A report on

**Faculty Development Programme on**

**Teaching Methodology and Microsoft Azure**

Supported by

**Commonwealth Educational Media Centre for Asia - New Delhi**

Implemented by

**Andhra Pradesh Information Technology Academy, Vijayawada**

Resource Persons & Report Prepared by:

| **S. Dinakar Reddy** | **P. Sairam Sekhar** |
|---|---|
| Corporate Master Trainer & Facilitator | Certified Cloud Trainer & Architect |
| Mentor in Innovations & Entrepreneurship | Bangalore, Karnataka |
| Instructional Designer of LST | |

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# ACKNOWLEDGEMENT

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The excellent endeavour of CEMCA is expected to have a profound impact on the qualitative enhancement of the Professors, Lecturers, HODs & Trainers of All the Engineering Colleges of AP with the different methodology of Teaching Techniques and Microsoft Azure with the Latest & Traditional, Easy for Good, not good & Mediocre participants 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.

# 1. 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.

# 2. MOTIVATION

Companies are seizing on Azure as the key enabler to complete their digital transformation, and the COVID pandemic has further accelerated this mandate. Azure is becoming a top C-suite agenda item as businesses are transitioning from a piece-meal approach to a more holistic end-to-end digital transformation with cloud at its core. The winners of tomorrow will be the ones that navigate this change rapidly, make the right choices and engage with the appropriate partners to augment their capabilities.

Microsoft Azure is one of the fastest-growing enterprise cloud platforms and helps professionals run more secure instances in the cloud. This course can be taken by absolute beginners including candidates with non-technical backgrounds, such as those involved in selling or purchasing cloud-based solutions and services, or who have some involvement

with cloud-based solutions and services, as well as those with a technical background who need to validate their foundational-level knowledge around cloud services and Azure.

## 3. INTRODUCTION

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.

Azure is a cloud computing platform that was introduced by Microsoft in 2010 and is one of the most popular cloud-based platforms that businesses are using worldwide to completely change the way they deliver their products and services to clients. The Azure cloud platform developed by Microsoft is a game-changer for many businesses who are completely or partially moving their infrastructure to a more secure and scalable cloud environment.

In this regard, Microsoft Azure has certainly paved the way for individuals and enterprise teams to get accustomed to the nuances of cloud platforms with various role-based Microsoft Azure certifications,

Recognizing that "Azure will play an important role in the future", the AICTE recommends training for faculty in cloud use and integration. To meet this critical need, Commonwealth Educational Media Centre for Asia (CEMCA) organized a faculty development program on "Microsoft Azure" in partnership with APITA for faculty in the state of Andhra Pradesh.

## 4. LEARNING OBJECTIVE

The course itself is structured around four modules covering topics ranging from basic concepts around Teaching Methodologies and Azure, all the way to understanding Microsoft Azure Solution capabilities and general scope for the introduction. Upon completion of the training program, the faculty will be able to:

**Teaching Methodology**

- Explain the principles of ANDRAGOGY viz. Adult Learning
- Enlighten learners regarding the features of the facilitation process
- Explain to learners the features of Facilitation that demarcate it from the Mixed traditional lecture method
- Highlight the importance of Examples, Data, History with Facilitation Storytelling (Panchatantra), in online & Offline learning/ Teaching
- Explain different psychosocial interventions with 'Panchatantra 'that are deployed in facilitation
- Make the learners illuminated with the beneficial aspects of different learning models, Remembering techniques, Corollaries etc.
- Sensitization of learners with the different learning methods that are highly effective in online & Offline / Physical learning
- Administer practical exercises for fostering practice- teaching, with a goal-oriented approach.

**Microsoft Azure**

- Create, configure, scale, and deploy the App Service platform
- Develop Azure compute solutions
- Azure MySQL Database and Azure Storage Account
- Analyze and troubleshoot the applications
- Implement Azure security, and n-tier architecture
- Develop and deploy Azure functions and Logic App
- Identity and Access Management with Azure AD
- Connect to and consume Azure services and third-party services
- Monitor, troubleshoot, and optimize Azure solutions

## 5. DATE & TIME

| SL NO. | COURSE | DATE | TIME | PARTICIPANTS | COUNT |
|---|---|---|---|---|---|
| 1 | Teaching Methodologies | 21-March-2022 to 22-March-2022 | 09:30 A.M to 5:00 P.M | Higher Education Faculties from Andhra Pradesh | 47 |

| 2 | Microsoft Azure | 23-March-2022 to 25-March-2022 | 09:30 A.M to 5:00 P.M | | |
|---|---|---|---|---|---|

## 6. PARTICIPANTS

20 male and 27 female faculty of which 1 Professor, 10 Associate Professors, 32 Assistant Professors, and 4 Lab programmers from 6 engineering colleges attended the workshop conducted between 21st to 25th March 2022 in Tirupati, Andhra Pradesh.

A Detailed List of Participants for both the workshops is attached in ***Annexure – A***

## 7. TRAINING ANDRAGOGY

The Training was conducted on the college lab premises. The methodology used was a live demonstration of Teaching Methodologies and Azure applications 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.

| SL NO. | Event | Time | Platform |
|---|---|---|---|
| 1 | Demonstration Sessions (Every day) | 09:30 A.M to 5:00 P.M | Live |
| 2 | Interaction with queries and feedback | 5:00 P.M to 8:00 P.M | WhatsApp |
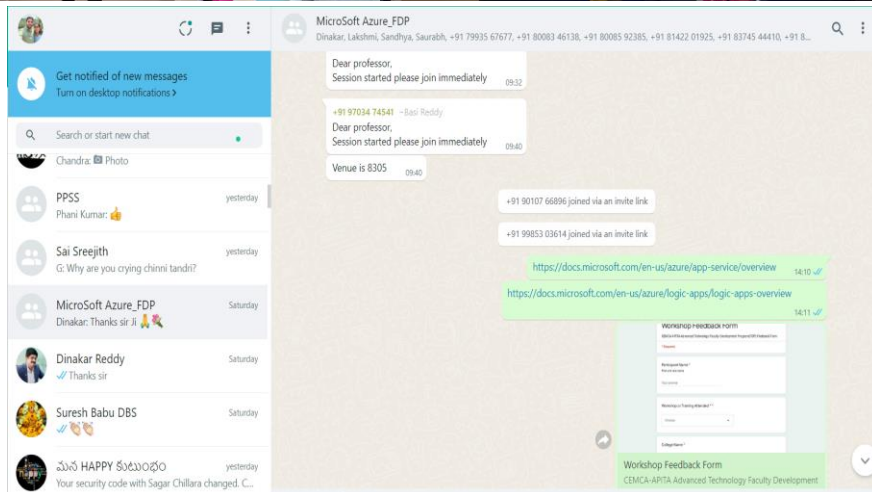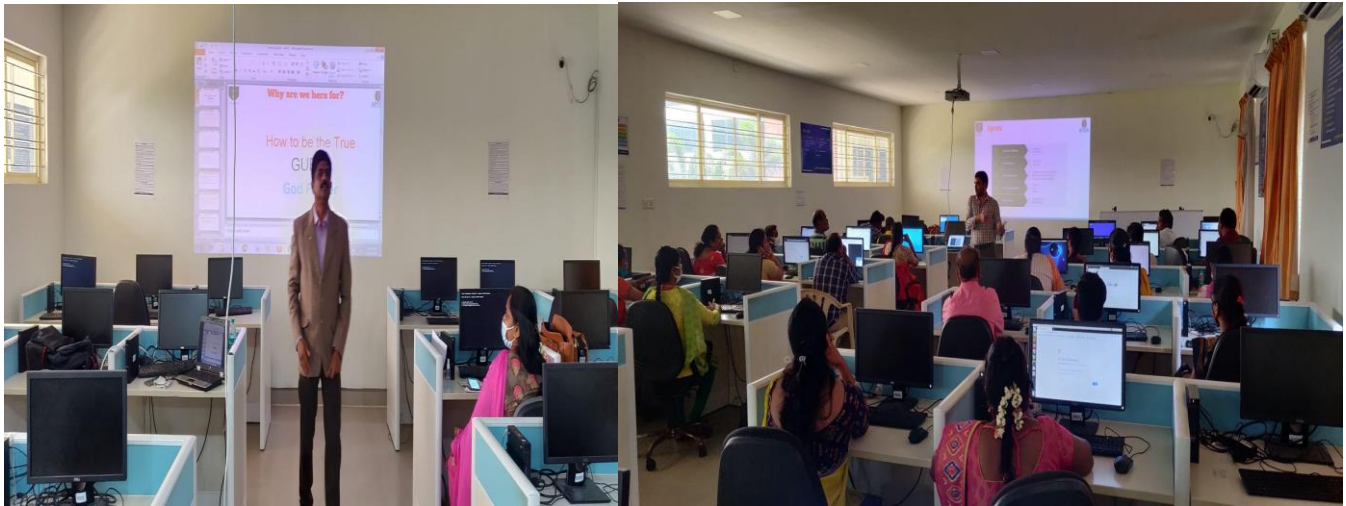
WhatsApp Group - Discussion (FDP: Tirupati)

