

ST. MARTIN'S ENGINEERING COLLEGE

(An Autonomous Institute)

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| NAAC-Accredited A+ Grade | NBA Accredited

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Dhulapally, Secunderabad-500 100



www.smec.ac.in

5-Day Online International Hands-On Certification Training

On “Python Programming”

(August 20th to 24th 2020)

A 5-Days Online International Hands-On Certification Training in “Python Programming” is being organized from 20th August to 24th August 2020 by the Departments of Computer Science and Engineering and Information Technology, St. Martin’s Engineering College in association with Lebanese French University.

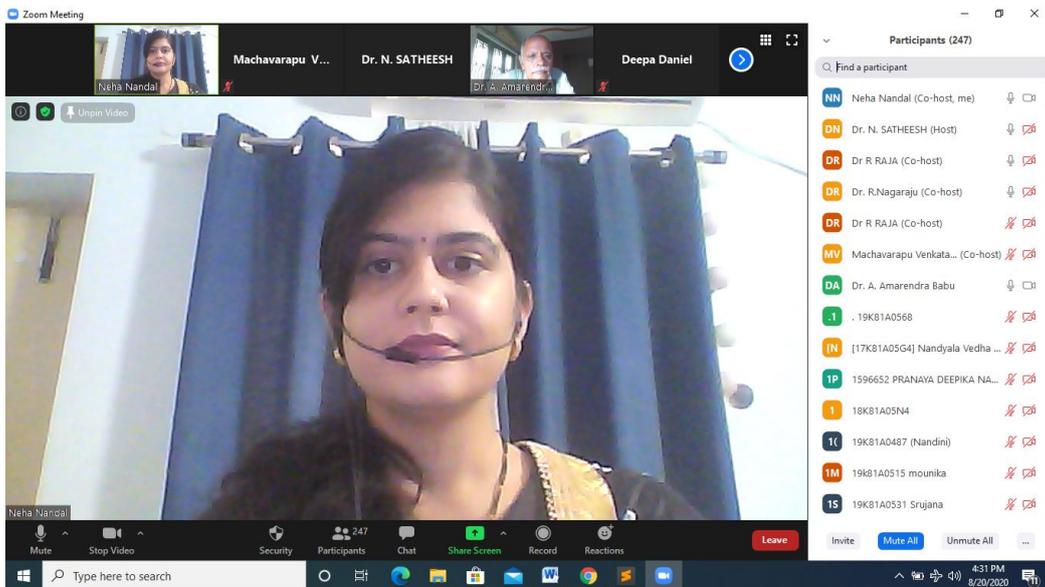
Objectives of the Certification Training:

The key idea of this program is not only to train in python programming but also to apply python in solving implementation challenges associated with application development, web development, game development, scientific and numeric computing. According to the Developer Survey, Python is the most wanted programming language, and most in-demanded technologies bestowing an almost 19% growth over the last 5 years. Python Professionals have tremendous growth, lucrative salary, and also well-known perks.

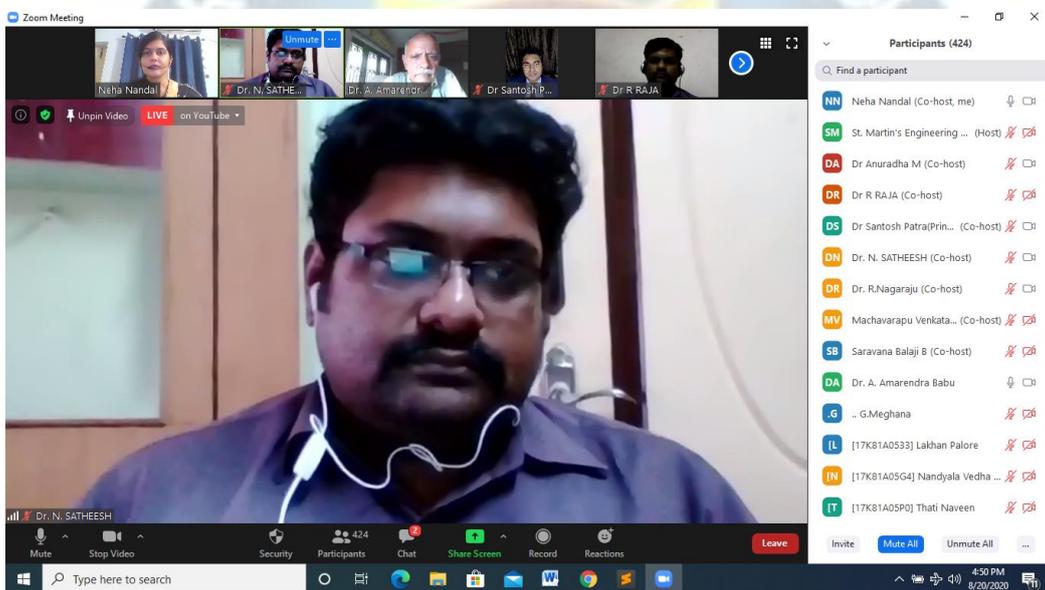
Day 1: 20-08-2020

Inauguration

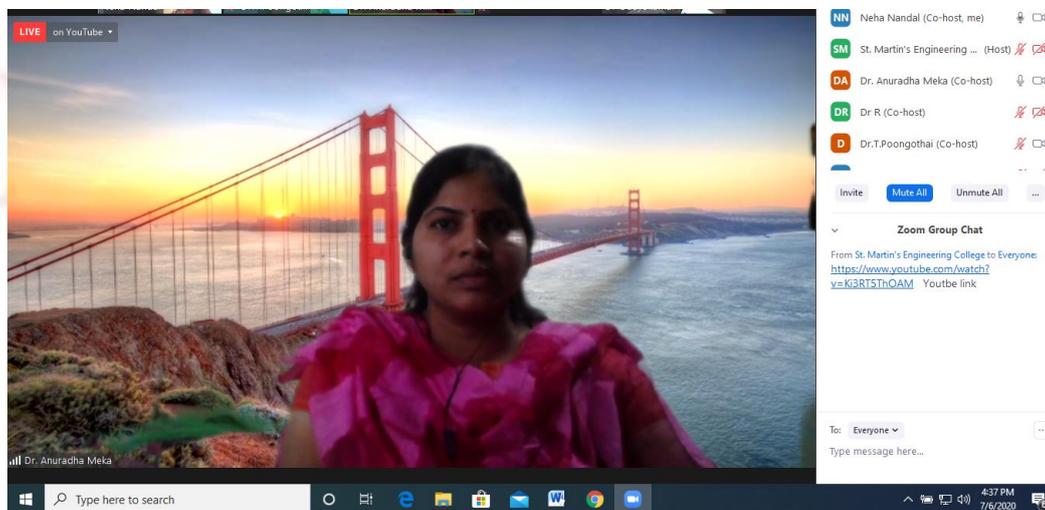
The Python Certification Training Program is inaugurated on 20th AUGUST 2020 evening at 4:30 PM on online platform of Zoom. The Program started by welcome address by Mrs. Neha Nandal, Assistant Professor, CSE followed by program introductory address by Dr. N. Satheesh, Professor, CSE. Later Dr. Anuradha, HOD(CSE) and Dr. N. Nagaraju, HOD(IT) addressed the gathering. Then the presidential address has been given by the Principal of SMEC, Dr. P Santosh Kumar Patra. Later, the guest of honor Dr. Sarvana Balaji, Assistant Professor, Department of Information Technology, College of Engineering & Computer Science, Lebanese French University, Erbil, Iraq, interacted with the participants. Then the Chief Guest, Dr. Amin Salih Mohammed, the Vice President for Scientific Affairs of Lebanese French University, Erbil, q addressed the participants. About 600 faculty and research scholars from various engineering college/Universities have participated in the program from all over the India. Finally, Dr. R. Raja, Associate Professor proposed the vote of thanks.



