



**REPORT OF THE VALUE ADDED COURSE: DATA ANALYTICS USING PYTHON**

**Registration and Confirmation Process**

A registration form was prepared and the link was posted over Google Classrooms of UG and PG Science Students. There were totally 210 students were registered the course using the Google registration forms, among them 127 UG and PG science departments students (both Shift-I and II) were paid their fees through college online payment mechanism and joined the course.

**Batches**

The registered participants were divided into two batches. The online course for batch-1 was carried between 3.00 PM to 4.30 PM and for the batch two, the course was conducted between 6.30 PM to 8.00 PM. There are 72 students and 55 students were accommodated in batch-1 and 2 respectively.

**Inauguration**

The course was inaugurated on 30-09-2021 at 3.30 pm for both Batch 1 and Batch 2. The head of the department welcomed the dignitaries and the participants. Dr. A. Aloysius, coordinator of the course briefed the dynamics of the course. Rev. Dr. M. Arockiasamy Xavier SJ, Principal and Rev. Dr. S. Peter SJ, Secretary offered his felicitation. Fr. Principal encouraged and motivated the students to learn and to acquire skills making use of value added course offered by the computer science department.

The course was conducted from 30<sup>th</sup> September 2021 to 10<sup>th</sup> November 2021 with the total duration of 46 hours. We had resource persons from within and outside college namely Dr. P. Kalpana from Comp. Sci. department of NMC and Dr. S. Mala Head, Data Science, NMC along with the resource persons our college Dr. V. Arul Kumar, Asst. Prof., Dept. of Data Science and Dr. V. Jude Nirmal from CS department along with the resource person cum. Coordinators of the course Dr. A. Aloysius and Dr. K. Maheswaran.


During the course, the attendance and feedback were collected through Google form every day. The course materials were shared using whatsapp groups. The overall feedback of the course also collected at the end of the course. The students felt that the course was very much useful to enrich their knowledge.

### **Evaluation**

A mid-term examination was conducted for half an hour and a final examination was conducted for one and half hours which was also evaluated and taken into consideration for issuing the certificates. The students having more than 60% of attendance and 40% of marks in the tests will receive their course completion certificate. There are 117 out of 128 students were completed the course as per criteria.

### **Valediction:**

The valediction function of the value added course was held on 10-11-2021 at 3.30PM for the both Batch 1 and 2. Prof. A. Charles welcomed the gathering. Dr. A. Aloysius, Coordinator of the course read the detailed report the value added course: Data Analytics. The students shared the feedback about the course. Students shared that the course was very useful, affordable and helpful for their carrier. Rev. Fr. Principal and Rev. Fr. Secretary appreciate the department and the course coordinators for their successful completion of the course and the good feedback about the course from the students. The meeting came to an end with the thanking note of the course coordinator Dr. K. Maheswaran at 4.30 PM.



**DR. A. ALOYSIUS, M.Sc., M.Phil., PGDIPOL, SETU, B.A.**  
Assistant Professor in Computer Science  
School of Computing Sciences  
St. Joseph's College (Autonomous)  
Trichirappalli - 620 002  
COURSE COORDINATOR

## Inaugural Invitation

### DEPARTMENT OF COMPUTER SCIENCE St. JOSEPH'S COLLEGE (Autonomous)



Accredited at A++ Grade (4<sup>th</sup> cycle) by NAAC  
Special Heritage Status Awarded by UGC  
College with Potential for Excellence by UGC  
DBT-STAR & DST-FIST Sponsored College

**TIRUCHIRAPPALLI - 620002**



The staff and students of the department cordially invite you to the

## Inaugural Function of

### Data Analytics using Python

(A Short Term Skill Enhancement Value Added Course)

**Date: 30-09-2021 (Thursday)**

**Time: 3:30 PM**

**Platform : Google Meet**

Google Meet Link: <https://meet.google.com/avt-xyjn-yix>

**Welcome Address**

**Prof. A. Charles**

Head, Dept. of Computer Science

**Dynamics of the Course**

**Dr. A. Aloysius**

Course Coordinator

**Felicitations by**

**Rev. Dr. M. Arockiasamy Xavier SJ**, Principal, SJC

**Rev. Dr. S. Peter SJ**, Secretary, SJC

**Vote of Thanks**

**Dr. K. Maheswaran**, Course Coordinator

**ALL ARE INVITED**

**COURSE CODE: 21CSVAC101**

**Total Hrs. : 30**

**Value Added Course: DATA ANALYTICS**

**COURSE OBJECTIVE:**

The Students to be able to understand and use python programming for solving data science problems.