## 8. COURSE CONTENT & STRUCTURE

| Day | Title | Session Objective | Teaching Andragogy |
|-----|-------|-------------------|--------------------|
| 1 | Teaching Methodology Principles | • Principles of ANDRAGOGY<br>• Beneficial Features of Facilitation<br>• Learning Models that are relevant to classroom learning<br>• From the baselines of Bloom's Taxonomy to ARCS | 1. Dialogue-driven interaction<br>2. Role Play & JAM<br>3. Case Study, Compare & Contrast<br>4. Group Discussion<br>5. Motivational Stories<br>6. Motivational Interview<br>7. Constructive Feedback<br>8. Statistics, Data & History<br>9. Appreciative Inquiry & Assessment<br>10. Problem-solving through Design thinking |
| 2 | Innovation Methodology and Tool | • The world's oldest Innovation Methodology of teaching "Panchatantra" to EdgarDale's Model.<br>• Tools & Methods for fostering participative & inductive learning<br>• Relevance of psychosocial interventions in the class, to ensure the psychological engagement of | |

| | | | |
|---|---|---|---|
| 3 | Cloud and Azure Fundamentals , Azure App Services | <ul><li>learners</li><li>The Need for LST as a part of the regular curriculum.</li></ul> | |
| 3 | Cloud and Azure Fundamentals , Azure App Services | <ul><li>Cloud Fundamentals</li><li>Cloud Service Models</li><li>Cloud Deployment Models</li><li>Cloud Providers</li><li>Azure Introduction</li><li>Why Azure?</li><li>Azure Services Overview</li><li>Azure Resource Manager</li><li>Azure Web App<ul><li>Creation</li><li>Code Deployment<ul><li>FTP, GitHub, IDE</li></ul></li><li>Swapping</li><li>Configuration settings</li><li>Scaling</li><li>Custom Domain</li><li>SSL</li></ul></li></ul> | 1. Demonstrated Azure services<br>2. Hands-on demonstration<br>3. Assignment for self-practice |
| 4 | Azure Integration Services, Azure Data Services | <ul><li>Azure Logic App</li><li>Azure Functions</li><li>Azure MySQL</li><li>Azure Service BUS</li><li>Azure Redis Cache</li></ul> | |
| 5 | Azure Networking, Compute, and IAM | <ul><li>Azure Vnet, Subnet classification</li><li>Network Security Group</li><li>Azure Virtual Machine</li><li>Availability Set</li><li>Site-to-Site</li><li>Point-to-Site</li><li>Implemented n-tier architecture</li><li>Azure Active directory</li></ul> | |

## 9. WORKSHOP PROCEEDINGS

### Day - 1: Teaching Methodologies: 21-March-2022

**Inaugural Session**

The Training Programme began with the inaugural session. The inaugural session was graced by Dr. N. Sudhakar Reddy, Principal, Sri Venkateswara College Of Engineering, Dr. T Kalpalatha Reddy, Principal, and Sri Venkateswara College of Engineering For Women, Dr. S. Murali Krishna, HOD, IT Department, Sri Venkateswara College of Engineering, Tirupati. Dr N. Sudhakar Reddy in his inaugural address highlighted the importance of FDP for Teaching Methodologies and made a note about the importance of Azure.



### Teaching Methodology day 1

After the ICE BREAKING sessions, the first topic was about Individualized Instruction Model By **Keller Plan,** Success Approximation Model By **Dr. Michael Allen** The break was up with **Edgar Dale's Model**- Giving Following Opportunity To Participants For 90% Retention.

The role model & the individual experiences were the key presentations with Concept of Cognitive Load By **John Sweller** & Elaboration Model By **Charles Reigeluth**. Analysis Of Learning Style (By Peterhoney & Allen Mumford). The live interaction & storytelling made the finishing of Day one in the high spirits.
- Principles of ANDRAGOGY
- Beneficial Features of Facilitation
- Learning Models that are relevant to classroom learning
- From the baselines of Bloom's Taxonomy to ARCS

| LEARNING MODELS EXPLAINED | MAIN THEME | OUTPUT OF EXPLANATION |
|---|---|---|
| BENJAMIN BLOOM's COGNITIVE TAXONOMY | This theory deals with the six levels of a learner's cognition and understanding of a specific subject.<br><br>The Facilitator affirmed that the level is very much subjected specific.<br>A Learner/student who is in the higher level in one subject may be in the lowermost level of another subject | The learners achieved conceptual clarity regarding the different Cognitive Levels of individuals in different subjects |
| ROBERT GAGNE's Nine Steps of Instruction | This model indicates that there are *nine types* of educational instructions arranged in a logical sequence.<br><br>If an Educator follows the nine instructions in the structured logical sequence, then the learners will achieve the desired learning goal and transfer their learned inputs to others. | The learners got apprised regarding the logical sequence of activities that are to be executed by a Trainer /Facilitator in a Learning Session for facilitating the learners in ensuring retention of the learned content and developing within them the ability to transfer the learned content to others |
| EDGAR DALE's Model of retention of learning inputs | The model suggests that different types of academic activities lead to different levels of retention of learned inputs | The learners got apprised regarding the percentage of retention of learned inputs by the learners under the influence of various sorts of Teaching Activities |

| | | |
|---|---|---|
| CHARLES REIGELUTH'S Elaboration Model | The model suggests that an Educator must present the learning materials in a sequential pattern viz. from the simplest level to the most complex level | The learners understood the significance of arranging and presenting the learning content through logical sequences |
| JOHN SWELLER'S Cognitive Load Model | This model suggests that to ensure the retention of learning inputs in participants' long-term memory, the learning content should be delivered in a fragmented pattern, part by part.<br><br>If a large volume of content is foisted upon the learners then the cognitive load will get enhanced to a large extent.<br><br>Therefore, the learned inputs will not be retained in long-term memory. | The learners understood the significance of presenting a large volume of content in a fragmented pattern instead of continually imposing a huge volume of content upon the learners. |
| JOHN KELLER'S ARCS MODEL | This model reflects the linear sequence of four activities that are to be followed by educators to<br>• Draw the attention of the participants<br>• Establish relevance of the learning materials to the prior knowledge or the occupational life of the participants<br>• Build up the confidence of the learners<br>• Satisfying the learners by the achieved learning outcome | The learners understood how to draw the attention of the participants, present relevant inputs to them, build up their confidence, the participants and satisfy the participants in learning sessions. |
| JEROME BRUNER'S Discovery Model | This model suggests that the Probing Inquiry from the Educator facilitates the participants to introspect and unleash their latent creativity and analytical competencies. | The learners to understand the significance of Inquiry-Based Instructions for the discovery of the hidden creative flair, insight, intuition as well as the analytical power of the |