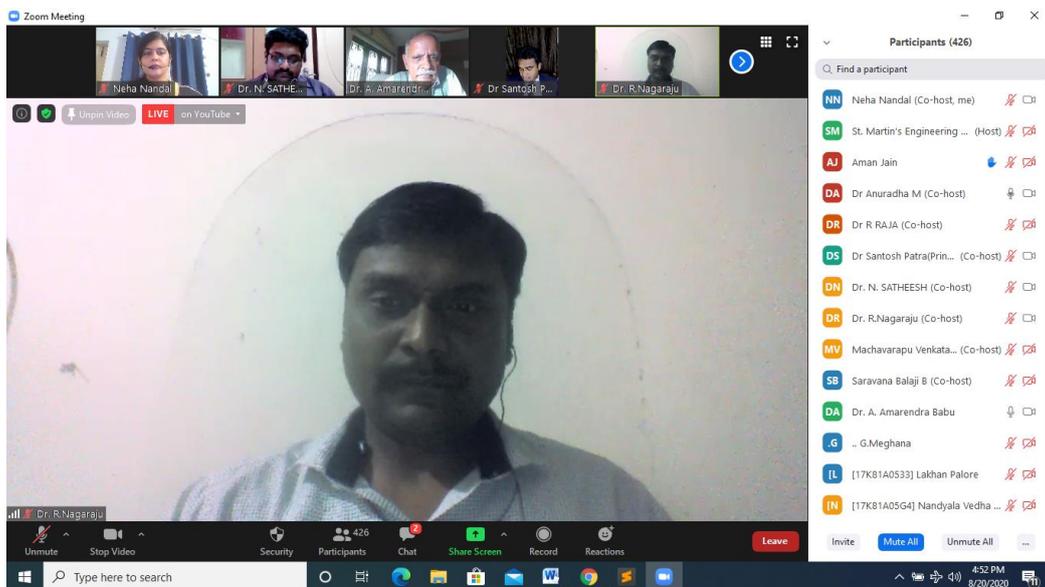
Ms. Neha Nandal giving welcome address



Dr. N Satheesh addressing participants



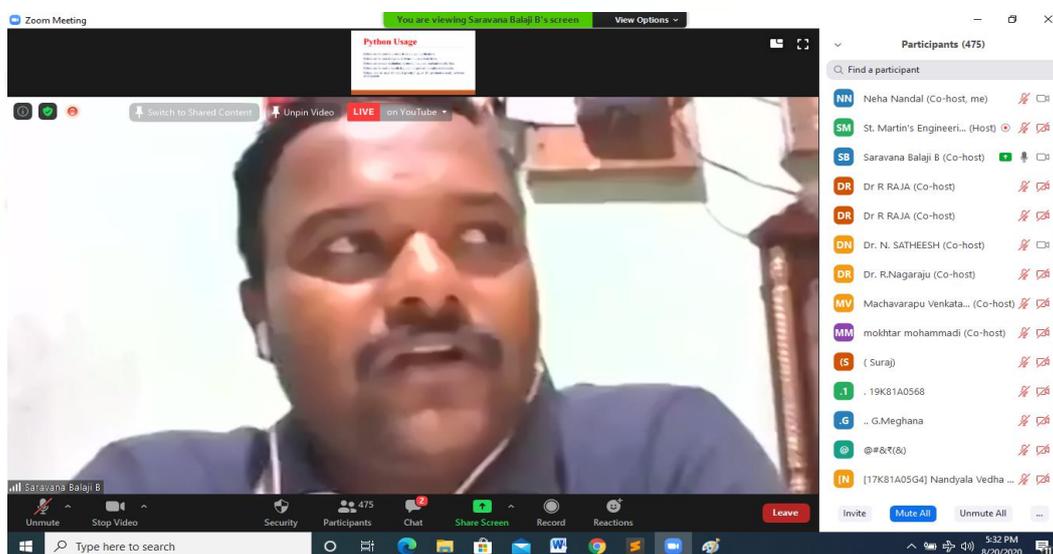
Dr. Anuradha, HOD, CSE addressing participants



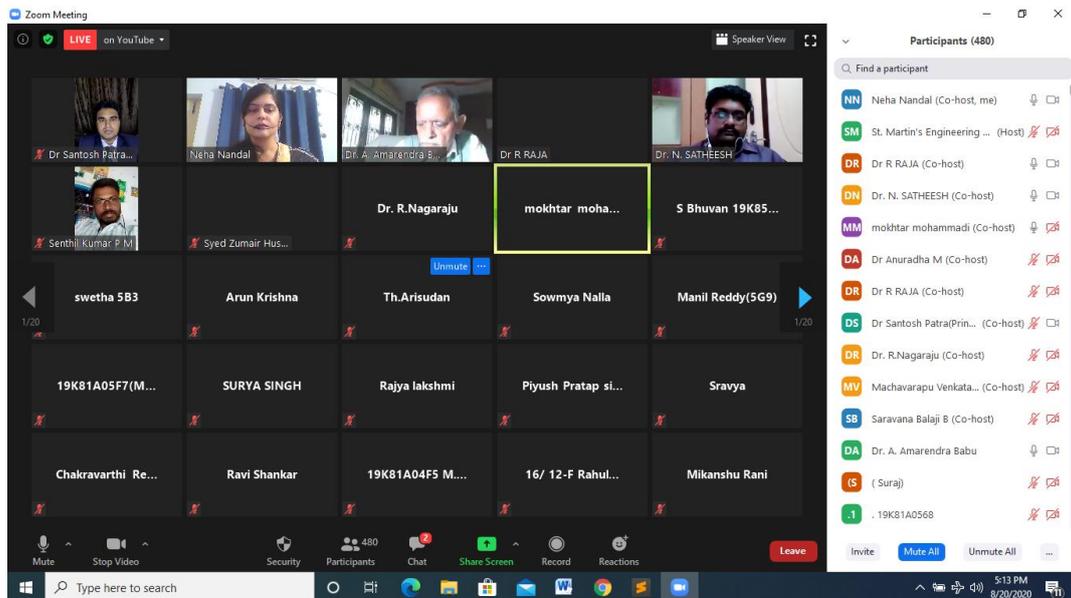
Dr. R. Nagaraju, HOD, IT addressing participants