**Unit-I:**

**Introduction to Python Programming:** History – Variable creation - Arithmetic and logical operators - Data types and associated operations in Python - **Introduction to Python Spyder (Tool):** Basics of Spyder- Setting working Directory - Creating and saving a script file - File execution, clearing console, removing variables from environment, clearing environment - Commenting script files.

**Unit-II**

**Control structures:** Introduction - if-else family - for loop - for loop with if break- while loop – Functions and its types.

**Unit- III**

**Sequence data types:** Fundamentals - Strings - Lists – Arrays- Tuples - Dictionary - Sets - Range- Introduction to **NumPy**- ndarray.

**Unit- IV:**

**Pandas dataframe and dataframe related operations :** Reading files - Exploratory data analysis - Data preparation and preprocessing

**Unit- IV:**

**Data visualization using Matplotlib libraries** - Scatter plot -Line plot -Bar plot –Case Study using Classification – Regression techniques.

**BOOKS FOR REFERENCE:**

1. Jake Vander Plas, “Python Data Science Handbook: Essential Tools for Working with Data”, O'Reilly Media, 2016.

**SHORT TERM SKILL ENHANCEMENT  
VALUE ADDED COURSE: DATA ANALYTICS USING PYHTON**

**LIST OF REGISTERED PARTICIPANTS**

SNO	REG.NO	NAME			
			27	20PCC811	RAMYASHREE V
1	21UCS641	VOLS SIMION S	28	20UMA158	ANANDHAVEL S
2	21UPH211	FANTINUS MATHEW M	29	21UBC615	AKHIL JOY
3	21UMA255	SHIVAM S	30	19UPH257	JAMES TONY J
4	21UMA230	HANEESH J	31	20UCC540	ABISHEK F
5	20UCS522	JOHNSON JEEVA L	32	19UPH129	FREDRICK A
6	21UPH116	RIKAS M S	33	21UMA217	SIBISELVAN D
7	21PPH829	LAKSHMI SWETHA T	34	20UBC565	RISHI SUNDARESAN
8	21UCS757	MICHEAL L	35	20UCS567	SHYAM SUNDAR S
9	19UBC552	ANANDHASUDHARSAN P	36	21UCS550	PRAVIN T
10	21UCS506	DOMINIC ROZARIO I	37	21UCS150	JOSEPH SAMUEL J
11	20UCS552	KARNAN S	38	20PMA112	PRINCY A
12	21UPH251	CHIVANAESAN .J	39	21UMA240	MANISHANKAR K C
13	21UPH219	THARUN A	40	21PPH810	VISHNUPRIYAN M
14	20UBC534	MAHADHANVARSHAN S	41	21UCS101	SRIRAM S
15	21UCS103	AROCKIA SARON J	42	20UCS558	AJAY SHARMA K
16	21UBC620	JAMES PRAVEEN M	43	21PMA813	BORGIYA J
17	21UST146	VANITHA LAKSHMI S	44	21UBC660	NANDHAN J
18	20UCS537	JOEJEETH J	45	21PPH103	INIGO VALAN E
19	21PMA843	GAJALAKSHMI J	46	20UCS507	THAYANITHI S
20	20PCS920	ANUSHA R	47	19UBC530	SATHGURU S
21	21UCS646	GEEJOY V	48	21UCS762	HARISH RAGAVENDHAR S
22	21UCH241	CONSTANCE A	49	21UBC657	KARAN D
23	21UPH234	SANJAY KUMAR S	50	21UCS638	AZHAGAPAN KL
24	21UPH113	JOSE ANTO NEVIS V	51	21UCS764	VIWARGIDDH VAMANA V S
25	21UMA216	PRABU S	52	19UCS569	MANO ARAVINTH U
26	21UCS152	MICHEAL AUGUSTIN J	53	19UPH504	SURAJ S
			54	21UCS564	VELAN S