| | | participants, embedded within themselves |
|---|---|---|
| HOWARD BURROWS' Problem Based Learning Model | This model suggests that if the participants are provided with problems to solve rather than contents to memorize, then the creative and analytical competencies of the learners will get enhanced and unleashed. | The learners understood how problem-solving exercises can enhance critical thinking as well as creative thinking competency of the participants |
| MAY & DOOB's Collaborative Learning Model | This learning model indicates that cooperation and collaboration among a group of learners can lead to the achievement of learning outcomes | The learners comprehended how the exchange of views, group discussion, task distribution, and the convergence of thoughts can play extremely significant roles in the learning process. |
| MICHAEL ALLEN's Success Approximation Model (SAM) | This model encourages participants centric learn. Here, primarily the prototype of the learning material and finally the prepared instructional material are evaluated by the participants. If the participants suggest any changes, then to ensure the ease of learning for the participants, the changes are engineered accordingly both at the prototype as well as at the final material. | The learners perceived the significance of the customization /re-engineering of the prototype of learning materials as well as the final learning material based on the feedback of the participants The learners understood the significance of Student–Centric Instructional Design. |
| KELLER PLAN's Individualized Instructional Model | This model is mainly concerned with the heterogeneity of the learners. Since each learner differs from other learners in the learning capacity, style pace, and approach, hence the instructional material should be designed based on the unique capacity, need style standard, and pace of each learner. | The learners deciphered the importance of designing learning materials and determining the methodology of facilitating the participants based on the intellectual standard, learning style, and the learning pace of each student. |

| | Within an allotted time frame each learner learns individually in his/her way | |
|---|---|---|
| The Oldest Innovation of Teaching Methodology<br><br>"**Panchatantra**"<br><br>By<br>- Vishnu Sharma. | This model is mainly concerned with the week's mediocre / Average participants.<br><br>First time in the history of "Gurukulas", this is introduced on the special request by the then King for his three sons.<br><br>Panchatantra means Five Treatises/ chapters. Given learning capacity, style, pace, and approach, hence the instructional materials are all the stories about Animals, Birds & Plants/ Nature. | The participants/ Shishyas for the imaginative thinking and stored in the permanent memories. Within an allotted time frame each learner learns individually in his perception like the Guru's Version. |

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The teacher who gives you information is called *ADHYAPAK*

The one who imparts knowledge & information is called *UPADHYAYA*

The one who imparts skills is called *ACHARYA*

The one who can give a deep insight into a subject is called *PANDIT*

The one who has a visionary view on a subject & teaches you to think in that matter is called *DHRISTA*

The one who can awaken the wisdom in you, leading you from darkness to light, is called *GURU*

**ROLE PLAY:**                                                  **Topic: PROBING**

**DESCRIPTION**

The teacher first explained the ARCS Model of John Keller vividly. Then he asked a student to narrate the ARCS Model and its significance

While explaining the ARCS MODEL, the student stopped narration at a specific point. The teacher perceived that there is either memory –gap or thought process disruption within the cognitive framework of the student

The teacher initiates a Probing technique. He at first appreciated the previous performance of the student to boost the morale of the student. Then he floats gentle probing questions. The questions were asked not to check the knowledge of the student. The questions were framed strategically to facilitate the student in retrieving the link or getting some clue so that he can complete the remaining part of the narration.

Example:  The student was not able to narrate the confidence (C) and satisfaction (S) components of the ARCS Model.

Here the Probing questions of the Facilitator were
- ❖ Do you think that it is the responsibility of the teacher to build up the confidence of the participants?
- ❖ Do you believe that confidence can improve the performance of the participants?
- ❖ Is the ARCS Model of John Keller an appropriate mechanism for building up the confidence of the participants?
- ❖ According to the ARCS model, at which stage it is necessary to build up the confidence of the participants? Do you feel that it is practically applicable?

These types of questions gave clues to the student and he/she could complete narrating the ARCS Model

**ROLE PLAY:**                    **Topic:  ACTIVE LISTENING & PARAPHRASING**

**DESCRIPTION**

The teacher asked the student to narrate his view on Behavioural Modelling

When the student starts narrating, the teacher listened to his narration with rapt attention and seamless concentration.

After that, the teacher narrates the content of the student but in a more sophisticated. language and replenishes the gaps in the narration of the student

Example:

Student (Vishnu): Behavioural Modelling is copying the behavior of another student

Teacher: Ok... So Mr. Vishnu wants to imply that Behavioural Modelling by a student is the replication of an outcome-oriented behavior of a highly successful student in the class, with the motivational intention to achieve the outcome.

## REFLECTION OF THE PARTICIPANTS IN THE WORKSHOP

| NAME OF THE PARTICIPANTS | CONTEMPLATIVE REFLECTIONS |
| --- | --- |
| Dr. C. Gangaiah | He stated that these teaching methodologies were thought in his lectures when he was a student, and he might have scored better in his academics. His struggle in his student life to understand was too hard to come out of his rural background. |
| Mr. Sreenu Babu | He has appreciated PARAPHRASING and opined that it instills confidence within the participants when they find that their teacher is narrating their concept in a more sophisticated language. It boosts the morale of the participants |
| Dr. T. Sandhya | She stated that if a teacher facilitates the participants in solving various academic problems relevant to the curriculum as well as the emotional problems pestering the participants, then a conducive relationship gets crystallized between the teacher and the student. |
| Dr. P. Charishma | She stated that the methodology of Panchatantra must be implemented from the lower, upper primary, and the University levels, so that there will be no low mediocre in any level of learners. |
| Mrs. Shameem Taz | She stated that ARCS Model is very useful in motivating the participants, reinforcing their confidence level, and ultimately steering them towards a tangible learning outcome |
| Dr. Dileep Kumar Reddy | He said the Pain of understanding the participants is tough for the parents, but it will be easy & useful for the Lectures since we deal with them more time than the Parents. Storytelling is the best way to make any student be very near to the heart of us. We can help them technically & morally. |
| Dr. K.Shekar | He affirmed that Positive Reinforcement is an |

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| | instrumental strategic tool for ensuring the repetition of desirable behavior.<br><br>He has shared a story of a girl student whose ability to solve mathematical problems got gradually increased due to verbal motivation and physical reward in the form of candies |
| Mrs. G.T. Prassanna Kumari | She proudly accepted the techniques of convincing & conveying those young participants are not only useful to us in the college, but it is also very useful in the family too. The work profession Balance session in the class was a real-life changer for us. |

### Day - 2: Teaching Methodologies: 22-March-2022

The most important topic of Teaching Methodologies is Bloom's Taxonomy and Benjamin bloom's cognitive taxonomy (from lowest to highest level) with the Diagram. Followed by the Discovery Learning model by *Jerome Bruner.* With the comparisons and the sessions on the **ARCS** model by **John Keller.**

After the tea break, the principles of andragogy (adult learning) by **Dr. Malcolm Knowles** with interaction and pic & speak with all the Trainers. Since the sessions are going to be the new launch of our "*PANCHATHANTRA*" in comparison with all above where the stories carried the most interesting & effective dialogues in every participant.

the world's oldest & first innovative methodology of teaching "**PANCHATANTRA**" to Edgardale's model.
tools & methods for fostering participative & inductive learning, the relevance of psychosocial interventions in the class, for ensuring the psychological engagement of learners

 The real need for **LST** and its importance was clearly understood as a MUST by the participants as a part of the regular curriculum. Working on their own, to grasp all concepts with examples, memory, shortcuts, and tips, a flash of current affairs also played well. The feedback and the

testimonials of every individual made all the participants more informative with different perceptions.