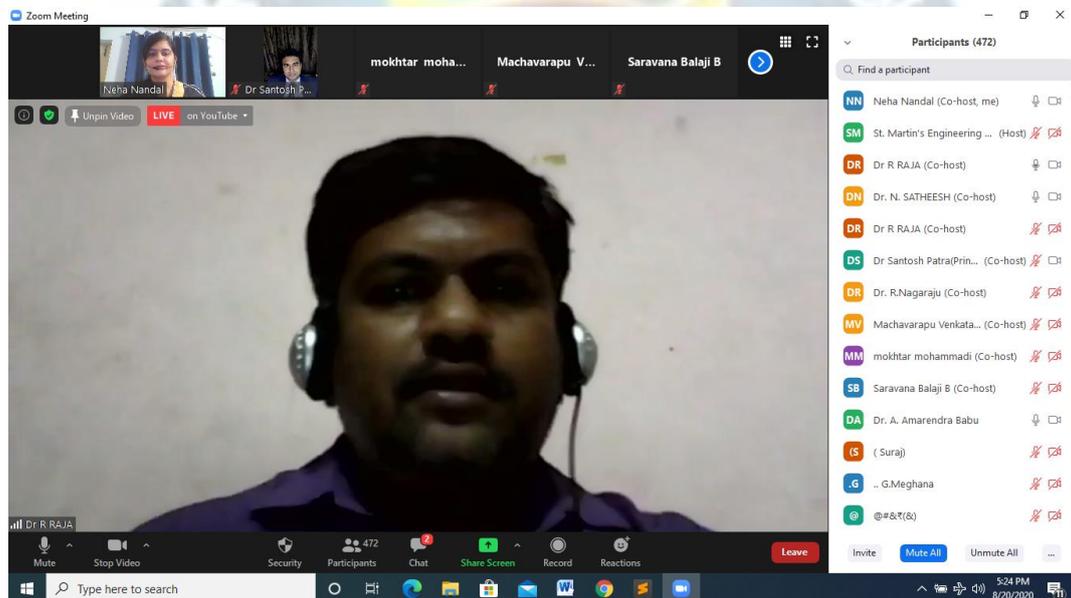
Dr. P. Santosh Kumar Patra, Principal, SMEC addressing participants



Dr Sarvana Balaji, Assistant professor Lebanese French University addressing participants



Dr. Mokhtar Mohammed, interacting with participants.



Dr. R RAJA, Professor, CSE, SMEC saying vote of thanks

Session: Fundamentals of Python, Variables, Data Types, Conditions and Loops

Resource person: Dr. Sarvana Balaji, Assistant Professor, Department of Information Technology, College of Engineering & Computer Science, Lebanese French University, Erbil, Iraq .

Dr. Sarvana Balaji started with the introduction of Python. The installation guide for software of Python has been given to the participants on the prior basis. Dr. Sarvana Balaji has given introduction to Python and its syntax. Then Dr. Balaji talked about the simple program in python and started hands-on session. The concept of indentation is discussed by the speaker and type-casting. The concepts of loop, conditions, and data types has been taken and shown with example by the speaker. Then, the membership operators have been discussed with the participants. The session went really useful and Speaker has handled all queries of participants very efficiently.

Online International Hands - On Certification Training “PYTHON PROGRAMMING”

DR. SARAVANA BALAJI B
ASSISTANT PROFESSOR,
COLLEGE OF ENGINEERING & COMPUTER SCIENCE
LEBANESE FRENCH UNIVERSITY - ERBIL

Participants (471)

- Neha Nandal (Co-host, me)
- St. Martin's Engineering ... (Host)
- Saravana Balaji B (Co-host)
- Dr R RAJA (Co-host)
- Dr Santosh Patra(Prin... (Co-host)
- Dr. N. SATHEESH (Co-host)
- Dr R RAJA (Co-host)
- Dr. R.Nagaraju (Co-host)
- Machavarapu Venkata... (Co-host)
- mokhtar mohammadi (Co-host)
- Dr. A. Amarendra Babu
- (Suraj)
- .19K81A0568
- .. G.Meghana

Dr. Sarvana Balaji delivering lecture to participants

Why Python?

- Python works on different platforms (Windows, Mac, Linux, Raspberry Pi, etc).
- Python has a simple syntax similar to the English language.
- Python has syntax that allows developers to write programs with fewer lines than some other programming languages.
- Python runs on an interpreter system, meaning that code can be executed as soon as it is written.
- Python can be treated in a procedural way, an object-orientated way or a functional way.

Participants (475)

- Neha Nandal (Co-host, me)
- St. Martin's Engineeri... (Host)
- Saravana Balaji B (Co-host)
- Dr. N. SATHEESH (Co-host)
- Dr R RAJA (Co-host)
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- mokhtar mohammadi (Co-host)
- (Suraj)
- .19K81A0568
- .. G.Meghana
- @#&*(8)
- [17K81A05F3] Manisyam Komm...

Dr. Sarvana Balaji talking about Python

Python Quick start

Python is an interpreted programming language, this means that as a developer you write Python (.py) files in a text editor and then put those files into the python interpreter to be executed.

Let's write our first Python file, called helloworld.py, which can be done in any text editor.

Code

```
#helloworld.py
print("Hello, World!")
```

Running

```
C:\Users\Your Name>python helloworld.py
```

Output

```
Hello, World!
```

The screenshot also shows a Zoom meeting interface with participants: Neha Nandal, Dr. N. SATHEESH, and Saravana Balaji B. The meeting title is 'Python Quick start' and it is being recorded on YouTube.