55	21UCS636	KINGSLY JACOB V	92	19UPH143	ARUL JEEVAN C
56	20UST140	MUNEESWARAN A	93	21UMA149	BALA ARAVIND T K
57	21UST108	KINGSLIN J	94	21UPH506	SHARMILI KIRUBA M
58	21UPH134	SARAN T R	95	21UST124	MALAVIKA P
59	21UCS134	JESVIN K JUSTIN	96	21UCS709	REEGAN P
60	20UBC635	MANIKANDAN K B	97	21UST144	SURYA KUMAR S
61	20PMA113	RAJESH B	98	21UCS530	JOHN P SEBY
62	21UPH101	JOHN ANTONY J	99	21UMA539	SAHAYA DEEPIKA J
63	21UST125	DANIEL AUGUESTINE A	100	21UST159	APERNA V
64	21UCS156	WILSON J	101	20UCS554	EASTER THANGADURAI R
65	21PMA144	FORSHIA SAVARINE M	102	21UPH203	SUBRABHARATHI K
66	21UST135	PUGAZHARASAN A	103	20UCC511	RISHYRAM M
67	21UCS116	RANJITH M	104	20PCC801	DIVYA P
68	20PCC809	ANANTHI M	105	21UST136	SATHISH C
69	20UCS508	INIGOANAND L	106	21UCS160	MATHEW HAYDEN S
70	21UCS159	DEEPAKKUMAR S	107	21UST109	SHEELA MARY J
71	21PMA832	CHRIST JENNIFER J	108	21UST140	SANJAY M
72	21UCS503	JOHN IRUDAYA RAJ AJ	109	21UCS165	AMALA EDISON L
73	21PMA821	MACTALEENA A	110	21UST145	JERMAH V
74	21UMA214	LOUNGH MINGH SAKAL J	111	21UMA517	VIGNESHWARAN S
75	21UPH214	VISHWA T	112	21UMA516	SUGANESWARAN
76	21UST150	PRAWIN KANNA P	113	21UMA123	SARAVANABHARATHI R S
77	21UPH121	SAMSON J	114	21UST154	LEKA SUBANU S
78	20UCS551	SRIMAN SUBASH P	115	21UST116	LOGESHWARAN P
79	20UMA537	PRAKASH P	116	21UCS108	SANTHOSH S
80	21PMA801	CATHLINE A	117	21UMA241	PRIYADHARSHAN P
81	21UPH255	CHANDRU V	118	21PCA133	MAHESWARAN A
82	21UMA144	BHARATHI G	119	19UPH521	JESHWIN MERALD I
83	21UST106	CAROLENA RUTH S	120	21UBC628	BORIS LEFFENSON A
84	21USS122	ATHIKESAVAN P	121	21PMA139	SATHISH KUMAR K
85	21UST148	MANIKANDAA S	122	19UBC502	EDIL REMEINGTON J
86	21PMA816	CAROLIN BABILA J	123	19UBC568	ROHITH R
87	21UBC605	BALAKUMAR S	124	21UCS747	KEVIN BRITTO A
88	21UPH501	KARTHIKA V	125	19UMA242	SELLIDHASAN M
89	21PCS942	SREENIVASAN J	126	21UMA221	SURYA R
90	21UST103	SWETHA P	127	21UMA213	ROBERT. J
91	21UBC654	VARUN S D			



**SAMPLE CERTIFICATE**



**DEPARTMENT OF COMPUTER SCIENCE**  
**St. JOSEPH'S COLLEGE (Autonomous)**  
Accredited at A++ Grade(Cycle IV) by NAAC    Special Heritage Status Awarded by UGC  
College with Potential for Excellence by UGC    DBT-STAR & DST-FIST Sponsored College  
**TIRUCHIRAPPALLI - 620002**

**CERTIFICATE**

This certificate is awarded to  
**HARISH RAGAVENDHAR S ( 21UCS762 )**

for successfully completing the course  
***“A Short Term Skill Enhancement Value Added Course :  
Data Analytics using Python”***  
organized by Department of Computer Science  
from **30-09-2021 to 10-11-2021** with **A+** Grade .