1. Dialogue-driven interaction
2. Role Play & JAM
3. Case Study, Compare & Contrast
4. Group Discussion
5. Motivational Stories
6. Motivational Interview
7. Constructive Feedback
8. Statistics, Data & History
9. Appreciative Inquiry
10. Assessment

Problem-solving through Design thinking



| TOPIC/ LEARNING NPUTS | THEME | EFFECT |
|---|---|---|
| ANDRAGOGY | The Facilitator explained the four principles of ANDRAGOGY.<br><br>● Adult learning is more oriented | The learners achieved conceptual clarity regarding the principles of ANDRAGOGY.<br><br>Many of them endorsed the |

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|---|---|---|
| | toward problem-solving than content-centric<br><br>● Adults tend to learn from practical experiences<br><br>● Adults prefer topics that are relevant to their professional life and personal life<br><br>● Adults should be involved in the planning and implementation of their instruction. | views of Experiential Learning & Learning through Problem Solving<br><br>Many of the learners affirmed that for ensuring success in live classes, Online Learning & Blended Learning, it is necessary to engineer a paradigm shift from PEDAGOGY to ANDRAGOGY |
| FACILITATION | The Facilitator explained the features of Facilitation with major emphasis on the following topics:<br><br>● It is characterized by continual dialogue between participants and facilitator<br>● It facilitates the learners to introspect and unleash their hidden potential<br>● It motivates the learners to ensure their active and spontaneous participation in the learning process.<br>● It facilitates the learners to interact with each other and achieve the learning goal in a collaborative pattern<br>● It facilitates the learners to incur experiences from the learning process and to learn from the incurred experiences | The learners could understand the role of Facilitation in fostering<br><br>● Collaborative Learning<br>● Experiential Learning<br>● Problem-Solving Based learning<br>● Inquiry-based learning<br>● Discovery Learning<br><br>The learners endorsed the instrumental role of Facilitation in online learning & blended learning |
| ACHIEVEMENT MOTIVATION | The Facilitator explained the instrumental role of Achievement Motivation in satisfying the learning | The learners developed a clear understanding of the role of Achievement Motivation while |

| | goals of an individual. | facilitating participants |
|---|---|---|
| | He also highlighted the tools and techniques for triggering Achievement Motivation among the participants | The learners appreciated the tools and techniques for triggering Achievement Motivation within the learners |
| | | Some of the senior learners got motivated by the Facilitator and shared some tools administered by them for enhancing the Achievement Motivation of the participants |
| POSITIVE REINFORCEMENT | The Facilitator explained Positive Reinforcement by giving several examples, Live Stories & Mythology. He enlightened the learners regarding the fact that when the desired behavior of a Learner/student gets appreciated/acknowledged/ rewarded by an Educator then the frequency of the desired behavior gets increased. The appreciation or reward from the Educator acts as the stimulus of Positive Reinforcement which in turn encourages the repetition of the desired behavior. | The learners achieved conceptual clarity regarding the behavioral dynamics of Positive Reinforcement. Many of them opined that appreciation and reward are the instrumental factors in engineering behavioral modification in a positive direction Some senior leaders furnished their occupational experiences and indicated how they had reinforced the positive behavior of their subordinates through Rewards or financial incentives |
| BEHAVIOURAL MODELLING | The Facilitator gave practical examples & Local Stories and demonstrated the concept. He/she made the learners enlightened with the fact that if a Facilitator appreciates or delivers rewards to a Learner/student for an appreciable behavior, then the other participants try to replicate the outcome-oriented | The learners appreciated the concept of behavioral modeling. Some senior learners opined that behavioral modeling becomes successful, only when the other participants are also motivated to achieve the rewards and appreciation. |

| | | |
|---|---|---|
| | behavior of the successful Learners/participants.<br><br>The rewarded student becomes a role model for other participants. They start modeling the behavior of the rewarded participants, with the intent of being rewarded. | According to them if the other participants are not motivated to receive the reward that has been given to the successful student, then they will not replicate the outcome-oriented desired behavior of the successful student. |
| ACTIVE LISTENING & PARAPHRASING | A Facilitator always encourages the Learners to narrate their feedback, views, and opinions regarding the learned content<br><br>During the narration delivered by a Learner/student, the Facilitator listens to it with full concentration<br><br>After the completion of the narration of the Learners/student, the Facilitator repeats the essence of the narration of the student but in a more polished, refined, and sophisticated language. He also prunes the irrelevant part of the Learners/participants' narration, replenishes the gaps, and adds value to it. This is termed PARAPHRASING<br><br>Thus, after the completion of PARAPHRASING, the participants can understand which of the topics he/she missed out on and what were the points that were erroneous. The Learners learn from the paraphrased statements.<br><br>The Learners also feel confident, when they find that the Facilitator is repeating the essence of his narration or idea before others remove the irrelevant parts. | The learners opined that Active Listening & Paraphrasing are immensely significant tools in Facilitation.<br><br>Some of the senior learners affirmed that apart from replenishing conceptual gaps and communication gaps, Paraphrasing plays an instrumental role in building up congenial relationships and emotive solidarity between the Participants and the Educators.<br><br>Some learners stated that when the Facilitator paraphrases the essence of the narration of the participants then they understand that the Educator/Facilitator must have listened to their narration actively. This in turn boosts the morale of the learners. |

| PROBING | While narrating the learners may stop narrating suddenly, due to certain gaps in the thought process or emotional distractions<br><br>At this stage, the Facilitator asks probing questions to identify the cognitive and emotive challenges of the Learners.<br><br>Probing questions facilitate the learners to introspect, execute critical thinking, replenish the gaps in thought process, recollect memories, leverage recent memories etc. | The learners highly appreciated Probing and stated that Probing is an essential part of facilitation.<br><br>Some of the senior learners opined that Probing could play an instrumental role in<br><br>● Appreciative Inquiry<br>● Paraphrasing<br>● Problem Based Learning<br>● Discovery Learning |
|---|---|---|

| VISIONING | The Facilitator asks the Learners to illustrate their vision | The learners opined that VISIONING is an instrumental intervention that fosters and develops the ability to imagine and crystallize the intuitive power of a Learner.<br><br>Some learners affirmed that Visioning builds up aspiration within participants and motivates them to achieve aspired goals |
|---|---|---|
| APPRECIATIVE INQUIRY | It is a strength-focused intervention that aims at identifying the core strength and competence prevailing within the Learners. The Facilitator utilizes this intervention, especially for the participants who are not aware of their core competence.<br>In this intervention, the Facilitator asks encouraging questions with aim of tracing out the achievements of the Learners in the recent past. Once | The learners achieved conceptual clarity regarding the mechanism of Appreciative Inquiry<br>They stated that this strength-focused intervention will be very useful for them in their occupational arena, for identifying the hidden potential of their Learners |

| | | |
|---|---|---|
| | the student reveals his achievement, the Facilitator can ascertain the causative strength factors, embedded within the Learners that have fuelled the recent achievement | |
| DESIGN THINKING | Design Thinking is a purely human-centered, creative approach to solving multifarious problems of the target audience

In this business world, it facilitates the process of designing the prototype of beneficial products and services that can satisfy the need and solve the problems of the customers
In the educational arena, it facilitates the process of designing effective instructional materials for satisfying the needs and mitigating the problems of the Learners/ participants.