Dr. Sarvana Balaji Delivering Hands-On Session

The screenshot shows a hands-on session in the Spyder Python IDE. The code editor displays the following Python code:

```
1 x=1
2 y=1.2
3 z=1j
4
5 a=float(x)
6 b=int(y)
7 c=int(z)
8 print(type(x))
9 print(type(y))
10 print(type(z))
11 print(type(a))
12 print(type(b))
13 print(type(c))
```

The console output shows the execution results:

```
mirrendra/.spyder-py3
5
Hello World
In [33]: runfile('C:/Users/mirrendra/.spyder-py3/temp.py', wdir='C:/Users/mirrendra/.spyder-py3')
5
Hello World
<class 'int'>
<class 'float'>
<class 'complex'>
In [34]: runfile('C:/Users/mirrendra/.spyder-py3/temp.py', wdir='C:/Users/mirrendra/.spyder-py3')
<class 'int'>
<class 'float'>
<class 'complex'>
In [35]:
```

The Zoom meeting interface shows Dr. Sarvana Balaji as the active speaker. The meeting title is 'Python Quick start' and it is being recorded on YouTube.

Dr. Sarvana Balaji Delivering Hands-On Session

Day 2: 21-08-2020

Session: List, Tuples, Arrays, Strings, Basics of OOPs

Resource person: Dr. Sarvana Balaji, Assistant Professor, Department of Information Technology, College of Engineering & Computer Science, Lebanese French University, Erbil, Iraq

second data of Online certification training program started with the greetings of evening at 5:30 PM on Zoom Platform. The key note speaker Dr. Sarvana Balaji has been introduced by the host to the participants. Speaker started with the introduction of Tuples, and List with an example. He started with hands-on session for explaining how tuple and list works. The

difference between tuple and list was also discussed by the speaker. The concepts of arrays and its types has been taken and shown with example by the speaker. The topic of Sets, conditions and loops has been explained by the speaker. In Loops, different commands like for, while, else if, if else, etc. have been discussed and explained in detail. The examples of how to print range of numbers from a particular list and also how to use a 'len' function to find out the length of the string. The Basics of OOPs has been discussed and related concepts like Objects, Class, Polymorphism, Encapsulation, Abstraction etc. has been covered up by the speaker. The advantage of utilizing OOPs concepts have been shown in the session and elaborated with the help of examples in hands-on session. The discussion on Python Constructor and inheritance has also been done in the session. The participants felt overwhelmed with the session and the queries are been taken by the Speaker at the end of the session. The second day of Online certification training program went really well and valuable.

List

Negative Indexing

Negative indexing means beginning from the end, -1 refers to the last item, -2 refers to the second last item etc.

Example

#Print the last item of the list:

```
thislist = ["apple", "banana", "cherry"]
print(thislist[-1])
```

Output

Cherry

Dr. Sarvana Balaji discussing Lists

Conditions and If statements

Elif

The elif keyword is python's way of saying "if the previous conditions were not true, then try this condition".

Example

```
a = 33
b = 33
if b > a:
    print("b is greater than a")
elif a == b:
    print("a and b are equal")
```

Output

a and b are equal

Dr. Sarvana Balaji discussing conditional statements

The screenshot shows a Zoom meeting interface. At the top, there are participant names: Neha Nandal, Dr. N. SATHEESH, Dr R RAJA, and St. Martin's Engi... Below this, a slide is displayed with the title "Basics of OOPs Concepts" in large red font. The slide content reads: "Major object-oriented concepts of Python programming language are given below:" followed by a numbered list: 1. Object, 2. Class, 3. Method, 4. Inheritance, 5. Polymorphism, 6. Data Abstraction, 7. Encapsulation. The Zoom interface includes a top bar with "Zoom Meeting" and "You are viewing Saravana Balaji B's screen", a bottom toolbar with "Unmute", "Start Video", "Security", "Participants", "Chat", "Share Screen", "Record", "Reactions", and "Leave", and a right-hand panel titled "Participants (344)" with a search bar and a list of participants including Neha Nandal, St. Martin's Engineeri..., Saravana Balaji B, Joshua Daniel, Rituraj Singh, Dr R RAJA, Dr. Meka Anuradha, Dr. N. SATHEESH, (Suraj), .Katappa, @#, [17K81A05G4] Nandyala Vedha..., 1524401 MALI PRAJWAL PATIL, and 18951A0160 Asif. The Windows taskbar at the bottom shows the search bar and system tray with the time 6:33 PM on 8/21/2020.