  
Course Coordinator

  
Head of the Department

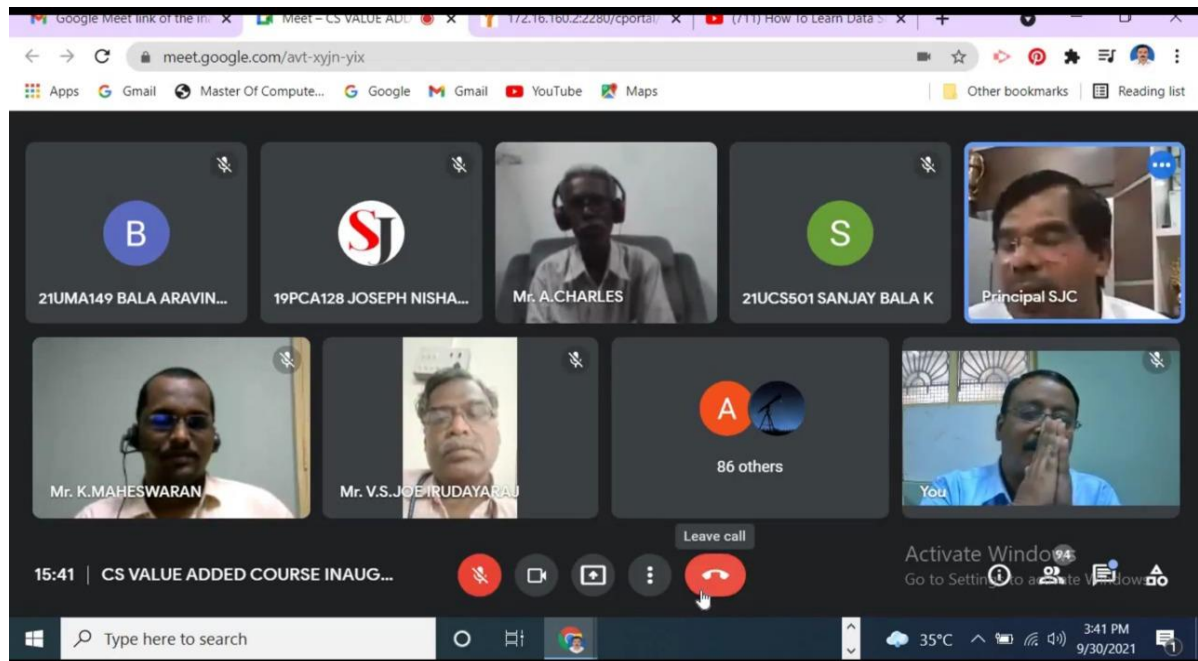
  
Principal

(GRADE : above 90 = A++ ; 75 to 90 = A+ ; 61 to 75 = A ; 50 to 60 =B)

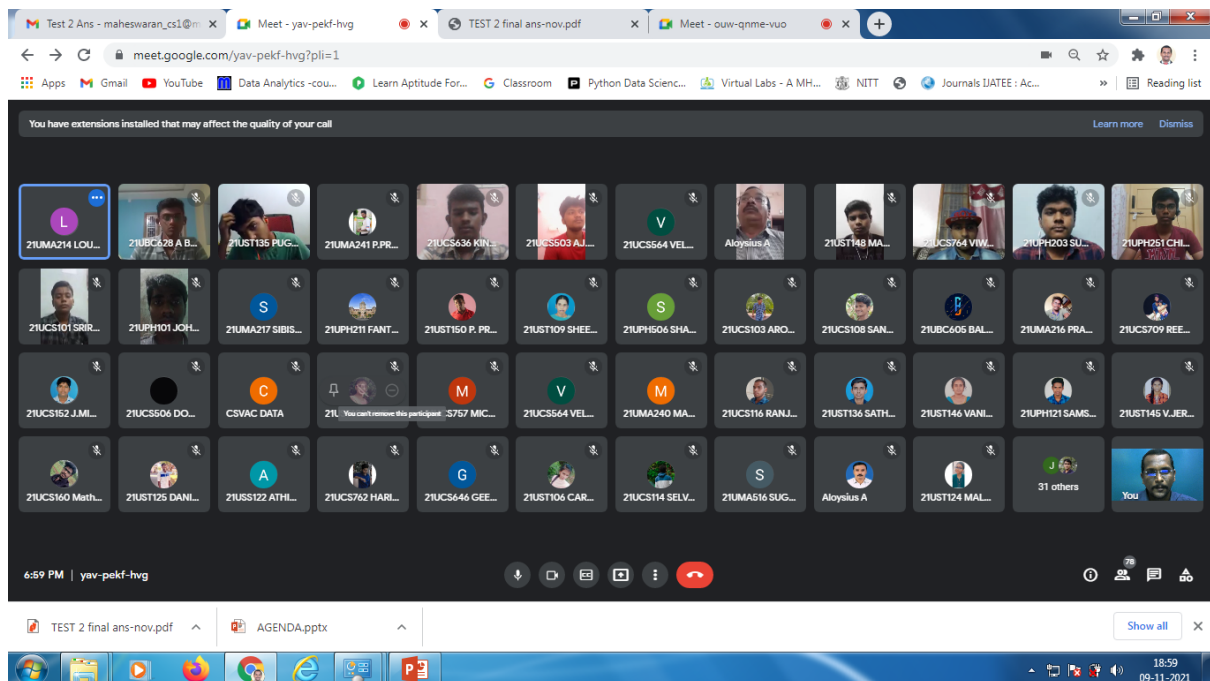
**Department of Computer Science**  
**St. Joseph's College (Autonomous)**  
**Tiruchirappalli 620 002.**