Design Thinking is an entirely student-focused or customer-focused approach to solving the problems of participants and customers. | The learners acquired competency in Design Thinking, by solving a Problem based on the principles of Design Thinking

The learners opined that Design Thinking has played an instrumental role in unveiling their creative and analytical competency.
Some of the learners affirmed that Design Thinking will significantly help the participants of Technical & Vocational Education & Training, in the future, to be empathetic to their target customers and to generate customer-friendly products and services that will solve the problems of the customer. |

**RESULT CHAIN:**

| OUTPUT | OUTCOME | IMPACT |
|---|---|---|
| The learners have got apprised about the participatory training methods and psychosocial interventions that are deployed by a Facilitator to ensure engagement, enlightenment, and | It is expected that the learners will be able to conduct effective Facilitation in the online platform.

It is also expected that the Facilitators the learners | It is expected that a greater number of youth can be accommodated in the classes /online training programs

It is expected that the youth from remote rural areas will also get the opportunity of learning various |

| empowerment of the learners/ Faculty | will be capable enough to draw the attention of their participants, reinforce their concentration, enhance their motivation and ensure their psychological engagement in the learning sessions | skills from their regular classes & interaction sessions too.<br><br>It is expected that the participants will get deeply engaged in the online & offline training programs aimed at skill acquisition & Practical / Lab.<br><br>It is expected a large number of trained skilled professionals will emerge and contribute significantly towards the industrial growth and economic development of our Society & Nation Development. |
| --- | --- | --- |

## CRITICAL SUCCESS FACTORS (CSF)

| Participation of the Learners/Faculty | The Facilitator encouraged the active participation of the learners / Faculty |
| --- | --- |
| Interaction among the Learners /Faculty | A conscious effort was made by the Facilitator to ensure group discussion (GD), dialogue-driven interaction among the Listeners/Colleagues /Participants.<br><br>In some cases, a complex theme was explained by one learner to others<br><br>In some cases, the learners/Faculty were allowed to share their real experiences with others in the form of stories |
| ROLE PLAY for demonstration and explication | Role Plays were administered to demonstrate and explain complex thematic issues. |
| Linguistic Interpretation | Some of the learners/ Faculty were more comfortable deciphering English Language Stories. For them, I translated the learning inputs into the Telugu Language<br>(Local Stories) |
| Participatory Evaluation of | The facilitator asked the learners to evaluate each of the learning |

| Learning Materials | inputs, in terms of effectiveness from the participants / Youngsters / Modern perspective |
| --- | --- |
| | Thus, there was a conscious effort on behalf of the Facilitator to ensure the engagement, enlightenment, and empowerment of the learners |

**Day - 3: Microsoft Azure: 23-March-2022**

**Technical Session**

The first session started with Cloud fundamentals which include limitations of traditional computing, an introduction to the cloud, service models in the cloud, and deployment models in the cloud. The following were delivered as part of the session:

- Participants got knowledge of Traditional computing and its limitations
- Participants gained knowledge about Cloud computing and its features
- Core understanding of cloud service models and key differentiators
- Discussed cloud deployment models and providers
- Highlighted current cloud trends and market share of cloud providers
- The participants have clarified their doubts related to cloud concepts

| 01 | Traditional Computing | • Overview<br>• Limitations |
| --- | --- | --- |
| 02 | Cloud Computing | • Introduction<br>• Features |
| 03 | Cloud Service Models | • Infrastructure as a Service (IaaS)<br>• Platform as a Service (PaaS)<br>• Software as a Service (SaaS) |
| 04 | Cloud Deployment Models | • Private<br>• Public<br>• Hybrid |
| 05 | Cloud Providers | • List of providers<br>• Market trends |

The afternoon session started with Azure fundamentals which include an Azure overview, ARM, Services overview, and ended with Azure App Services. The following were delivered as part of the session:

- Discussed Azure overview, history, and significance of Azure in the market
- Demonstrated how to create Azure free trial
- Discussed the list of services offered by Azure

- Performed hands-on practice of Azure WebApp on the following:
  - Creation of Azure web app
  - Code deployments (FTP, GitHub, IDE)
  - Deployment slots
  - Configuration
  - Custom Domain
  - Auto Scaling (Scale-up and Scale-out)
  - Monitoring using Application Insights
- The participants have clarified their doubts related to Azure fundamentals
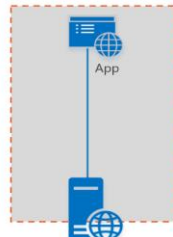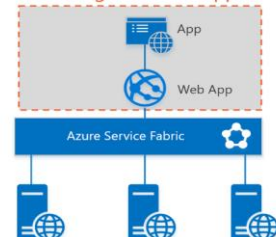


### Day - 4: Microsoft Azure: 24-March-2022

**Technical Session**

The morning session started with the Azure App Services which include Azure Functions, and Logic App. The following were delivered as part of the session:

- Participants got knowledge of serverless architecture
- Participants gained knowledge about Azure functions and its features

- Performed hands-on practice of Azure Functions on the following:
  - Creation, Deployment, Triggers using javaScript
- Participants gained knowledge about Azure Logic App and its features
- Performed hands-on practice of Azure Logi App on the following:
  - Creation, Deployment, and Triggers
  - Connectors, and testing a workflow
- The participants have clarified their doubts related to Azure serverless concepts
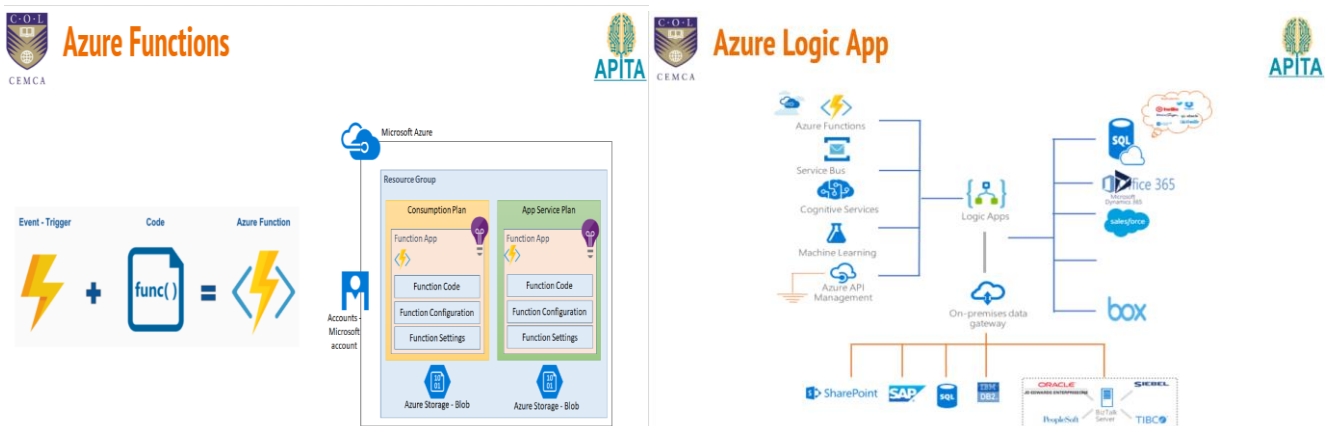


The afternoon session started with the Azure Data Services which include Azure MySql, Storage Account, Service Bus, and Redis Cache. The following were delivered as part of the session:

- Participants got knowledge of various databases and types
- Discussed structured, unstructured, and key differentiators
- Discussed and performed hands-on practice of Azure SQL on the following:
  - Creation of Azure SQL Server and database
  - Created tables and performed CRUD operations using C#
  - Discussed TDE encryption of Azure SQL
  - Implemented Azure SQL firewall security
  - Discussed Azure SQL auditing and backup
- Discussed and performed hands-on practice of Azure Storage on the following:
  - Creation of Azure Storage Account and discussed replication options
  - Created Blobs, Tables, File, Queue, and performed CRUD operations using C#
  - Discussed TDE encryption of Azure Storage

- ○ Implemented Azure Storage key rotations
- Discussed and performed hands-on practice of Azure Redis Cache on the following:
  - ○ Creation of Azure Redis Cache
  - ○ Discussed TDE encryption of Azure Redis Cache
  - ○ Performed CURD operations on cache database using C#
  - ○ Discussed business scenarios of implementing cache databases
  - ○ Implemented key rotations
- The participants have clarified their doubts related to Azure database and storage services
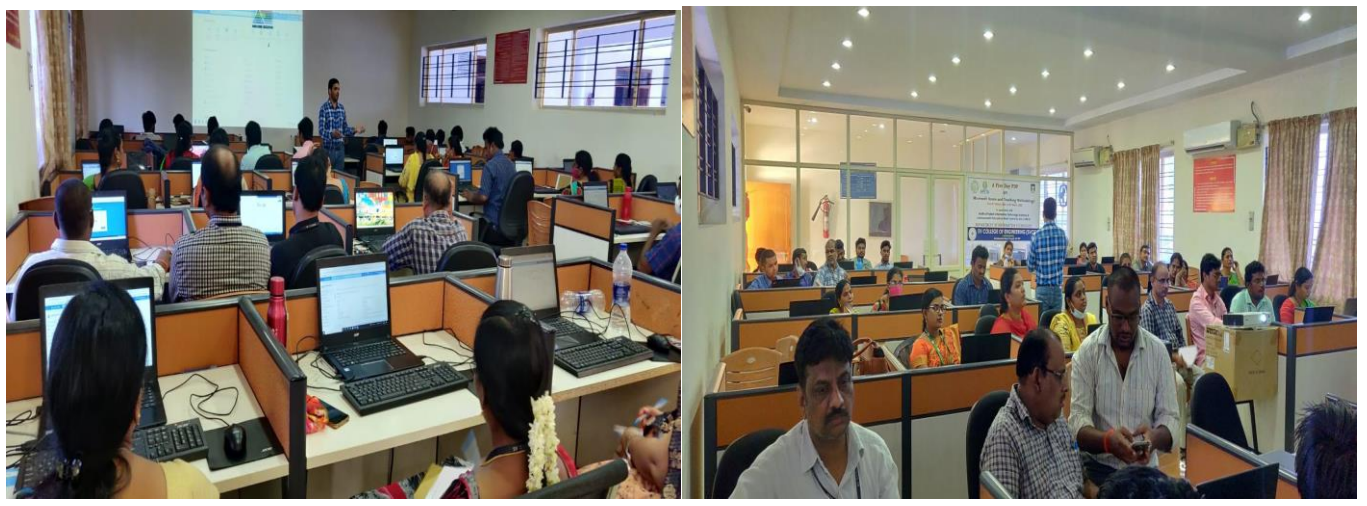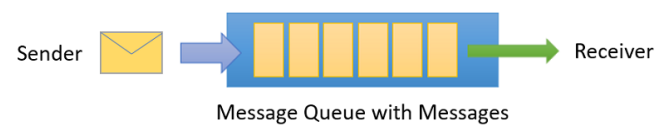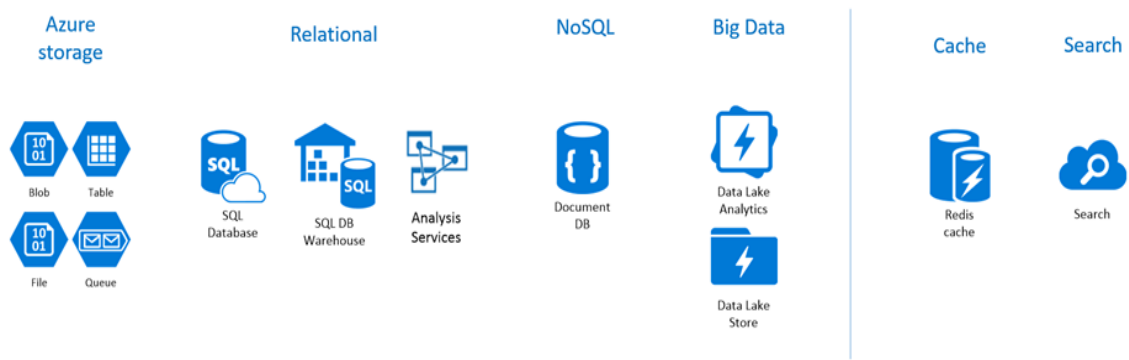




**Day - 5: Microsoft Azure: 25-March-2022**

<u>**Technical Session**</u>

The morning session started with the Azure Networking Services which include Azure VNet, Subnet, NSG, Virtual Machines, Availability Set, Load balancer, and VPN types (Point to Site, Site to Site, VNet peering). The following were delivered as part of the session:

- Participants got knowledge of Networking, IP addresses and their types
- Discussed Azure networking and security services
- Discussed and performed hands-on practice of Azure networking on the following:
    - Creation of Azure VNet, and subnet classification
    - Created Network security group and assigned to subnets
    - Added Inbound and Outbound rules to NSG
    - Discussed Virtual Machines, Availability Set and deployed them
    - Tested port communication between the virtual machines in different subnets
    - Added Azure VM's to Availability Set
    - Discussed Load balancer and its routing strategies
    - Discussed various VPN types and implemented VNet Peering
    - Implemented n-tier architecture of business applications
- The participants have clarified their doubts related to Azure Networking, Availability, and Security services
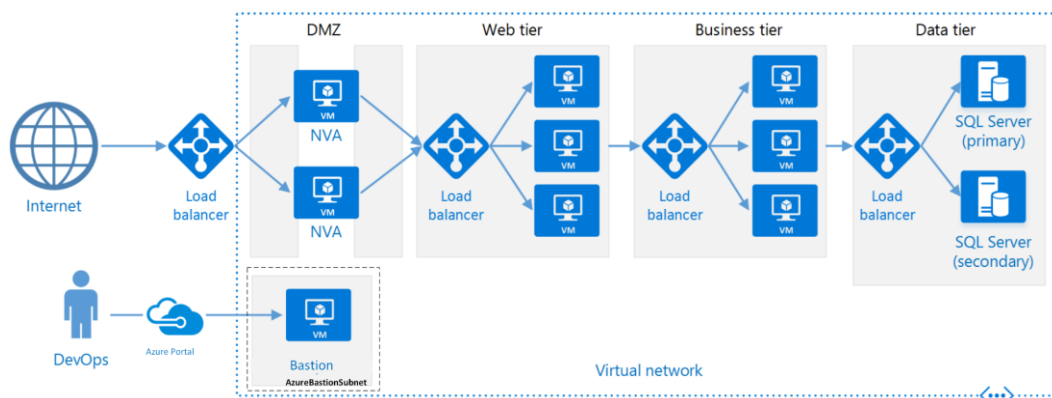


The afternoon session started with the Azure Governance which includes Azure Active Directory, Resource Locks, IAM, Azure Policy, and Azure Monitor. The following were delivered as part of the session:

- Participants got knowledge of Azure Governance services
- Discussed Azure Resource locks and performed hands-on practice
- Discussed Azure Policy, Blueprints, and performed hands-on practice

- Discussed and performed hands-on practice of Azure Active Directory on the following:
  - Creation of Users and Groups
  - Discussed the directory structure
  - Discussed Service Principal and implemented SSO
  - Enabled Multi-Factor Authentication (MFA)
  - Implemented company branding and Custom Domain
  - Enabled Self Password Reset for user accounts
- Discussed and performed hands-on practice of Azure IAM on the following:
  - Discussed Role-Based Access Control (RBAC) and custom roles in Azure
  - Assigned roles to users and service principals in Azure AD
  - Tested role operations and restrictions of IAM
- The participants have clarified their doubts related to Azure Governance Services
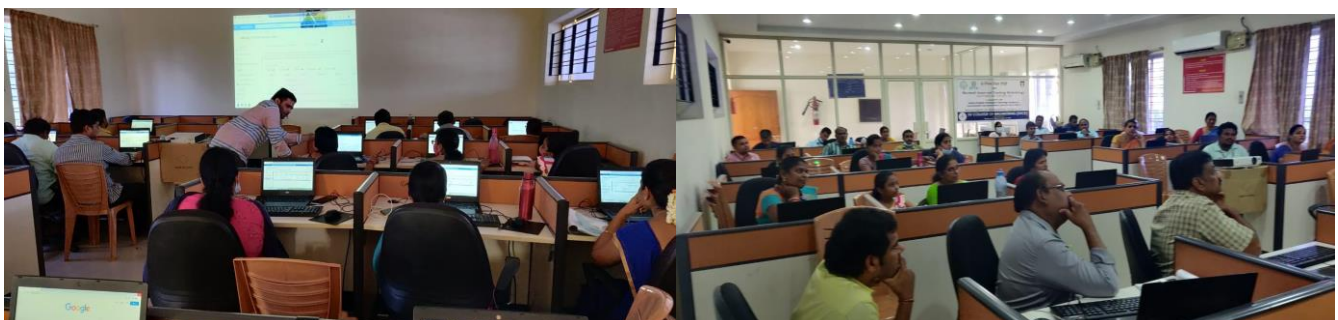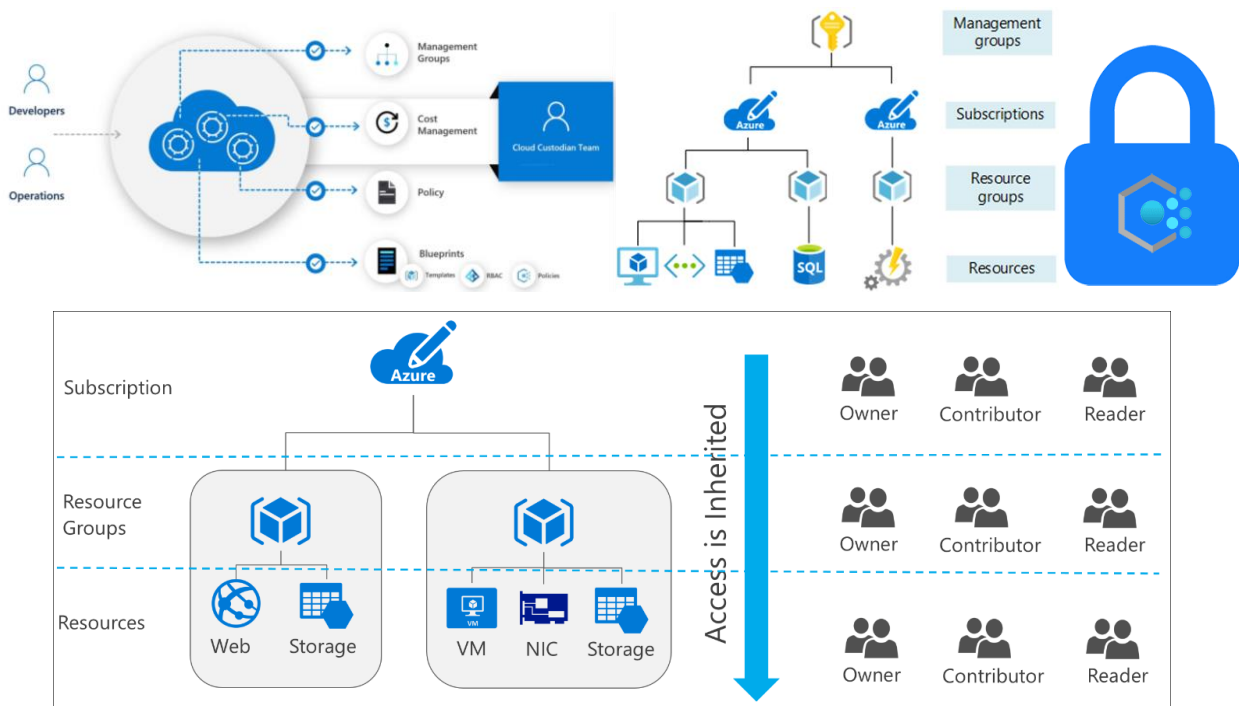
## Closing Ceremony
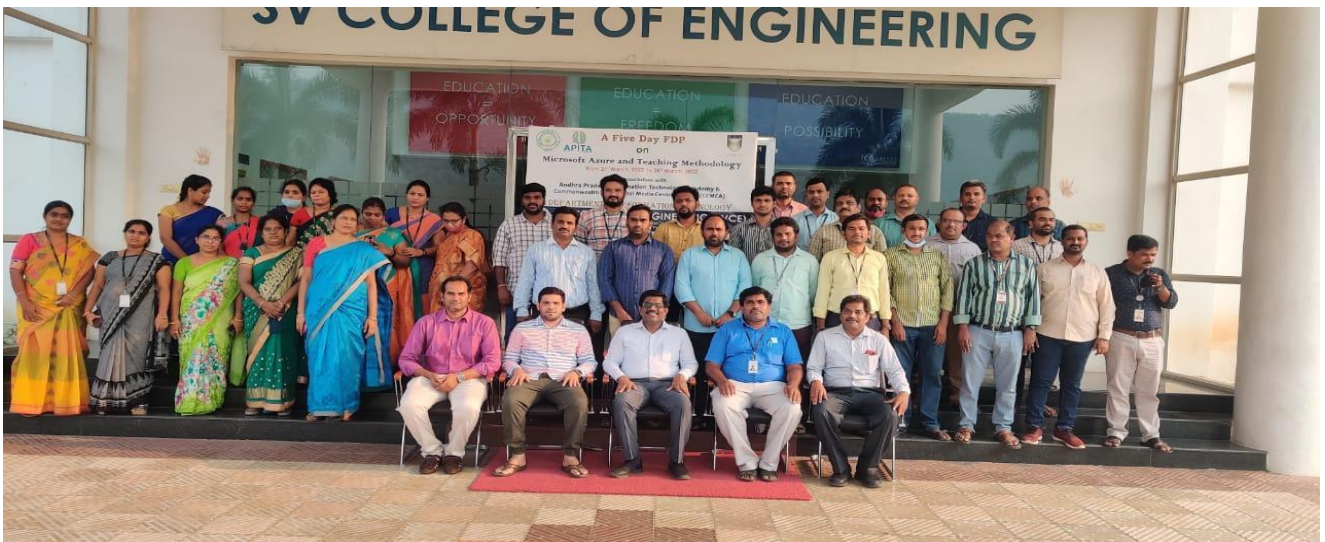
## Participant's List

