



STP-1- Econometrics

IPS Academy

Institute of Business Management & Research, Indore
is Organizing

AICTE Sponsored Online Short Term Training Program (STTP)

on

ECONOMETRICS

Venue: Virtual Platform- ZOOM, Duration - 6 Days
THERE IS NO REGISTRATION FEES



Phase I
Feb 08- 13, 2021

Phase II
Mar 01-06, 2021

Phase III
May 03-08, 2021

Resource Persons



Dr. C.P. Gupta
Professor, Department of
Finance & Business Economics
University of Delhi



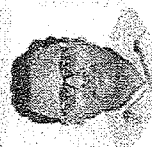
Dr. Ganesh Kawadia
Retired Professor & Ex Head
School of Economics
DAVV Indore



Dr. Pritee Sharma
Associate Professor
Department of Economics
IIT Indore



Dr. Jayshankar Bhattacharya
Associate Professor
Economics Area
IIM Indore



Dr. Arindam Laha
Associate Professor
Department of Commerce
Burdwan University, West Bengal



Dr. Kulbir Singh
Associate Professor
Department of Finance
IMT Nagpur

Program Overview

The present workshop aims to impart knowledge of Econometrics and its applications in the context of empirical research in the field of Business, Commerce, Economics, Management and other Social Sciences. To introduce key concepts of Econometrics through hands on experience in using software in concrete management situations. Expose participants to a selected set of econometrics tools that help in taking key management decision in Research/ Industry.

Learning Outcomes

On successful completion of this program, participants will be able to:

- ❖ Understand the concept of integration of Mathematics and Economics.
- ❖ To empirically confirm economic theories
- ❖ Apply IT based tools for econometrics analysis.
- ❖ Analyze time series real time data and create forecasting models.

Program Details

- ❖ Introduction to Econometrics using Software, Basics of Linear Regression and Regression Diagnostics
- ❖ Structural Break, Dummy Variable Model & Difference in Difference Model
- ❖ Time Series Data and Econometrics, Stationarity and Unit Root Test, Granger Causality Test
- ❖ Logit Model, Probit Model & ARIMA Modeling
- ❖ Co-integration and Error Correction Models Volatility Models: ARCH and GARCH
- ❖ Panel Data, Random Effects and Fixed Effects model

Key Highlights

- No registration fees.
- The number of seats are limited
- This STTP is for faculty members, research scholars, participants from industry.
- The STTP will be conducted in online mode on Zoom platform.
- Participants should have relevant resources viz., laptop/desktop with adequate internet connectivity.
- The participants who have attendance 80% or more and also score minimum 60% in the online test will be issued certificate.
- Intimation to the participants about registration confirmation shall be given through email.
- The STTP is organized in three Phases, however similar content will be delivered in each STTP, hence participants shall only participate in one of the Phases (1, 2 or 3) of STTP.
- The 6 days STTP will have sessions of five hours each day (Tentative Timings: 10 A.M - 11.30 A.M, 12 Noon - 1.30 P.M, 2.30 P.M - 4.30 P.M).

Important Information

The soft copy of completely filled registration form should be sent to the course coordinator on or before:

1st of February, 2021 for Phase 1
22nd of February, 2021 for Phase 2
and 26th of April, 2021 for Phase 3

Email id: sttpibmr.aco@ipsacademy.org

Program Registration

Click on the following Link:

<http://forms.gle/AoM7d1ioi2Has3iq7>

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STTP Dates

Phase -1: Feb 08 -13, 2021
(Mon -Sat)

Phase -2: Mar 01-06, 2021
(Mon -Sat)

Phase -3: May 03-08, 2021
(Mon -Sat)

Program Chair

Dr. Vivek Singh Kushwaha

Director

IBMR, IPS Academy

Indore, M.P



Program Coordinator

Dr. Sachin Mittal

Professor

IBMR, IPS Academy

Indore, M.P

Program Co-coordinators

Ms. Pallabi Mukherjee

+919039635978

Dr. Sunita Jataw

+919826727637

Dr. Tarika Nandedkar

+919826388092

All India Council for Technical Education

(A Statutory body under Ministry of HRD, Govt. of India)

Nelson Mandela Marg, Vasant Kunj, New Delhi-110070 Website: www.aicte-india.org



STTP- Sanction Letter

Date 10 AUG 2020

Ref. No. 34-66/199/FDC/STTP/Policy-1/2019-20

From

Director,
Faculty Development Cell,
AICTE, New Delhi-110070

To

The Drawing and Disbursing Officer,
All India Council for Technical Education,
Nelson Mandela Marg,
Vasant Kunj, New Delhi - 110070

Sub: Release of grant for conduct of Short Term Training Programme (STTP) under AQIS 2019-20 during the financial year 2020-21- reg.

