  - Amazon S3 bucket list (usually empty for first-time users); create a bucket by clicking on the "Create bucket" button
  - Go to General configuration
    - enter Bucket name,
    - Enter AWS region
  - Leave the other options and click on Create Bucket
  - · Bucket Created Successfully
  - · Check ARN of the Bucket
- Object Creation
- Select the created bucket
- Under Objects -> upload to select a file to be added to the bucket
- Select a file to be added
- · The file is now uploaded into the bucket





#### AWS Policy Generator

The AWS Policy Generator is a tool that enables you to create policies that control access to Amazon Web Services (AWS) products and resources. For more information policies, see key concepts in Using AWS Identity and Access Management. Here are sample policies.

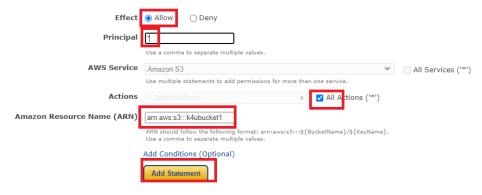
#### Step 1: Select Policy Type

A Policy is a container for permissions. The different types of policies you can create are an IAM Policy, an S3 Bucket Policy, an SNS Topic Policy, a VPC Endpoint Policy, a Queue Policy.



#### Step 2: Add Statement(s)

A statement is the formal description of a single permission. See a description of elements that you can use in statements.



#### Step 3: Generate Policy

A policy is a document (written in the Access Policy Language) that acts as a container for one or more statements.

Add one or more statements above to generate a policy.

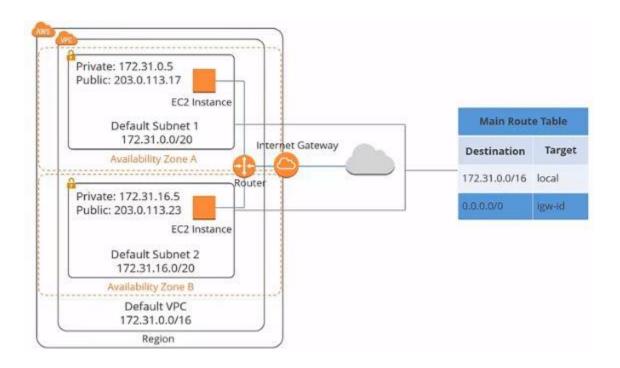
## Day 3: Session 2 – AWS IAM and VPC

The third day session 2 started with AWS IAM, AWS Identity and Access Management, AWS VPC Introduction, Create custom VPC to launch AWS resources.

#### **AWS's Virtual Private Cloud (VPC):**

Amazon VPC enables you to connect your on-premises resources to AWS infrastructure through a virtual private network. This virtual network closely resembles a traditional network that you'd operate in your data center but enables you to leverage the scalable infrastructure in AWS.

Each VPC that you create is logically isolated from other virtual networks in the AWS cloud and is fully customizable. You can select the IP address range, create subnets, configure root tables, set up network gateways, define security settings using security groups, and network access control lists.



## **Amazon VPC Best Practices and Costs:**

**Public and private subnets:** You should use private subnets to secure resources that don't need to be available to the internet, such as database services. It enables the flexibility to launch a service in the subnets.

**Provide NAT to private subnets:** To provide secure internet access to instances that reside in your private subnets, you should leverage a NAT device.

**Use NAT gateways:** When using NAT devices, you should use the NAT gateway over NAT instances because they are managed services and require less administration. It also provides secure internet access to your private subnets.

**CIDR blocks:** You should choose CIDR blocks carefully; Amazon VPC can contain anywhere from 16 to 65,536 IP addresses. You can select your CIDR block according to the number of instances needed.

#### Create different VPCs for different environments

You should also create a separate Amazon VPC for development, staging, and test and production environments. Another option is to create an Amazon VPC with separate subnets with a subnet for each production, development, staging, and tests.