Dr. Sarvana Balaji discussing OOPs concepts

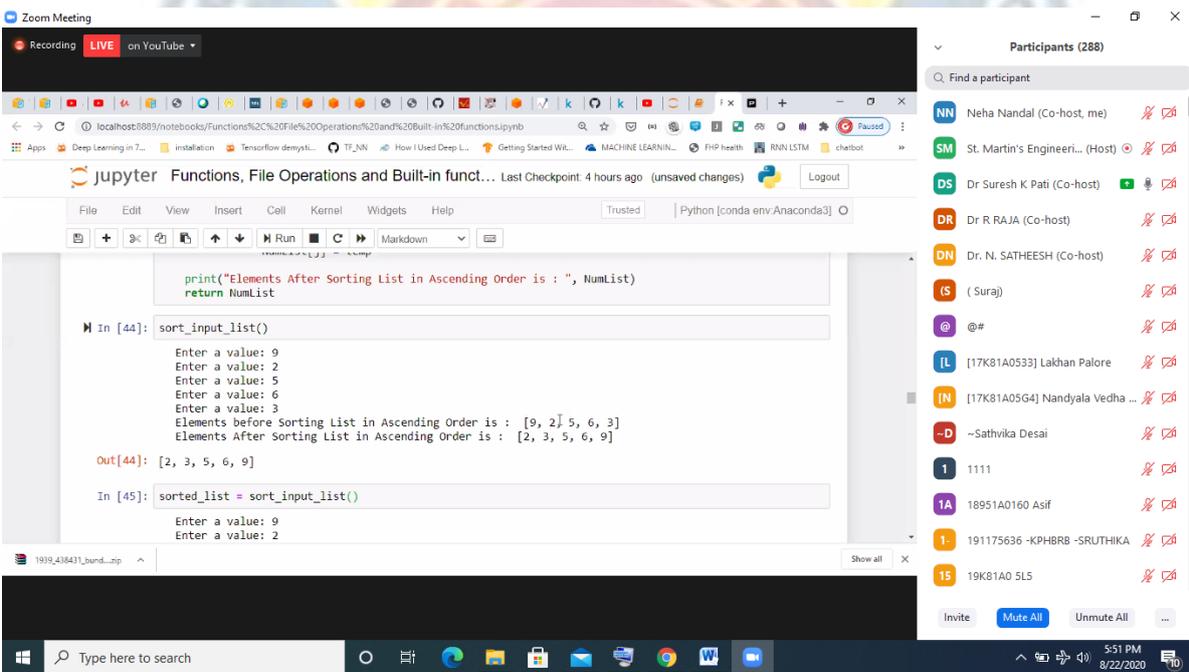
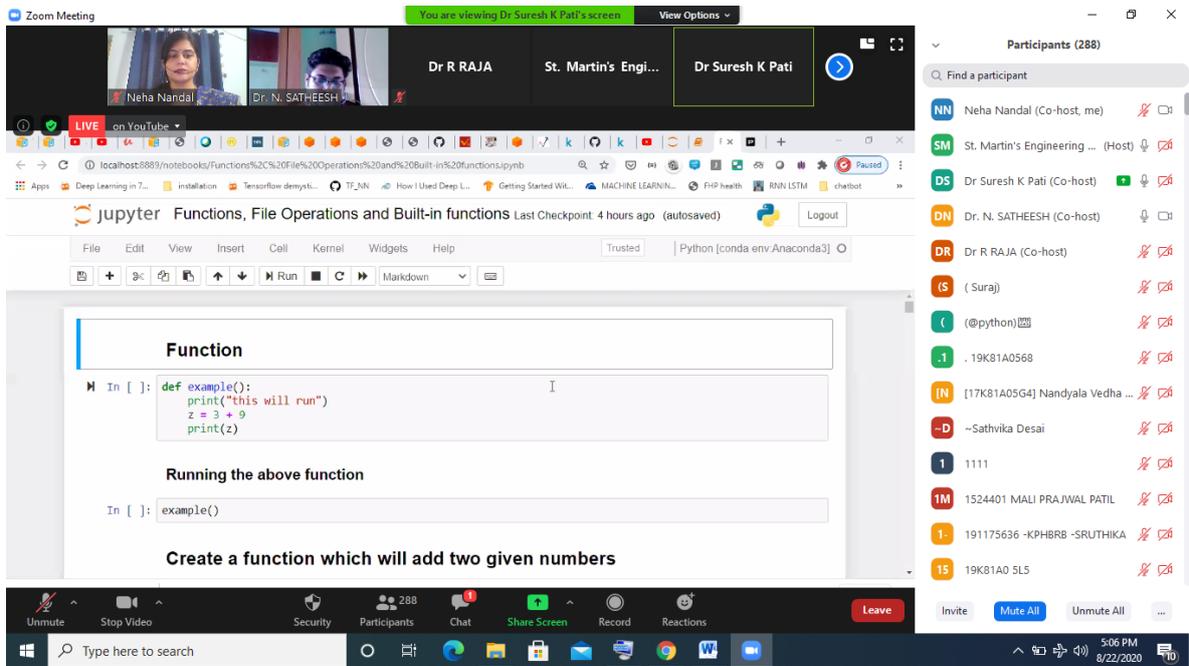
Day 3: 22-08-2020

Session: FUNCTION DECLARATION AND METHODS, BUILT IN FUNCTIONS, FILE HANDLING

Resource person: Dr. Suresh Kandulapati, Data Scientist, TEK Systems, Hyderabad.

The third day of Online certification training program started with delightful evening at 5:30 PM. Dr. Suresh Kandulapati started with little revision on previous sessions. He, then started with Functions. Dr. Suresh Kandulapati explained the concept with Jupyter notebook. He guided participants to create new cell in notebook. The creation of functions in python, how to give parameters, multiplication, addition function, functions to work with lists, etc. has been explained by the speaker. Discussion on taking input from user, numpy library, pandas library, built in functions, importing in built functions, has been covered up in the session. Python programs to calculate minimum value, maximum value from the list, round in value were explained by the speaker in depth. Then, Dr. Suresh discussed about how to change data type in python. Later, the advanced topic of file operations in which sir discussed about how to write any information in a new file, or to append new information in existing file, or to read the file, has been discussed by the speaker. Then, data frames and different functions related to the same are covered up in the session.

The session was very admirable and participants found it very useful. The queries of participants have been handled by the Speaker in the end.



Day 4: 23-08-2020

Session: DATA PROCESSING, VISUALIZATION AND NLP

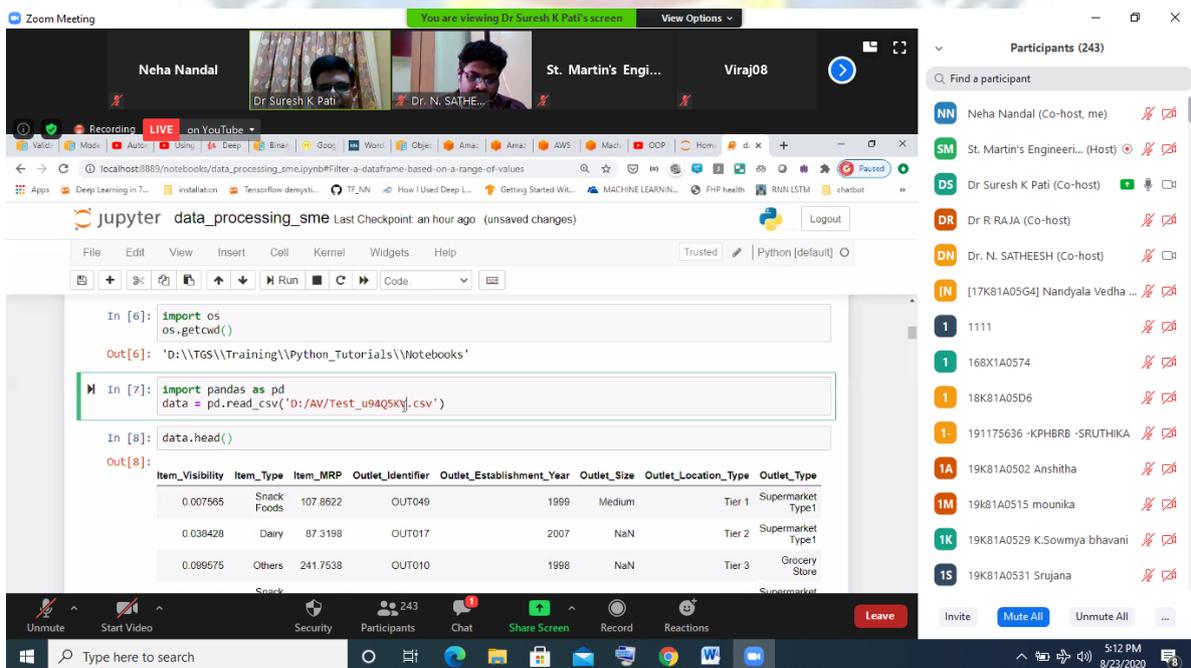
Resource person: Dr. Suresh Kandulapati, Data Scientist, TEK Systems, Hyderabad.