Sir,

This is to convey the sanction of the Council for payment of Rs. 309167 /- (Rupees Three Lakh Nine Thousand One Hundred SixtySeven Only) for conduct of Short Term Training Program as per details given below:

1.	Name and address of the beneficiary University / Institution	IPS ACADEMY, INSTITUTE OF BUSINESS MANAGEMENT AND RESEARCH, INDORE, (M.P.) HUKMAKHEDI RAJENDRA NAGAR A B ROAD INDORE Madhya Pradesh 452011
2.	Permanent ID of Institute	1-3930783
3.	Institute type	Unaided - Private
4.	Name of Coordinator	Dr. VIVEK KUSHWAHA
5.	Amount sanctioned	Rs. 309167/-
6.	Amount to be released	Rs. 309167/- Full & final payment
7.	Head of account	601.15(a) Gen. Short Term Training Programme (Plan)
8.	The authorized officer in whose favour Cheque/ Demand Draft/ RTGS is to be made	REGISTRAR / DIRECTOR / PRINCIPAL
9.	Title of the programme	STTP on Econometrics



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- The amount of the grant shall be drawn by the Drawing and Disbursing Officer, All India Council for Technical Education on the grant-in-aid bill and shall be disbursed to and credited to the Registrar/ Director/Principal of the institute through RTGS.
- This grant-in-aid is being released in conformity with the terms & conditions as well as norms of the scheme as already communicated, and also being communicated in this letter.
- The Principal of the Institute and the Coordinator of the Program are requested to verify the correctness of the under-mentioned Bank Account / RTGS Details submitted by them alongwith the proposals, in which the grant is being released:-

Bank Name	Bank Branch Name	Bank Branch Address	Account Holder Name	Account Type	Account Number	IFSC Code
AAA1131 86K	HDFC BANK LTD	INDORE UPPER GRD FLB COMMERCE HOUSE 7 RACE COURSE ROAD	IPS ACADEMY	Current Account	50200012278632	HDFC00012 40

Instructions/Guidelines to be followed by the University/Institution

I. Disbursement of funds to University/Institutions

- The full amount of the grant sanctioned is being released as advance to the University/Institute.
- The amount spent by the institute on the conduct of STTP shall be adjusted on the basis of utilization certificate and detailed expenditure statement submitted by the University/Institution on the prescribed format along with other mandatory documents viz feedback form, copy of proceedings and completion report etc.
- The above said amount of grant shall be refunded back to AICTE if the Letter of Approval (LOA) / Extension of Approval (EOA) is not issued by AICTE to the institute for the academic year 2020-21.

II Maintenance of Accounts

- The Institute shall strictly follow the provisions laid down in the scheme document as available on the portal.
- Funds covered by this grant shall be kept separately and would not be mixed up with other funds so as to know the amount of interest accrued on the grant.
- The University/College/Institute shall maintain proper accounts of the expenditure out of the grants, which shall be utilized only on approved items of expenditure.
- The grant is intended to cover items of expenditure connected with the Short Term Training Programme such as Boarding & Lodging to the participants, TA to outstation participants, Honorarium to Course Coordinator, reading material to participants, Honorarium to resource persons, IA/DA to resource persons including two outstations resource persons & working expenses (reprographic services, postage, transport, daily wages, tea/coffee etc).

III. Conduct of test and issuance of certificate

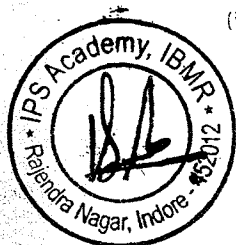
A test shall be conducted by Program Monitoring Committee (PMC) at the end of the program and joint certificates shall be issued (by AICTE & conducting institute) to those participants who have attended the program and have scored minimum 60% marks in the test.