**GALLERY**

**INAUGURAL FUNCTION**

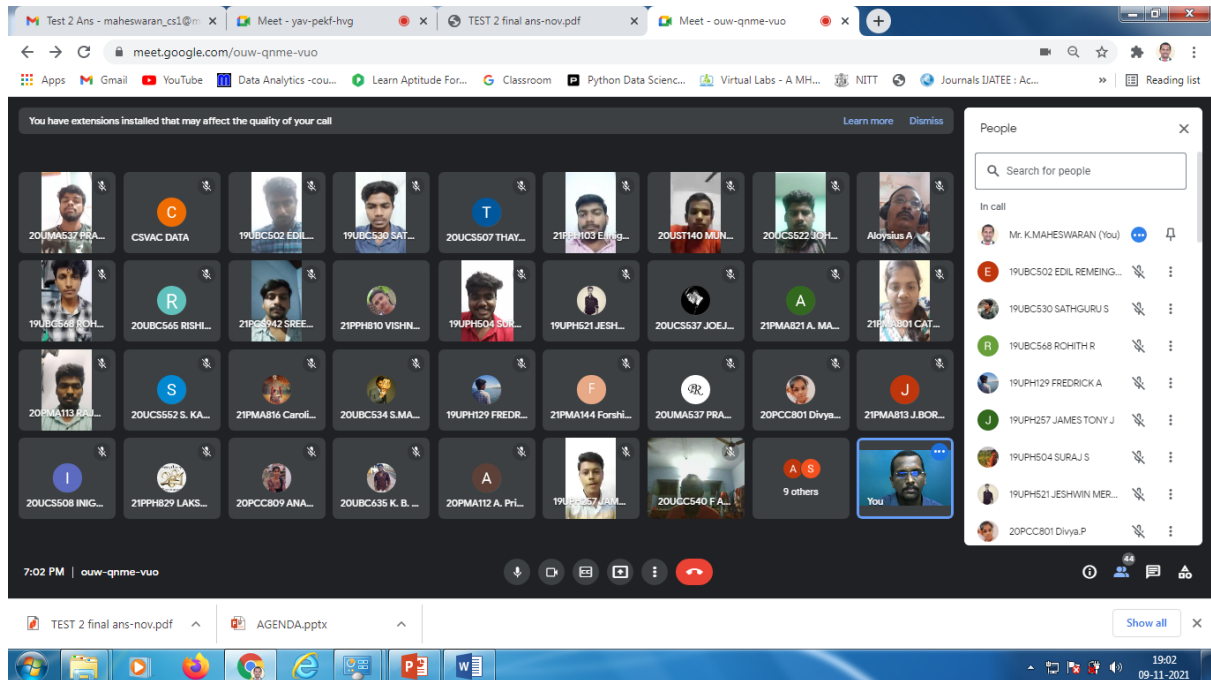


**GROUP PHOTO WITH STUDENTS**

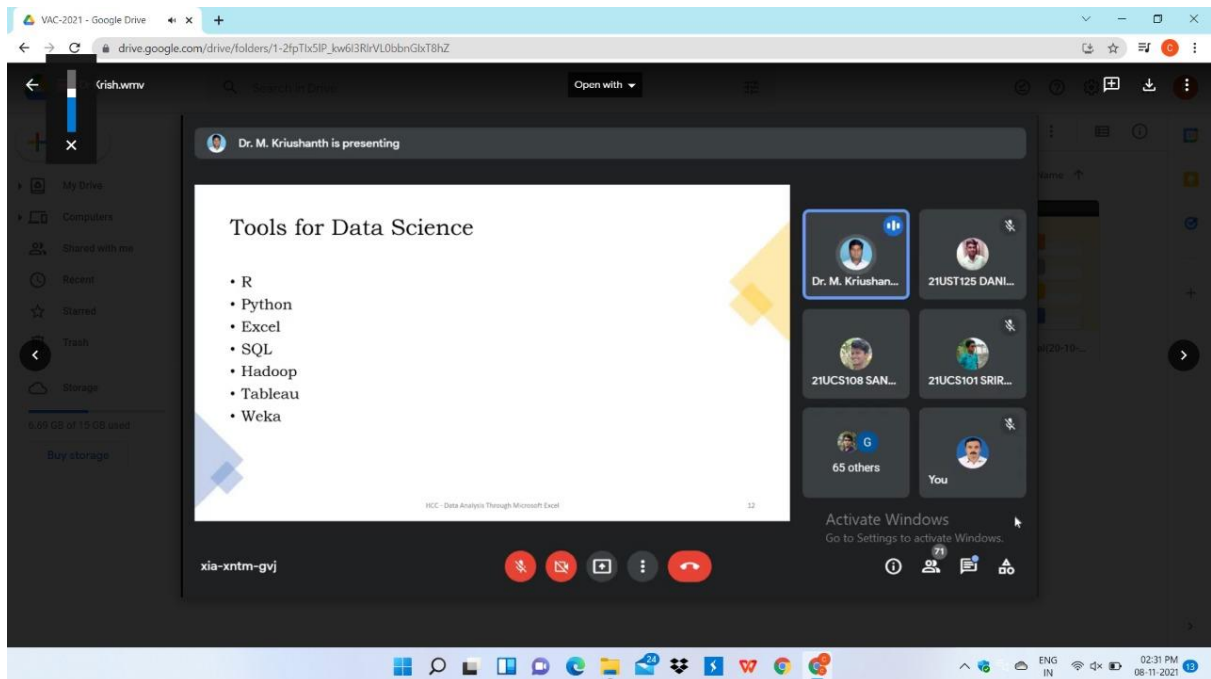




**Department of Computer Science**  
**St. Joseph's College (Autonomous)**  
**Tiruchirappalli 620 002.**



**Dr. M. Krishanth, Assistant Professor, Department of Data Science, St. Joseph's College (Autonomous), Trichy – 02, delivering lecture**



**Department of Computer Science**  
St. Joseph's College (Autonomous)  
Tiruchirappalli 620 002.

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**Dr. V. Jude Nirmal**, Assistant Professor, Department of Computer Science,  
St. Joseph's College (Autonomous), Trichy – 02, delivering lecture

The screenshot shows a Zoom meeting interface. On the left, a presentation slide titled "What is R?" is displayed. The slide content includes:

- **Open Source** Software Programming Language
- Development → **Statistical Computing & Graphics**
- **Data Analysis Tool**

Below the bullet points, the text "Statistical Features implemented in R" is visible. On the right side of the Zoom window, a grid of participant avatars is shown. The participants listed are:

- Jude Nirmal
- 21UST124 MALAVIKA P
- 21UPH255 CHANDRU V
- 21UBC605 BALAKUMA...
- 21UMA144 BHARATHI G
- 21UMA123 SARAVANAB...
- 21UCS709 REEGAN P
- 49 others
- You

The bottom status bar of the Zoom window shows the time as 9:57 AM and the user name as emh-tkfp-odw.

**Dr. S. Mala**, Assistant Professor & Head, Department of Data Science, Nehru  
Memorial College, Puthanampatti, delivering lecture.

The screenshot shows a Zoom meeting interface. On the left, a Jupyter Notebook titled "SimpleLinearRegression.ipynb" is displayed. The notebook shows a scatter plot of "X Sample" vs "Y Sample" and a Python function for calculating the slope and intercept of a linear regression line:

```
[ ] def slope_intercept(xs,ys):  
    x=np.array(xs)  
    y=np.array(ys)  
    m=(np.mean(x)*np.mean(y) - np.mean(x*y)) / (np.mean(x)*np.mean(x) - np.mean(x*x))  