The fourth day of Online certification training program started at 5:30 PM. Dr. Suresh Kandulapati started with the revision of previous day topics. Then, the concept of data processing and how it is becoming one of the trending area to work on in any field was being discussed. For that, first he told how to change the current working directory. Then, he told how to import the data with python commands in jupyter lab. Next, he explained how to fill up the Null Values in the data and creation of dummy variables. Also, to make machine

understand the different categories in data, what commands to be written was being discussed in the session. The operations like Group by, crosstab, conditional operations, filter particular range of values, and assigning labels were also covered up in the session. Next, the concept of Data visualization has started in which Dr. Suresh started with explaining we can visualize data in form of bar charts, histograms, etc. using pandas library in python. The use of matplotlib library, box plot, line plot, time series data set representation etc. has been discussed in the session. Lastly queries of participants regarding data processing and Natural Language Processing have been handled by the speaker. The participants found the session very informative and useful.



Dr. Suresh Kandulapati Interacting With Participants



The screenshot shows a Zoom meeting in progress. The main window displays a Jupyter Notebook titled 'data_processing_sme'. The code in the notebook is as follows:

```

dataset["Age"].plot(kind='bar')

plt.minorticks_on()
plt.grid(which='major', linestyle='-', linewidth='0.5', color='green')
plt.grid(which='minor', linestyle=':', linewidth='0.5', color='black')

plt.show()

```

The output of the code is a bar chart with 10 bars of different colors (blue, orange, green, red, purple, brown, pink, yellow, grey, cyan). The y-axis ranges from 0 to 50. The Zoom meeting interface shows a list of participants including Dr. K S Sadasivam, S E Prince Joseph, Asutosh Kumar, 19k81A05A1 Shi..., and Viraj08. The meeting is recorded and live on YouTube.

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plt.grid(which='minor', linestyle=':', linewidth='0.5', color='black')

plt.show()

```

The output of the code is a scatter plot showing the relationship between 'total_bill' (x-axis) and 'tip' (y-axis). The plot includes a blue regression line and marginal histograms for both variables. The Zoom meeting interface shows a list of participants including R N PANDA, Dr. K S Sadasivam, S E Prince Joseph, Asutosh Kumar, and 19k81A05A1 Shi... The meeting is recorded and live on YouTube.

Day 5: 25-08-2020

Session: CREATING WEB APPLICATIONS AND CONNECTION WITH DATABASE

Resource person: Dr. Suresh Kandulapati, Data Scientist, TEK Systems, Hyderabad.

The fifth day has started with the interaction of participants with Keynote speaker, Dr. Suresh Kandulapati. The keynote speaker started with the revision of previous day concepts. Then, he started with the topic of Web Applications and explained how to connect with the database with pandas. Then Dr. Suresh explained about downloading NLTK and concepts of tokenization, Stemming, Lemmatization, cleaning, Stop words, duplicate removal, fill null values, word count of each review has been covered up in the session. Speaker has discussed

about detection of review sentiments on Kaggle data of Amazon and provided a hands-on session for the same. Then, he discussed about Product Sentiment Analysis using TextBlob library and shown how polarities can be assigned to the reviews. Then, the topic of APIs get started in which he talked about restful-flasks. Discussion on another built-in library ‘numpy’ has been explained in the session. Participants found the session very useful and informative. With this, the last day of Online certification training program ended successfully.

The screenshot shows a Jupyter Notebook interface with the following code cells:

```
In [47]: import dbms
import pandas as pd

In [48]: user = "scott"
password = "tiger"
service_name = "orcl"
host = "10.188.193.152"
port = "1521"

In [49]: con = dbms.connect.oracle(user, password, service_name, host, port)
cs = con.cursor()

In [50]: cs.execute("select * from EMPLOYEES")
columns = [x[0] for x in cs.description]
pdf = pd.DataFrame(cs.fetchall(), columns=columns)

In [51]: pdf.head()
Out[51]:
```

EMPLOYEE_ID	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER	HIRE_DATE	JOB_ID	SALARY	COMMISSION_PCT	MANAGER_ID	DEPT
100	STEVEN	King	STEVEN.KING	549871	1981-09-08	AD_PRES	240800	0	None	10
101	NEENA	Koehn	NEENA.KOHN	555740	1989-03-22	AD_ASST	17000	0	100	10
102	LEENA	Kobayashi	LEENA.KOYASHI	555750	1991-09-09	AD_ASST	17000	0	100	10
103	MARKUS	Reiter	MARKUS.REITER	555760	1983-07-01	AD_ASST	17000	0	100	10
104	DEHA	Stevens	DEHA.STEVENS	555770	1987-04-01	AD_ASST	17000	0	100	10

On the right side, there is a video call overlay showing participants: Neha Nandal, Dr. Suresh K. Pati, and Dr. N. SATHEESH CSE.

The screenshot shows a Zoom meeting interface with a Jupyter Notebook in the foreground. The notebook code includes:

```
re.UNICODE)

In [59]: # Function for expanding contractions
def expand_contractions(text,contractions_dict=contractions_dict):
def replace(match):
return contractions_dict[match.group(0)]
return contractions_re.sub(replace, text)

In [60]: # Expanding Contractions in the reviews
df['reviews.text']=df['reviews.text'].apply(lambda x: expand_contractions(x))

Lowercase the reviews

In [ ]: df['cleaned']=df['reviews.text'].apply(lambda x: x.lower())

Remove digits and words containing digits

In [ ]: df['cleaned'].tail()