IV. Submission of Documents by the University/Institutions to AICTE

- The following mandatory relevant documents are required to be submitted by the University/Institution within one month of the completion of the program:-

(i)

Original Statement of actual expenditure & Utilization Certificate in the prescribed proforma duly signed by the Head of the institution and countersigned by Registrar/Finance Officer/Govt. Auditor. In case of self-financing/private institutions, Statement of actual Expenditure & Utilization Certificate are required to be audited & signed and sealed by a Chartered Accountant endorsing the membership number and complete postal address. Format for the same is available on AICTE web portal.



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The University/Institution is not required to submit bills/vouchers/invoices etc for the expenditure incurred out of recurring grants. However, such copies of bills/vouchers/invoices shall be digitized by respective institutions receiving grant and uploaded scanned copies of such bills/vouchers/invoices etc on the portal for availability and view at any point of time.

- (ii) Feedback form in the prescribed proforma.
- (iii) Copy of the proceedings and completion report.
- (iv) List of candidates who have successfully completed the program on the basis of the test conducted by Program Monitoring Committee (PMC).
- (v) Report submitted by Program Monitoring Committee (PMC).

- b. The amount of the grant shall be adjusted on submission of utilization certificate & detailed expenditure statement by University/Institution. On receipt of these documents, the total amount of financial assistance, admissible as per the norms, shall be worked out and grant-in-aid adjusted.

V. General instructions

- a. Preferably 10% of the participants may be industry professionals deputed by industry. Further, not more than 2 participants shall be from the host institution/group of institutions.
- b. The grant released/or part thereof, if remains unutilized for any reason after expiry of stipulated time period (for any reasons to include unspent amount, interest, penalty if imposed) shall be refunded back to AICTE in the form of RTGS payable to Member Secretary, AICTE, New Delhi. The bank details of AICTE are as under:-

Account No	: 55113199952
Name of the Account Holder	: Member Secretary, AICTE, New Delhi
Bank Name	: State Bank of India
Branch Name	: Shastri Bhawan, New Delhi
IFSC Code	: SBIN0050203

- c. The STTP is a residential program of a duration of six days with minimum 40 participants. The approved STTP shall be conducted within six months from the date of release of funds.
- d. If programme is not conducted within the period of six months of the release of the 100% grant, the released amount, alongwith interest accrued thereon, has to be necessarily returned back to AICTE within a month through RTGS.
- d. The expenditure under the Heads 'Honorarium to Course Coordinator' and 'Honorarium to Resource Persons' shall not exceed 1% & 20% respectively of the total sanctioned grant for the Programme. However, overall expenditure shall not exceed the funds sanctioned for the Programme.
- g. Any extra money required to complete the programme must be borne by the institute from their own resources. But the quality of the activities should not be compromised.
- h. Any unavoidable circumstantial change in the program with respect to name of Project Coordinator, Venue and date for organizing STIP would mandatorily require prior approval of the Council. All such requests should be addressed to AICTE, in advance, recording the specific reasons for proposed changes, failing which the offer for the grant already issued would be treated as automatically withdrawn and the financial assistance released in favour of the beneficiary institution shall be refunded immediately to the Council. Kindly mention the File No. 34-66/199/FDC/STTP/Policy 1/2019-20 in your future correspondence.
- i. Steering Committee/Project Monitoring Committee (PMC) is required to be constituted at institutional level. The constitution of the PEC shall be as under:

- (i) Principal/Director/Registrar of the institution (Chairperson).
- (ii) Coordinator of the program (Member Secretary).
- (iii) Two HoDs and one subject expert (members).

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The members of the said PMC shall not be below the rank of Associate Professor. A test shall be conducted by Project Monitoring Committee (PMC) at the end of the program and the certificates shall be issued to those participants who have attended the program and have qualified in the test. The minutes of the meetings, along with PMC report, are to be submitted to the Council at end of the program along with other mandatory documents.

- j. **GoI GFR rules** (@<https://doe.gov.in/order-circular/general-financial-rules2017-0>) should be followed during utilization of grant.
- k. This Sanction Order may be treated as Offer Letter for all purposes.

NOTE:- Any deviation from the above will invoke serious action against the Institute.