    b=round(m,2)  
  
    b=np.mean(y) - np.mean(x) * m  
    b=round(b,2)  
    return(m,b)  
  
[ ] m,b=slope_intercept(xs,ys)
```

On the right side of the Zoom window, a grid of participant avatars is shown. The participants listed are:

- 20UCS552 S. KAR...
- S Mala Dept.of DA...
- 20PMA112 A. Princy
- 21PMA821 A. MAC...
- 21PMA843 GAJAL...
- 20PCC811 Ramyas...
- 21PPH810 VISHNU...
- 24 others
- You

The bottom status bar of the Zoom window shows the time as 11:23 AM.

## **REPORT OF THE VALUE ADDED COURSE: DATA ANALYTICS**

### **Registration and Confirmation Process**

A registration form was prepared, the registration link was circulated over the students. Visited B.Sc CS & BCA (Shift-II) class rooms and explained the features and importance of the course. There were totally 72 students registered for the course using the Google registration forms. An online orientation programme was conducted for the registered students, explained the information about the course Content, Tests and Assignments. The features of the course was explained to BSc CS and BCA (Shift-II) student by visiting their respective classes. The students also clarified the doubts too.

### **Inauguration**

The course was inaugurated on 31-03-2022 at 11.30 AM. Dr. A. Aloysius, Course coordinator welcomed the dignitaries and the participants. Dr. A. Aloysius, coordinator of the course briefed the dynamics of the course. Prof. A. Charles HoD of Computer Science offer his felicitation. He encouraged and motivated the students to learn and to acquire skills making use of value added course offered by the computer science department.

The offline classes for the registered participants were conducted between 11:30 AM to 1:00 PM. There were 46 students accommodated in this batch. The course WhatsApp groups were created for the students to communicate the notices every now and then. All the students were asked to register LMS offered by our college to learn the some of the modules in the value added course.