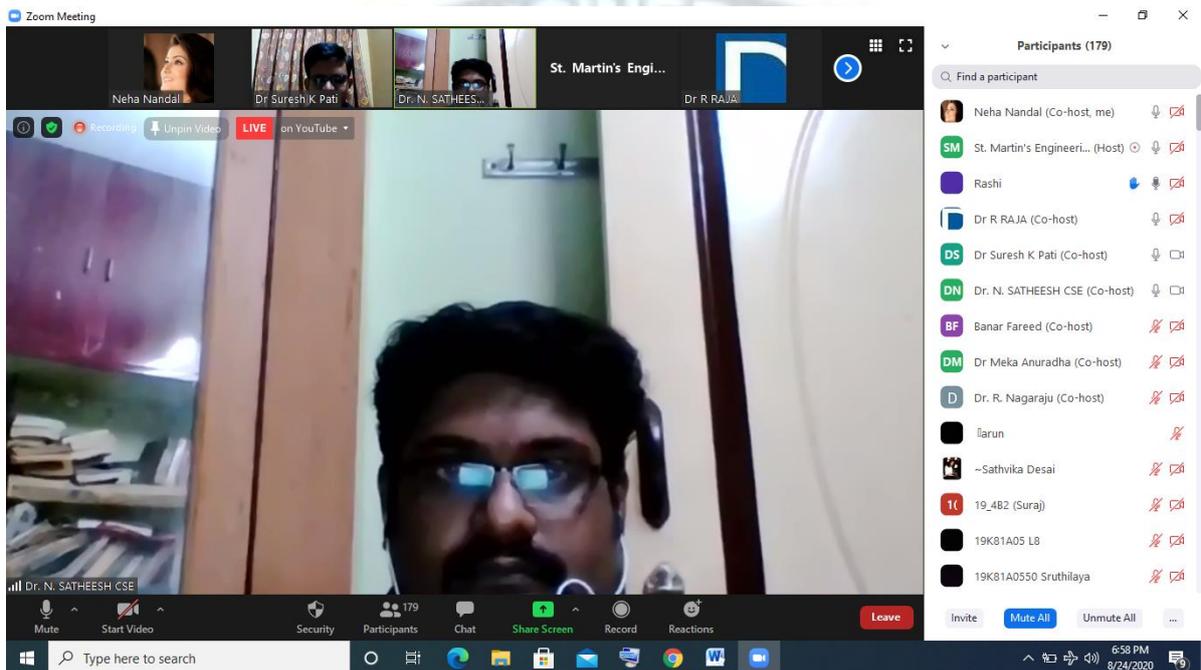
In [ ]: df['cleaned']=df['cleaned'].apply(lambda x: re.sub('\d+', '', x))
```

The Zoom meeting interface shows a participant list on the right with 194 participants. The list includes:

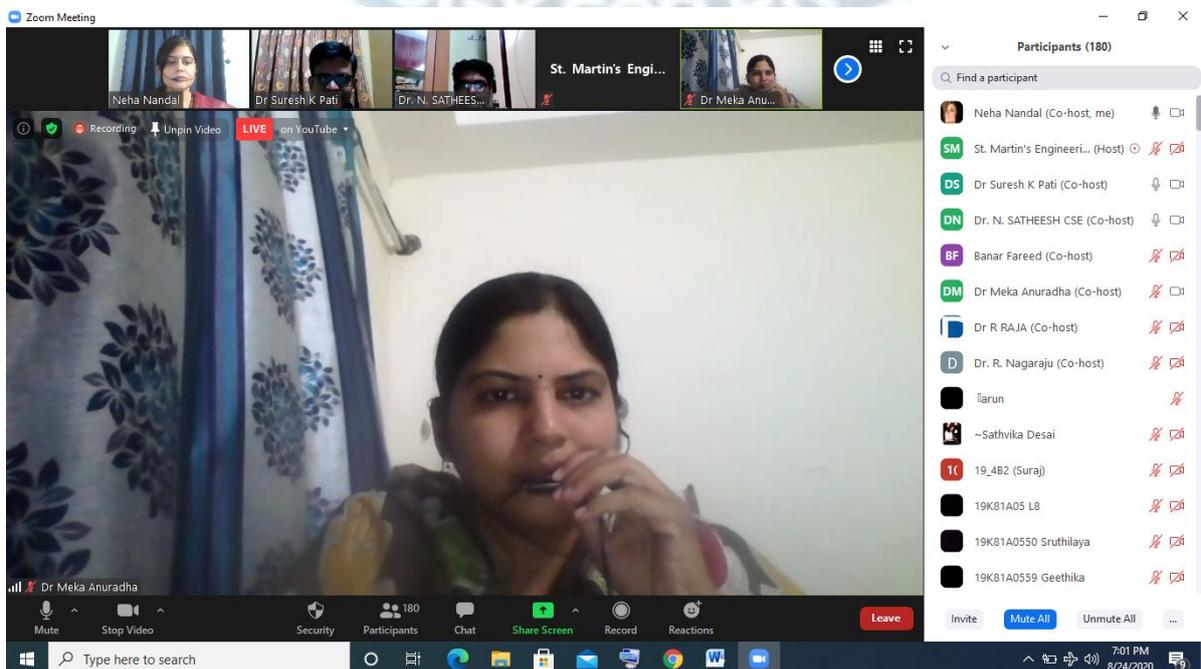
- Neha Nandal (Co-host, me)
- St. Martin's Engineer... (Host)
- Dr Suresh K Pati (Co-host)
- Dr R. RAJA (Co-host)
- Dr. N. SATHEESH CSE (Co-host)
- llarun
- Sathvika Desai
- 1524401 MALI PRAJWAL PATIL
- 17K81A05C8 #AJAY#
- 19_4B2 (Suraj)
- 19-5F9 Sai Bharadwaja
- 19K81A0426 G.Meghana
- 19K81A04L7 Pavan Seervi
- 19K81A05 L8

Valedictory Function:

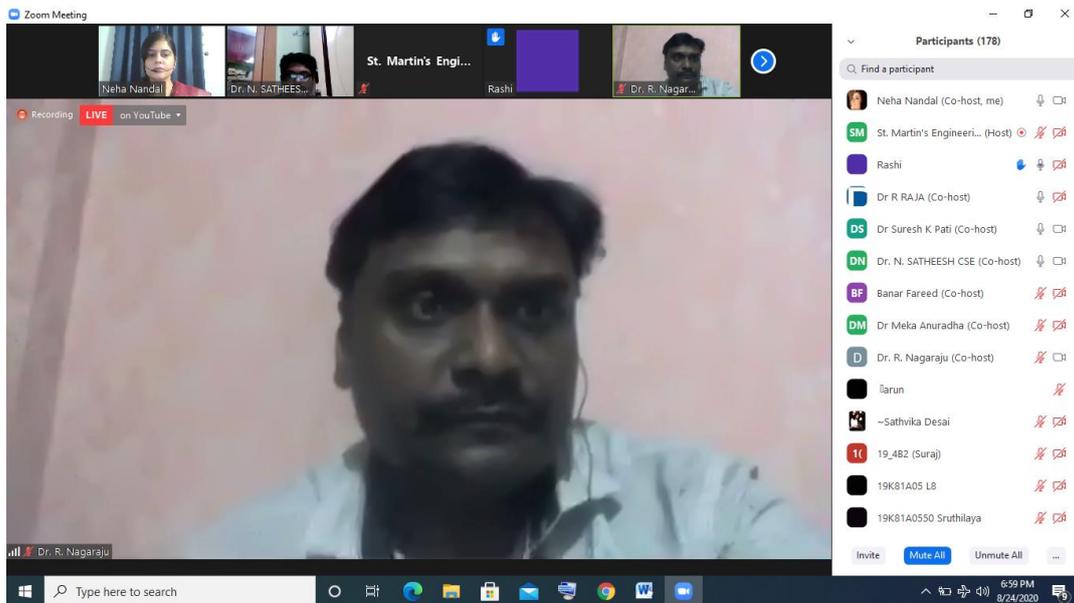
The 5 days online certification training program has completed on 24th August 2020 at 7:00 PM on online Platform of Zoom. It started with the coordinator of the program and Professor, CSE Dept., Dr. N. Satheesh, thanking all the resource persons and briefing with report of the program. After that, HOD-CSE, Dr. Anuradha & HOD-IT, Dr. R. Nagaraju greeted everyone involved