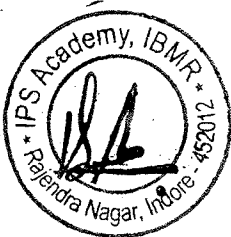
Yours sincerely,

(Col. B Venkat)
Director (FDC)

10 AUG 2020

Copy forwarded for information and necessary action to :-

1. Name and Address of the Coordinator
Dr. VIVEK KUSHWAHA
IPS ACADEMY, INSTITUTE OF BUSINESS MANAGEMENT AND RESEARCH, INDORE, (M.P.)
HUKMAKHEDI RAJENDRA NAGAR A B ROAD INDORE
Madhya Pradesh 452011
2. The Registrar / Director / Principal
IPS ACADEMY, INSTITUTE OF BUSINESS MANAGEMENT AND RESEARCH, INDORE, (M.P.)
HUKMAKHEDI RAJENDRA NAGAR A B ROAD INDORE
Madhya Pradesh 452011
3. Guard File

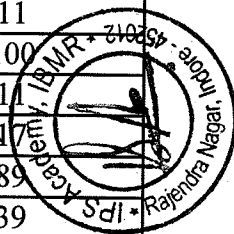


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Attendance Sheet: STTP on Econometrics (Phase 1: From 8th Feb to 13th Feb 2021)

S.No	Participants Name	Email	Overall Attendance ¹ 8	% out of 18 session
1	Ajay Pal Singh	ajaypalsingh21@gmail.com	2	11
2	Akanksha Sharma	akankshasharma@fmsbhu.ac.in	16	89
3	Alka Narula	alka.davim@gmail.com	8	44
4	Anil Kumar	srccan@gmail.com	14	78
5	Anupama U.Y	uyanupama@gmail.com	7	39
6	Bhawna Sahjwani	Sahajwanibhawna@gmail.com	15	83
7	Chandrika Raghavendra	raghavendra.chandrika@gmail.com	14	78
8	Disha Gulia	disha1118@gmail.com	3	17
9	Dr. Nidhi Agrawal	nidhi.agrawal1981@gmail.com	18	100
10	Dr. P. Bastin Arockia Raj	bastin.co139@gmail.com	7	39
11	Dr. Revati Balutkar	revati.balutkar@gmail.com	7	39
12	Dr. Sarika Keswani	sarika.keswani83@gmail.com	18	100
13	Dr. Sejal Acharya	sejal.c.acharya@gmail.com	4	22
14	Dr.K Smisha	smishasajeesh@gmail.com	15	83
15	Dr.Smitha.V.P	dr.smitha.v.p@gmail.com	7	39
16	EHOW Begumpet	ehowbegumpet2@gmail.com	1	6
17	Ekta Kasana	ektakasana47@gmail.com	18	100
18	Geethu krishna	geethusathikumari@gmail.com	8	44
19	HARSANGLIAN HALAM	harsang23@gmail.com	17	94
20	Harsh Kalra	harsang23@gmail.com	7	39
21	Isha Gupta	harshkalra13@gmail.com	18	100
22	Jyoti	Jyoti6788rana@gmail.com	2	11
23	Krunal patel	krunalmba@gmail.com	18	100
24	Mamta Nagar Koti	mamta.nagarkoti1@gmail.com	2	11
25	Maria Sunil	mariasheenasunil@gmail.com	3	17
26	Muhammed Rafi	mohdrafiopc@gmail.com	16	89
27	Neeru Arora	aroraneeru1971@gmail.com	7	39
28	Neetu Chhillar	neetudabas0203@gmail.com	8	44
29	Pallavi Rahul Gedamkar	gedamkar.pallavi@gmail.com	18	100
30	payal pattnayak	payalpattnayak160492@gmail.com	11	61
31	Pramod Sinha	pramod.sinha@nipfp.org.in	16	89
32	PREETI SINGH	Pspreeti91@gmail.com	2	11
33	Prof. Prashant Adsule	prashant.adsule@adypu.edu.in	18	100
34	Ramanpreet Kaur	raman8686@gmail.com	5	28
35	s ramesh kumar mehtha	praram999@gmail.com	18	100
36	Sanmath Shetty	shetty_sanmath@yahoo.co.in	17	94
37	Sonali karnik	sonali.karnik19@gmail.com	13	72





Attendance Sheet: STTP on Econometrics (Phase 1: From 8th Feb to 13th Feb 2021)