#### **Understand Amazon VPC limits**

There are various limitations to the VPC components. For example, you're allowed:

- Five VPCs per region
- 200 subnets per VPC
- 200 route tables per VPC
- 500 security groups per VPC
- 50 inbound and outbound rules per VPC

However, some of these limits can be increased by submitting a ticket to AWS support.

## Day 3 - Objectives

- · Participants gained knowledge on
  - Understanding AWS Service S3,
  - IAM and
  - VPC



Day 4:  $17^{th}$  June - Session 1 and 2 –  $21^{st}$  century skills

- The first day session 1 started with Ice breaking The following topics were delivered as part of the session 1:
- Introduction to 21 century skills

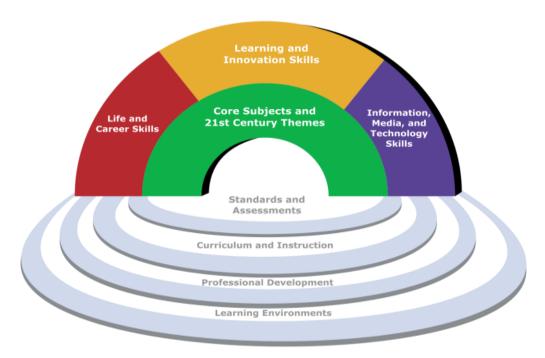
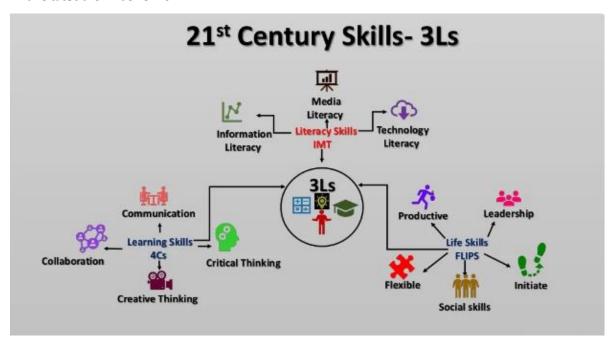


Figure 1 - P21 Framework for 21st Century Learning

- Communication skills
- Introduction to 3Ls



Learning skills Literacy skills Life skills

## Discussion on 4C's

## WHAT ARE 21 ST CENTURY SKILLS? THESE 4 C'S: COMMUNICATION CRITICAL **CREATIVITY** THINKING Working together to Looking at problems in Trying new approaches Sharing thoughts, questions, ideas & reach a goal. Putting a new way and linking to get things done equals innovation & invention learning across solutions talent, expertise, and smarts to work subjects & disciplines



- Be Participants Understood what is meant by 21st Century skills
- Got familiar with the different models of 21st Century skills used by international organizations and national jurisdictions.
- Gain an overview of what their adoption within an education system entails

## Day - 5: 18th June 2022: 21st century skills

The session 2 started with lots of old and new innovations, discoveries and inventions.

The vocabulary building, latest and old statistics, data examples and stories.

The following content were delivered as part of the session:

• Characteristics of 21st century teacher

## 1. Critical Thinking

One of the most important 21st century skills to teach our learners is how to think critically. With so much information available online, it's crucial that young people analyze, question and challenge what they are being told. They should remain open-minded, evaluate situations and think outside the box when approaching tasks.

Encourage critical thinking in class by having students predict what is going to happen in a reading or listening activity, giving them challenging problems to solve, using a variety of games and puzzles and asking questions with multiple answers.

You could also try class debates where learners have to examine the

advantages and disadvantages of the different scenarios before starting.

These opportunities will make learning more exciting, help create a classroom culture where asking questions is positive and also arouse students' curiosity.

#### 2. Communication

Communication is the skill many students find challenging to acquire, especially in a second language, so it's essential you give them plenty of practice.

Good communicators will not only speak English more clearly and confidently, they'll also excel outside of the class when it comes to studying, working or traveling.

Learners need to be able to express their opinions on a range of subjects, make themselves understood to others and work well in groups.

At the start of a course, try making a set of 'communication rules', which all the students should agree to follow. Include things like, only speaking in English or listening to others when they are talking.