The course was conducted from 31<sup>st</sup> March 2022 to 2<sup>nd</sup> June 2022 with the total duration of 35 hours. We had resource persons from within and outside college namely Dr. S. Mala from CS department, Nehru Memorial College, Puthanampatti, Dr. V. Arul Kumar, Asst. Prof., Dept. of Data Science, Mrs. S. Josephine Theresa from CS department along with the resource person cum. Coordinators of the course Dr. A. Aloysius and Dr. K. Maheswaran.

During the course, the attendance and feedback were collected every day. The course materials were shared using whatsapp groups. The overall feedback of the course

also collected at the end of the course. The students felt that the course was very much useful to enrich their knowledge.

### **LMS and Evaluation**

The Students learned the certain part of the course through the modules available in LMS offered by the college. There are four modules in the LMS and the students learned the same through LMS. After learning the course, an examination was conducted also through LMS for 40 Marks for four modules and one final examination was conducted for 60 marks. All the participants was received their participation e-certificate through e-mail. The students having more than 60% of attendance and 40% of marks in the tests will receive their course completion certificate. Totally the different test was conducted for 100 marks and student will awarded *Grades* based on their marks. There are 44 students out of 46 students were completed the course as per criteria.

### **Valediction**

The valediction function of the value added course was held on 02-06-2022 at 11. 30 AM. Dr. A. Aloysius welcomed the gathering and summarised the report the value added course: Data Analytics using Python. Dr. D. P. Jeyapalan Associate Professor and Head (i/c) facilitate the gathering. Dr. Y. Domnic, Dean, School of Computing Sciences delivered the valedictory address and appreciate the department for the effort taken to conduct the value added course. The meeting came to an end with the thanking note of the course coordinator Dr. K. Maheswaran at 12. 15 PM.



DR A. ALOYSIUS, M.Sc., M.Phil., PGDMMCH, SET, Ph.D.  
Assistant Professor in Computer Science  
School of Computing Sciences  
St. Joseph's College (Autonomous)  
Trushingspalli - 620 002

**Course Coordinator**



**COURSE CODE: 21CSVAC101**

**Hrs. : 30**

**Value Added Course: DATA ANALYTICS USING PYTHON**

**COURSE OBJECTIVE:**

The Students to be able to understand and use python programming for solving data science problems.

**Unit-I:**

**Introduction to Python Programming:** History – Variable creation - Arithmetic and logical operators - Data types and associated operations in Python - **Introduction to Python Spyder (Tool):** Basics of Spyder- Setting working Directory - Creating and saving a script file - File execution, clearing console, removing variables from environment, clearing environment - Commenting script files.

**Unit-II**

**Control structures:** Introduction - if-else family - for loop - for loop with if break- while loop – Functions and its types.

**Unit- III**

**Sequence data types:** Fundamentals - Strings - Lists – Arrays- Tuples - Dictionary - Sets - Range- Introduction to **NumPy**- ndarray.

**Unit- IV:**

**Pandas dataframe and dataframe related operations:** Reading files - Exploratory data analysis - Data preparation and preprocessing

**Unit- IV:**

**Data visualization using Matplotlib libraries** - Scatter plot -Line plot -Bar plot –Case Study using Classification – Regression techniques.

**BOOKS FOR REFERENCE:**

1. Jake Vander Plas, “Python Data Science Handbook: Essential Tools for Working with Data”, O'Reilly Media, 2016.

**SHORT TERM SKILL ENHANCEMENT  
VALUE ADDED COURSE: DATA ANALYTICS USING PYHTON**

**LIST OF REGISTERED PARTICIPANTS FOR THE VALUE ADDED  
COURSE: DATA ANALYTICS USING PYTHON CONDUCTED  
BETWEEN 31-03-2022 TO 02-06-2022**

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S. No	Reg. No	Name
1	20PMA820	HELANBHARATHIPRIYA A
2	20PMA828	JOSHREGAN J
3	20PMA829	SHALINI B.S
4	20PMA839	RAHINI M
5	20PMA840	LAKSHMIPRIYA T
6	20PMA841	KIRUTHIGA. S
7	20UCS604	J. ALBERT
8	20UCS618	MARIAN A
9	20UCS635	JABEZ NEHEMIAH L
10	20UCS636	DANIEL R
11	20UCS641	S.SEBASTIN AKASH
12	20UCS642	DEEPAK KINGSLY. F
13	20UCS647	SAM MARIYA RAJ.P
14	20UCS650	NITHISH LAWRENCE S
15	20UCS659	ANBURAJ
16	20UMA522	GANESH RAGUL S N
17	20UMA529	SHRIE AAKASH T V
18	21UMA510	JERLIN TRINITA. A
19	21UMA513	JERCY.B
20	21UBC506	AKASH.N
21	21UBC509	F.AROKIYA KISHORE
22	21UBC515	JEROSE BROWNY R