S.No	Participants Name	Email	Overall Attendance ¹ 8	% out of 18 session
38	Satya Swaroop Roy Medapati	roy@stmaryscollege.in	1	6
39	Srinivasa Rao Dokku	srinu_dokku@yahoo.co.in	18	100
40	Sudip Banerjee	b_sudeep@rediffmail.com	18	100
41	Tanya shaw	Tanishatani17@gmail.com	2	11
42	Yamini Negi	yamininegi@its.edu.in	18	100
43	Saravanan Nadar	saravanann@sies.edu.in	3	17
44	Shailendra Singh	singh27n@gmail.com	1	6
45	Dr.Kali Charan Modak	kali.modak@gmail.com	17	94
46	Dr.Kiran Gehani	kirangehani@ipsacademy.org	18	100
47	Dr.Heena Upadhyay	heenaupadhyay@ipsacademy.org	18	100
48	Dr.Jolly Sushma	jolly.sushma@ipsacademy.org	18	100
49	Dr.Kshema Shrivastava	kshemashrivastava@ipsacademy.org	18	100
50	Dr.Nidhi Jhawar	nidhijhawar@ipsacademy.org	16	89
51	Dr.Neha Sahu	nehasahu@ipsacademy.org	16	89
52	Saket Rathi	saketrathi@ipsacademy.org	18	100
53	Dr.Surya Prakash Tripathi	sptripathi@ipsacademy.org	18	100



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AICTE Sponsored online Short Term Training Program (STTP)

On

"Econometrics"

Phase 1 (8th Feb. 21 to 13th Feb. 21)

Session wise Report

IBMR IPS academy has organised six days AICTE approved workshop on Econometrics from 8 Feb 2021 to 13 Feb 2021. The detailed report of Phase I is as follow:

Day 1 (8th Feb 2021):

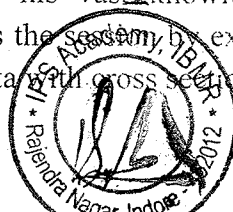
The first session I was conducted at 10 a.m. to 12 noon. The resource person for session was Dr. Ganesh Kawadia (Retired Professor & Ex Head School of Economics, DAVV, Indore). Topic Covered by Dr. Kawadia was Introduction to Econometrics. Dr. Kawadia elaborated upon the concept of economic theory and the integration of mathematics and economics to create the mathematical and econometric model of the theory. The participants learned how to use these models to test the hypothesis underlying to prove the economic theory and how to apply the model for control and policymaking. Session also covered linear regression, least square method, type of data, econometrical models and forecasting using econometrical models. The average feedback for the session was 4.18.

Session II was held by 12:00 noon to 1 pm. The resource person for this session was Dr. C.P. Gupta (Professor, Department of Finance and Business Economics, South Campus, University of Delhi.). Topic Covered by him was Introduction to Regression. Dr. Gupta explained the various aspects of regression analysis. He explained what is alpha, beta, R square, adjusted R square and interpretation of ANOVA. He demonstrated the use of excel and Stata for creating Regression models – both linear and multiple. The average feedback for the session was 4.62.

Session III was conducted at 3:00 p.m. to 5 p.m. Dr. C.P. Gupta continued the session on Multiple Regression and Regression Diagnostics. In this session Dr. Gupta illustrated the use of Stata to run Regression Diagnostics to evaluate the model assumptions or the validity of the model. He further elucidated how to use the results from diagnostics to improve the overall model fit. The average feedback for the session was 4.46

Day 2 (9 Feb 2021)

Session 1 of the day was started at 10 a.m. and ended at 11:30 a.m. The resource person for the session was Dr Arup Kumar Chattopadhyay (Professor, Department of Economics, The University of Burdwan), who shared his vast knowledge on Time Series Data and Econometrics. Dr. Chattopadhyay starts the session by explaining the basics of Time series analysis. He connects the time series data with cross sectional data. He also provides practical



examples to illustrate the above concept. Dr. Chattopadhyay then explains the concept of Stationary, Non-Stationary series, Deterministic and Stochastic trend under time series. The average feedback for the session was 4.18.

Session 2 was conducted by Dr Arup Kumar Chattopadhyay from 12:00 Noon to 1:30 PM. He has covered the topic Stationarity and Unit Root Test. In the second session, Dr. Chattopadhyay elucidates the Partial Auto correlation functions. He also gives an in-depth insight into the autoregressive functions and ARMA and ARIMA models. Dr. Chattopadhyaya then illustrates the equations defining the relationship between variables with respect to the above stated models. He describes how AR model changes into MA model. The average feedback for the session was 4.29.