Ensure that your students listen carefully to their partners by having them face each other when working in pairs, provide them with speaking frames to help them formulate their ideas, and use authentic audio and video materials as much as possible.

#### 3. Collaboration

This skill links nicely with communication, as good collaborators work effectively with others to achieve a common goal. Learning how to take turns, respecting other people's opinions and being a good team player is

vital for the success of your class.

Teamwork skills will also help students when they leave school and find jobs, as many of them will have to work with people from different backgrounds or cultures.

Include pair work, group work and collaborative projects frequently in your lessons, making sure to vary who students work with so that they can collaborate with different types of people.

Also try assigning different roles to students when working in groups, so that everyone gets a chance to be the leader and doesn't feel left out.

Doing team building activities at the beginning of a course, will also help break down barriers and make students feel more comfortable with their new classmates.

## 4. Creativity

Everyone has a creative side – they just might not know it yet! It's your role as a teacher to help students explore their creativity and stimulate their imaginations.

Similar to critical thinking, students should be encouraged to think of new and innovative ways to solve problems. As well helping them in their other subjects at school, it will also benefit them when entering higher education or the workplace.

Traditional arts and crafts are a good place to start, but there are many other things you can do in class to boost creativity.

One idea is to give students some random objects from around your house (or around the school) and get them to come up with weird and wonderful new uses for them. You can also spend time in class listening to music, singing songs and reading poetry. You can also

include drama in your lessons and put on a class show once a term.

Whatever you do, you should praise students for the things they do well and draw attention to positive behavior and actions in class. By taking the focus of negative things in class, you'll create an environment where errors are acceptable and your students won't be afraid of making mistakes.

#### 5. Cultural Awareness

More than ever, we are living and working in multicultural environments. Learners need to be able to understand differences between themselves and people from other countries that have different cultures or traditions.

Developing respect and understanding for others will help students find common ground with anyone they meet, whether it's at school or later when they are studying, working or traveling.

You can create cultural awareness among your students by using authentic materials whenever possible. One way to do this is to watch videos that show life in other countries or regions and always try to expose students to different cultures around the world; including their music, clothes, food, traditions and beliefs.

You could do this bringing in speakers from other countries to speak to the class, having a class charity which helps people from abroad or even simply having students research a country and hen give a presentation to the rest of the class about what they discovered.

## 6. Digital Literacy

Although it's getting to the point where our teenage learners have a better understanding of the digital world than we do, it's important to use technology in our classes so that our students are engaged and motivated to learn.

We need to remember that many of the younger generations do not know a life without Google, social media or smartphones. It's therefore important that the way we teach reflects this.

Incorporate smartphones into your classes to research projects, check definitions of words or play interactive quizzes like Kahoot. Use interactive whiteboard or projectors to show authentic videos or have students make their own.

If you are worried about your students chatting to friends or getting distracted by this technology during your class, you can try giving them a 30 second technology break in the middle of the lesson where they can check their notifications.

It's also crucial that we encourage learners to use technology safely, educate them on the potential dangers they face online and teach them about what information or websites they can trust.

## 7. Autonomy

Many young people study English because it's part of the school curriculum, or it might be that their parents have signed them up for extracurricular classes. Unfortunately, this often causes a lack of motivation among teenagers.

It's therefore important to personalize your classes. Speak to your teenage students about the benefits of learning English and how it will help them in the future when studying, traveling or looking for a job.

You should also give students a choice in class. Like adults, teenagers like to be trusted and given the responsibility to make their own decisions. Let them decide between homework tasks or even the type of

activity they are going to do next.

Also have them come up with the class rules and even get them to include one or two for you. You will soon see that the more independent learners they become, the more ownership they'll take for their learning.

Dedicate time to self-reflection and peer feedback and personalize the lessons when possible.