| S. NO | Faculty Name | Gender | Designation | College Name | Email ID |
|---|---|---|---|---|---|
| 1 | Dr G CHANDRAIAH | M | Associate Professor | Sri Venkateswara Engineering College | chandraiah.g@svcolleges.edu.in |
| 2 | NAGIRI GUNASEKHAR REDDY | M | Assistant Professor | Sri Venkateswara Engineering College | gunasekhar.n@svcolleges.edu.in |
| 3 | BATTU DEEPA | F | Assistant Professor | Sri Venkateswara Engineering College | deepa.b1@svcolleges.edu.in |
| 4 | Dr.D.Shobha Rani | F | Associate Professor | Sri Venkateswara Engineering College | shobharani.d@svcolleges.edu.in |
| 5 | T Santosh Kumar Reddy | M | Assistant Professor | Sri Venkateswara Engineering College | thikkamsantosh@svcolleges.edu.in |
| 6 | K Kavitha | F | Assistant Professor | Sri Venkateswara Engineering College | kavitha.ks@svcolleges.edu.in |
| 7 | D.Shahin | M | Lab Programmer | Sri Venkateswara Engineering College | shahin.d@svcolleges.edu.in |
| 8 | M.jyothi | F | Lab Programmer | Sri Venkateswara Engineering College | jyothi.mp@svcolleges.edu.in |
| 9 | Mrs G T PRASANNA KUMARI | F | Assistant Professor | Sri Venkateswara Engineering College (SVEC) | tabithaprasanna@gmail.com |
| 10 | NANDALA NARAYANAMMA | F | Assistant Professor | Sri Venkateswara Engineering College (SVEC) | nandalanarayanamma@gmail.com |
| 11 | Charishma Pokala | F | Assistant Professor | Annamacharya Institute Of Technology And Sciences-Tirupati | charishma123sai@gmail.com |
| 12 | Posina Anusha | F | Assistant Professor | Annamacharya Institute Of Technology And Sciences-Tirupati | anusha.ksrm@gmail.com |
| 13 | Dr. C Gangaiah Yadav | M | Associate Professor | Siddartha Institute of Science and Technology, Puttur,AP | ganga.486@gmail.com |
| 14 | Somasekhar Akula | M | Associate Professor | Siddartha Institute of Science and Technology, Puttur,AP | somasekhar3804@gmail.com |
| 15 | Ch Sreenu Babu | M | Assistant Professor | Sree Vidyanikethan Engineering College (Autonomous) | sreenubabu.ch@gmail.com |
| 16 | BALAJI.K | M | Assistant Professor | Sree Vidyanikethan Engineering College | balajikcse@gmail.com |

| | | | | (Autonomous) | |
|---|---|---|---|---|---|
| 17 | S. Sivanantham | M | Assistant Professor | Sree Vidyanikethan Engineering College (Autonomous) | sivanantham.s@vidyanikethan.edu |
| 18 | Dr.K.Vijaya Lakshmi | F | Assistant professor | S.V.U.College of CM&CM; S.V.UNIVERSITY | vijayalakshmik4@gmail.com |
| 19 | Dr.Sandhya Tatekalva | F | Assistant Professor | S.V.U.College of CM&CM; S.V.UNIVERSITY | dr.sandhyasatish@gmail.com |
| 20 | Dr.G.V.Ramesh Babu | M | Assistant Professor | S.V.U.College of CM&CM; S.V.UNIVERSITY | gvrameshbabu74@gmail.com |
| 21 | Govardhan Ch | M | Assistant professor | Sree Rama Engineering College | gvardhanc@gmail.com |
| 22 | Shaik Shameen Taz | F | Assistant Professor | Sree Rama Engineering College | shameen567@gmail.com |
| 23 | Dr.R.Ravindraiah | M | Associate Professor | Siddharth Institute Of Engineering And Technology, Puttur | ravindra.ranga@gmail.com |
| 24 | JHANSI J | F | Assistant professor | Siddharth Institute Of Engineering And Technology, Puttur | jhansisietk@gmail.com |
| 25 | BATHENA MUNILAKSHMI | F | Assistant Professor | Sri Padmavati Mahila Visvavidyalayam | munilakshmi.cse@gmail.com |
| 26 | Matli Praveen Reddy | M | Assistant professor | Siddartha Educational Academy Group of Institutions | mpreddy1991@gmail.com |
| 27 | D.Vijaya Kumar Reddy | M | Assistant professor | Siddartha Educational Academy Group of Institutions | vijay.4b4@gmail.com |
| 28 | Dr S Murali Krishna | M | Assistant Professor | Sri Venkateswara College of Engineering | muralikrishna.s@svcolleges.edu.in |
| 29 | BASI REDDY A | M | Assistant Professor | Sri Venkateswara College of Engineering | basireddy.a@svcolleges.edu.in |
| 30 | Nara Nalini | F | Assistant Professor | Sri Venkateswara College of Engineering | nalini.nara@svcolleges.edu.in |
| 31 | P.Leela | F | Assistant Professor | Sri Venkateswara College of Engineering | leelapachappa@gmail.com |
| 32 | Mr.K.NARESH | M | Assistant Professor | Sri Venkateswara College of Engineering | nareshroc123@gmail.com |
| 33 | P JAYA PRAKASH | M | Assistant Professor | Sri Venkateswara College of Engineering | jayaprakash.p1@svcolleges.edu.in |
| 34 | G TAGORE SAI PRASAD | M | Assistant Professor | Sri Venkateswara College of Engineering | tagore.g@svcolleges.edu.in |
| 35 | Dr.K.Himabindu | F | Associate Professor | Sri Venkateswara College of Engineering | bindukar.pujari@gmail.com |
| 36 | P Lokesh Kumar | M | Assistant | Sri Venkateswara College of | lokesh.p2@svcolleges. |

| | Reddy | | Professor | Engineering | edu.in |
|---|---|---|---|---|---|
| 37 | Dr.N.Sudhakar Reddy | M | Associate Professor | Sri Venkateswara College of Engineering | nsreddyonline@gmail.com |
| 38 | Dr.K.Sekar | M | Associate Professor | Sri Venkateswara College of Engineering | sekhar.k@svcolleges.edu.in |
| 39 | Dr. P. Dileep Kumar Reddy | M | Associate Professor | Sri Venkateswara College of Engineering | dileepreddy503@gmail.com |
| 40 | Venkataramana Reddicherla | M | Assistant Professor | Sri Venkateswara College of Engineering | venkataramana.r@svcolleges.edu.in |
| 41 | Shaik Mohammad Rafi | M | Assistant Professor | Sri Venkateswara College of Engineering | rafi.md@svcolleges.edu.in |
| 42 | B.Ramakantha Reddy | M | Assistant Professor | Sri Venkateswara College of Engineering | ramakanthareddy.b@svcolleges.edu.in |
| 43 | A Ganesh | M | Assistant Professor | Sri Venkateswara College of Engineering | ganesh.a@svcolleges.edu.in |
| 44 | Dr.R.Swathi | F | Associate Professor | Sri Venkateswara College of Engineering | swathii.r@svcolleges.edu.in |
| 45 | I.Madhavilatha | F | Lab Programmer | Sri Venkateswara Engineering College | madhavi.li@svcolleges.edu.in |
| 46 | K.Sreedevi | F | Lab Programmer | Sri Venkateswara College of Engineering | sreedevi.kr@svcolleges.edu.in |
| 47 | Dr.K.Sree Divya | F | Professor | Sri Venkateswara College of Engineering | sreedivya.k1@svcolleges.edu.in |

**\*\*\*\*\*   Thanking you all   \*\*\*\*\***