Session 3 started at 2:30 p.m. and continued till 4:30 p.m. Dr Arup Kumar Chattopadhyay (Professor, Department of Economics, The University of Burdwan) continued this session and he talked about Random Walk Model in this session. Dr. Chattopadhyay in his final session covers the Random Walk model, Unit Root and DF Test for Unit Root. He explains the random walk model with the behaviour of stock market, Brownian motion and movement of a drunken man. Dr. Chattopadhyay explains in detail how to use Eviews software for time series data - right from preparing the world file for Eviews to how and when to apply different tests like Stationarity test, Unit root test, Dickey Fular test, Phillips-Perron test and ADF test with the help of Eview. The average feedback for the session was 4.38.

Session 4 was taken by Dr. Pallabi Mukherjee by 4:30 p.m. to 5:30 p.m. She is Associate Professor at IBMR, IPS Academy and has vast knowledge of Econometrics. She took hands of practices and review on session of the day. Dr. Mukherjee has has summarised the sessions of entire day taken by Dr. Arup Kumar Chattopadhyay and also took hands on practice of explained concepts on Eviews. She provided the data to the participants and explained the working of Eviews on that particular data. She also handled the quarries of participants related to the entire day sessions.

Day 3 (10 Feb 2021)

Session 1 of the day 2 started at 10 am and ended at 11:30 am. The resource person for the session was Dr Preeti Sharma (Associate Professor, Department of Economics, IIT Indore). Topic Covered by her in first session was Panel Data and FEM and REM. Dr. Preeti Sharma started the session with the explanation of panel data & cross-sectional data and also touched upon the concepts of parametric and stochastic variables. She then illustrated the method to calculate pooled/panel data. Dr. Preeti used practical examples to explain the concepts, helping the participants grasp them easily. Average Feedback for the session was 4.54.

Session 2 was also taken by Dr. Preetin Sharma (Associate Professor, Department of Economics, IIT Indore). from 12:00 p.m. to 1:00 pm. In this session she more elaborately covered the topic Panel Data and FEM and REM. The second session began with a detailed explanation of Durbin Wattson Statistic. Dr. Preeti then gave in-depth insights into Random effect Model and Fixed Effect Model. She then illustrated the pooled regression OLS in a detailed manner. Average Feedback for the session was 4.46



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Session 3 conducted from 2:30 p.m. - 4:30 pm. Dr. Preeti Sharma continued this session with the topic Panel Data and FEM and REM. In this session, Dr. Preeti provided the participants hands-on knowledge about Eviews software. She taught them how to import the excel files into the software, define variables and estimate Random Effect Model and Fixed Effect Model. Dr. Preeti then illustrated how to apply the Houseman test to compare Random effect & Fixed effect model and showed which model is a better fit between the two. In the same vein, Dr. Preeti explained the testing of hypothesis and interpretation of the above test in detail. Mr. Danish and Dr. Pradhan were the teaching assistants for the session. Average Feedback for the session was 4.24

Session 4 conducted at 04:30 p.m. to 05:30 p.m. Dr. Sunita Jatav has taken this session. Dr. Jatav is an Associate Professor at IBMR, IPS Academy and has vast experience of dealing with data. Dr. Jatav has summarised the sessions taken by Dr. Preeti Sharma and also took hands on practice of explained concepts on Eviews as well as on Stata. She explained how to write a good research paper by incorporating all the tools explained during previous sessions.

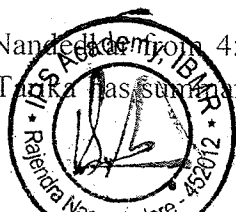
Day 4 (11 Feb 2021)

Session 1 was held on 10:00 am to 11:30 am. The Resource Person for the session was Prof Kulbir Singh (Associate Professor, Department of Finance, IMT Nagpur). The topic covered by him was Introduction to ARIMA. Dr. Kulbir Singh started the session with the introduction of auto-correlation in time series analysis. He explained the concept in great detail covering topics like reasons for auto-correlation in time series and regression models with auto-correlation disturbance. He then illustrated auto-regression, from first order to higher order. He explained the models theoretically and then practically with the help of Stata software. The average Feedback for the session was 4.48