in program and shared their views about the same. Principal, St. Martin's Engineering College, Dr. P Santosh Kumar Patra gave his Presidential address and was being acknowledged by the host of the program. Later, the Guest of Honor, Dr Suresh Kandulapati interacted with all and shared his views. Then, the Chief Guest of the Valediction, Ms. Banar Fareed Ibrahim addressed the participants. Finally, online certification training program ended with the Vote of Thanks given by Mr V. L. Karteek, Assistant Professor, CSE Dept.



Dr. N Satheesh, Program Coordinator addressing participants



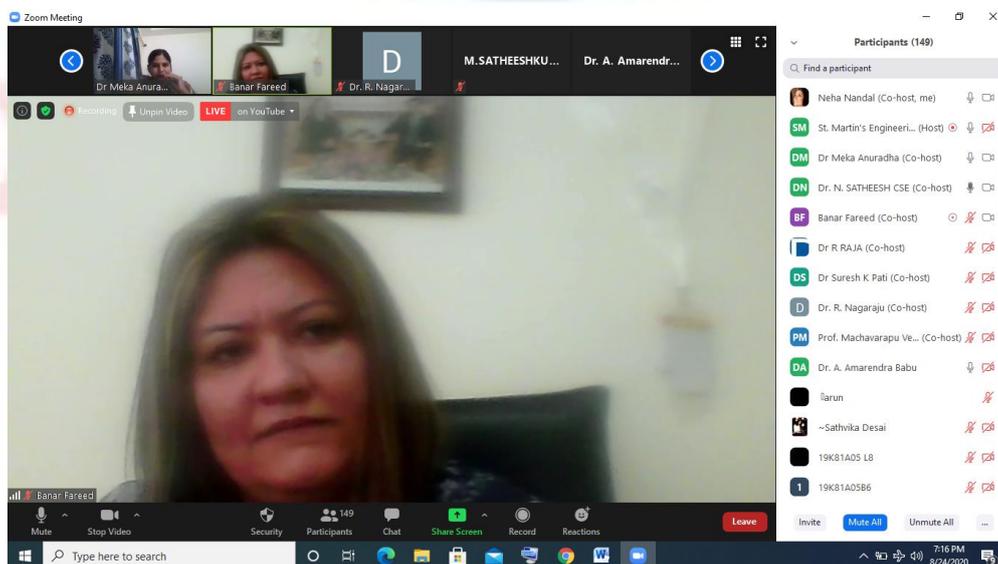
Dr. Anuradha, HOD-Incharge, CSE addressing participants



Dr. R Nagaraju, HOD-Incharge, IT addressing participants



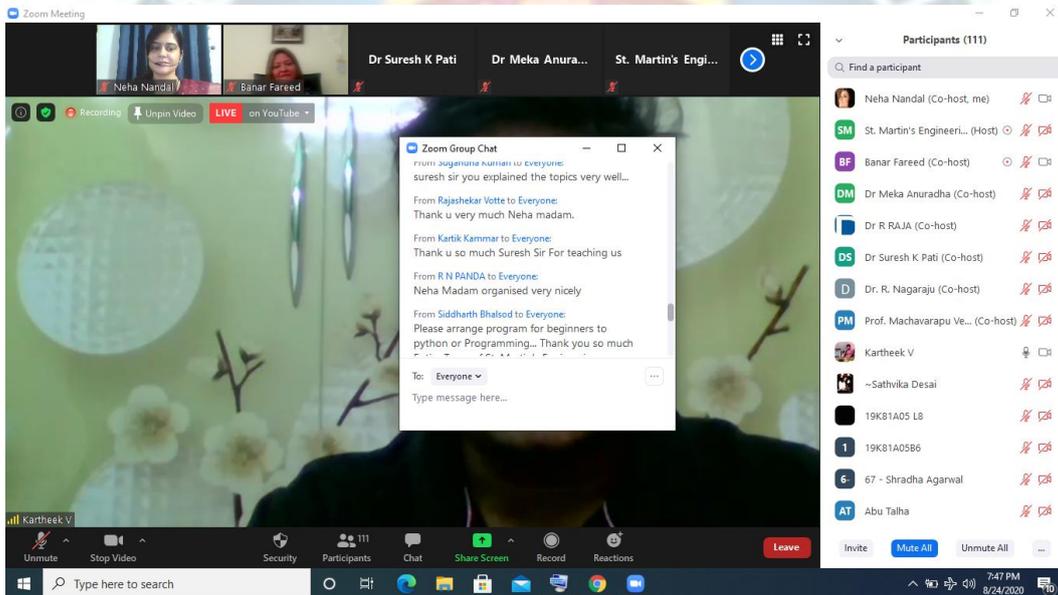
Dr. Suresh Kandulapati, Guest of honor addressing participants



Ms Banar Fareed Ibrahim, the Chief Guest interacting with participants.



Mr V.L.Kartek, Assistant Professor, CSE, SMEC saying vote of thanks



Feedback from Participants