23	21UBC516	JEROME R
24	21UBC520	BALAPRASANNA.M
25	21UBC523	K.RUBEN JERMIA ROY
26	21UBC525	BHARATHI KANNAN.N
27	21UBC545	EVANS GODWIN J
28	21UBC639	VINOJ KUMAR.S
29	21UCO746	J.PRIYAN
30	21UCO747	HARI SOUNDARA PRASANNA
31	21UCO767	SHAIK ABDULLAH M
32	21UCO769	KALANITHI KUMAR A
33	21UCO770	SELVA KINGSELIN A
34	21UCS601	ABI JOHNSON.A
35	21UCS623	SHYAM SUMESH
36	21UCS664	S.HARI PRASATH
37	21UCS712	RAJAGANAPATHY RAVICHANDRAN
38	21UCS713	GANESH KUMAR G
39	21UCS718	SELAVAMANI V
40	21UCS724	VIVINYOSHVA
41	21UCS753	YOSHVA J
42	21UCS763	DHARANESHWARAN R
43	21UCS765	RAHUL BARATHWAJ
44	19UBU537	MUTHAZHAGAN J
45	19UPH610	PRASATH KABILAN A
46	21UBC554	JEEVARATHINAM R

## INAUGURAL FUNCTION

### **Department of Computer Science St. Joseph's College (Autonomous)**

Accredited at A++ Grade(4th Cycle)by NAAC  
College with Potential for Excellence by UGC

Special Heritage Status Awarded by UGC  
DBT-STAR & DST-FIST Sponsored College

**Tiruchirappalli, Tamil Nadu, India**



**The Staff and Students of the  
Department Invites You all for**

## **Inaugural Function of Data Analytics using Python**

*(A Short Term Skill Enhancement Value Added Course)*

**Date : 31-03-2022**

**Time : 11.30 am**

**Venue :  
MCA Seminar Hall**

**Welcome Address &  
Dynamics of the Course**

***Dr. A. Aloysius***

*Course Coordinator*

**Felicitation by**

***Prof. A. Charles***

*Head, Department of Computer Science.  
St. Joseph's College (Autonomous),  
Trichy - 620002.*

**Vote of Thanks**

***Dr. K. Maheswaran,***

*Course Coordinator*

**All Are Invited**



**Dr. A. Aloysius welcomed the gathering during inaugural function of the value added course**



## VALEDICTORY FUNCTION

### Department of Computer Science St. Joseph's College (Autonomous)

Accredited at A++ Grade(4th Cycle)by NAAC  
College with Potential for Excellence by UGC

Special Heritage Status Awarded by UGC  
DBT-STAR & DST-FIST Sponsored College



Tiruchirappalli, Tamil Nadu, India

The Staff & Students of The Department Cordially Invite you to the

#### VALEDICTORY FUNCTION ON

### ↓ **Data Analytics using Python** ↓

(A Short Term Skill Enhancement Value Added Course)

02-06-2022

11.30 AM

◊ MCA SEMINAR HALL

*Felicitations By*

***Dr. Y. Domnic***

Dean, School of Computing Science,  
St. Joseph's College (Autonomous) Trichy - 620002.

***Prof. A. Charles***

Head, Department of Computer Science,  
St. Joseph's College (Autonomous) Trichy - 620002.

Welcome address &  
summary of the course By

***Dr. A. Aloysius***

Course Coordinator

Vote of Thanks  
By

***Dr. K. Maheswaran***

Course Coordinator

**Dr. Y. Domnic, Dean- SCS delivering Valedictory Address**





## SAMPLE CERTIFICATE

# DEPARTMENT OF COMPUTER SCIENCE St. JOSEPH'S COLLEGE (Autonomous)

Accredited at A++ Grade(Cycle IV) by NAAC Special Heritage Status Awarded by UGC  
College with Potential for Excellence by UGC DBT-STAR & DST-FIST Sponsored College

TIRUCHIRAPPALLI - 620002

## CERTIFICATE

This certificate is awarded to

**RAJAGANAPATHY RAVICHANDRAN (D.No: 21UCS712)**

for successfully completing the course

*“A Short Term Skill Enhancement*

*Value Added Course : Data Analytics using Python”*

organized by Department of Computer Science

from **31-03-2022** to **02-06-2022** with **A+** Grade .

**Course Coordinators**

Dr. A. Aloysius & Dr. K. Maheswaran

**Head of the Department**

Prof. A. Charles

**Principal**

Rev. Dr. M. Arockiasamy Xavier SJ

(GRADE : above 90 = A++ ; 75 to 90 = A+ ; 61 to 75 = A ; 50 to 60 = B)