Session 2 started at 1:00 and ended at 2:00 pm. Prof Kulbir Singh (Associate Professor, Department of Finance, IMT Nagpur), continued the session with the topic ARIMA modelling and co integration. The second session was based on testing auto-correlation between variables using the Durbin Wattson Test. Dr. Kulbir Singh explained the Durbin Wattson Test covering every big and small detail like its assumptions, how to run the test in Stata, how to interpret its result and also its drawback. He then illustrated the Durbin Alternative Test and showed how this test solves the drawback of Durbin Wattson test. The average Feedback for the session was 4.49

Session 3 was also continued by Prof Kulbir Singh (Associate Professor, Department of Finance, IMT Nagpur) from 2:00 to 4:30 pm. This session covered the topic Error Correction Models. The final session of Prof. Kulbir was centred on the ARMA model. Dr. Kulbir Singh explained this model comprehensively using Stata and underlined this model's high relevance in the business world. He then provided deep insights into White Noise, General Linear Model and LAG Operators. He also illustrated how to construct a general linear process by using LAG operator. The average Feedback for the session was: 4.519

Session 4 was conducted by Dr. Tarika Nandedkar from 4:30 to 5:00. She is an Associate Prof. At IBMR, IPS Academy Indor Dr. Tarika has summarised the sessions taken by Prof.



Kulbir Singh and also took hands on practice for the topics covered by Prof. Kulbir on STATA. Data was provided by her to participants in advance. Participants learn how to applied tools on particular data with the help of Stata.

Day 5 (12 Feb 2021)

Session 1 started at 10:00-11:30 am. Dr. C P Gupta (Professor, Department of Finance and Business Economics, South Campus, University of Delhi.) was the resource person for the session. He covered Granger Causality in this session. Dr. C. P. Gupta started the session by explaining the time series concept with multiple variables. He illustrated how one can estimate the models for multiple time series with the examples of GDP and Inflation. He shed light upon the two approaches to achieve the above objective - Bottom Up Approach and Top Down Approach. He then explained the Causality concept in great detail. In continuation to this, Dr. Gupta illustrated the Granger Causality Test with the help of Eviews software. He also touched upon the VAR Model concept. The average Feedback for the session was 4.79

Session 2 was also taken by Dr. Gupta (Professor, Department of Finance and Business Economics, South Campus, University of Delhi.) from 12:00-1:30 pm. In this session he covered Logit and Probit Model – 1. The second session began with the explanation of Linear Probability Model. Dr. Gupta detailed the nature of this model, its limitations, and how to calculate & interpret the model. Dr. Gupta also explained the concepts of Logit and Probit models. He taught how to run and interpret these models in Eviews as well as in Stata software. Average Feedback for the session was 4.66.

Session 3 was the extension of session two from 2:30 – 4:30 pm taken by Dr. C P Gupta (Professor, Department of Finance and Business Economics, South Campus, University of Delhi.) on the same topic Logit and Probit Model – 2. In the third session, Dr. Gupta did a comparative analysis of the Logit and Probit model. He also explained the concept of Pseudo R-Squareds covering all its measures viz. MC Fadden R- Square, Cox and Snell R- Square and Nagelkerke. He illustrated these test on Stata and also explained the interpretation as well the utility of different measures in different situations. Average Feedback for the session was 4.63

Day 6 (13 Feb 2021)

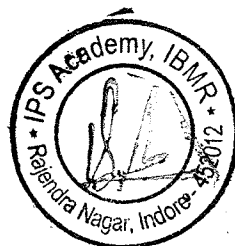
At 10:00 a.m. session I of the last day has started and ended at 11:30 am. The resource person for the session was Dr. Pravat Kumar Kuri (Associate Professor Department of Commerce Burdwan University, West Bengal). He covered the topic Dummy Variable Model. The session of Dr. Pravat Kumar Kuri was centred on a very important concept of Econometrics - Dummy Variables. He explained the application of dummy variable in the regression analysis and also covered the topics Intercept and Dummy Variables, Dummy Variable Trap and Seasonal Dummy Variable. Dr. Kuri then illustrated the concepts of ANOVA & ANCOVA model and explained how to use dummy variable in these models. He shed light upon the



cautions which one should exercise while using Dummy variables. The Average of the Feedback was 4.59