#### 12. CLOSING CEREMONY

The Training Programme concluded with the closing ceremony. The closing ceremony was graced by Dr. C. Yuvaraj Principal, Dr. P. Ramanathan vice Principal (Academics), Dr. R. Kalpana Head of the Department - CSE, Dr Drupath Varma Placement Officer, Mr Laxmi Prasad Co-ordinator, APITA and S. Dinakar Reddy (Corporate Master Trainer & Facilitator, Mentor in Innovations & Entrepreneurship, Instructional Designer of LST) and participants given feedback on the FDP.



Fig: Feedback from Participant



Fig: Group picture of participants on day 5 on Closing Ceremony

# మిట్స్ లో ఐటీపై శిక్షణ



ట్రైనర్ ను సత్కరిస్తున్న యాజమాన్యం

కురబలకోట: స్థానిక మిట్స్ ఇంజినీరింగ్ కళా శాలలో రాష్ట్ర ఇన్ఫర్మేషన్ టెక్నాలజీ అకాడమీ, కామన్ వెల్త్ ఎడ్యుకేషన్ మీడియా సెంటర్ ఫర్ ఆసియా సంయుక్త ఆధ్వర్యంలో అధ్యాపకు లకు ఐదు రోజుల శిక్షణ కార్యక్రమం నిర్వహిం చారు. శనివారం ముగింపు సమావేశంలో ప్రిన్సిపల్ యువరాజ్ మాట్లాడుతూ.. అమె జాన్ వెబ్ సర్వీసెస్పై నిర్వహించిన ఫ్యాకల్టీ డెవలప్రమెంట్ ప్రోగ్రామ్ ద్వారా బోధనలో అధ్యాపకులకు మెలకువలు తెలిసి వచ్చాయ న్నారు. అడ్వాన్స్ టెక్నాలజీ, ప్రాక్టీసుకు ఇది ఉపయోగకరంగా ఉంటుందన్నారు. కార్పొ రేట్ టైనర్ దినకర్రెడ్డి, రీజినల్ మేనేజర్ లక్ష్మీ ప్రసాద్, వైస్ ప్రిన్సిపల్ రామనాథం, ఫ్లేస్మాపం ట్ ఆఫీసర్ దృపద్వర్మ పాల్గొన్నారు.



# వెబ్ సర్వీసెస్పై అధ్యాపకులకు శిక్షణ

కురబలకోట: వెబ్ సర్వీసెస్లో శిక్షణ పొందితే ఆధ్యాపకులకు ముందస్ను సాంకేతిక పరిజ్ఞానం అలవడుతుందని మిట్స్ కళాశాల ప్రిన్సిపల్ డాక్టర్ సి.యువరాజ్ అన్నారు. కళాశాల ఆవరణలో ఏపీ ఐటీఎ, సెంటర్ ఫర్ సీడబ్యూఈఎం, మిట్స్ ఐఐఐసీ టైనింగ్ ప్లేస్ మెంట్ సెల్ సంయుక్తంగా అధ్యాపకులకు శిక్షణ కార్యక్రమాన్ని ఏర్పాటు చేశారు. కార్పోరేజ్ టైనర్ దినకర్రెడ్డి టీచింగ్ మెథడాల జీస్ పై ఇచ్చిన శిక్షణ ఎంతో ఉపయోపడిందని అన్నారు. జిల్లా ఆపిటా ఆర్ఎం లక్ష్మీ ప్రసాద్ మాట్లడుతూ... రాష్ట్ర ప్రభుత్వం ఈ కార్యక్రమాన్ని అత్యంత ప్రతిష్పాత్మకంగా భావించగా, శిక్షణను కళా శాల ఏర్పాటు చేసిందని పేర్కొన్నారు. వైస్ ప్రిన్సిపల్ డాక్టర్ రామ నాథం, ప్లేస్మమెంట్ అధికారి ద్రుపద్ వర్మ పాల్గొన్నారు.

Date: 19/06/2022 EditionName: ANDHRA PRADESH( ANNAMAYYA ) PageNo:

Fig: Article published in newspaper about the FDP

# 13. Participant's List

# (Annexure – A)

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Thank you CEMCA