Session 2 was taken by Dr. Arindam Laha from (Associate Professor Department of Commerce Burdwan University, West Bengal) 12:00- 1:30 pm. Topic Covered by him during the session was Difference in Difference Model, Structural Break. He started the session explaining Difference-in-Difference (DID) Model and Structural Break. He then talked about the concept of experimentation and its importance in research by taking his own research paper "Food Price shocks and the changing pattern of consumption expenditure across deciles classes in Rural and Urban India: A Difference-in-Difference Model Analysis". Through the same paper, he also illustrated the concept of Difference-in-Difference Model. He explained the DID assumptions, DID estimator, DID in regression analysis and how to estimate the DID model in STATA. Dr. Laha also illustrated Structural Break model with the help of STATA. Dr. Laha also introduced a new open source software to participants viz. "GRET- GNU Regression, Econometrics and Time Series Library". Dr. Laha demonstrated how to run DID in GRET and how to interpret the result using GRET. The Average of the feedback was 4.48

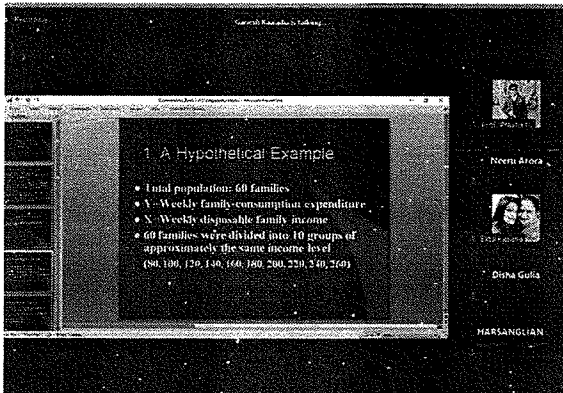
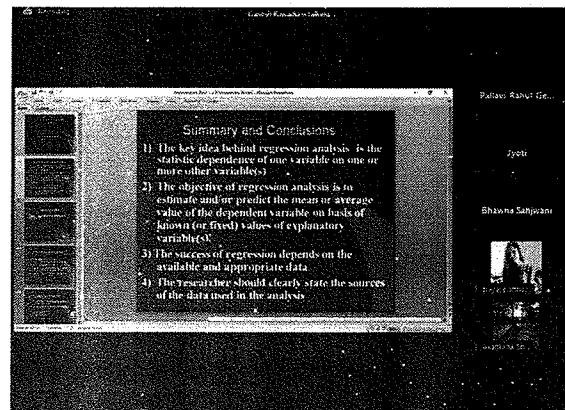
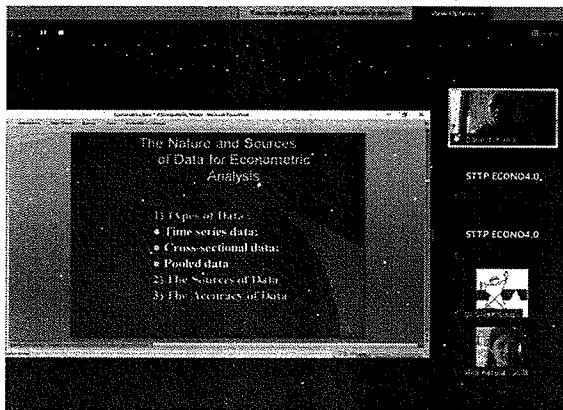
Session 3 of the day was Test & Valedictory session and held from 2:30 – 4:30 pm. In the third session, a test was conducted to gauge the learning and understanding of the participants from the programme. The test was held on the online platform - Testmoz. Online test link with password was provided to the participants. There were 50 multiple choice questions and the participants had to solve them within an hour. There was no negative marking for the test. The minimum criteria of passing the test was 60% marks. After the completion of the test, there was a valedictory session. In the valedictory session, the participants shared their views and gave feedback about the STTP. Participants were extremely satisfied with the learning outcomes of the programme. Participants expressed that the concepts explained by the resource persons, the study material provided by them, the way they clarified their doubts, had greatly enriched their knowledge. The participants were also impressed by the quality of invited speakers. They were also satisfied with the way STTP was conducted by the organizers. Dr. Sachin Mittal expressed gratitude towards all the participants for their active participation and support in making this STTP a great success. Overall Average Feedback for the STTP was 4.62



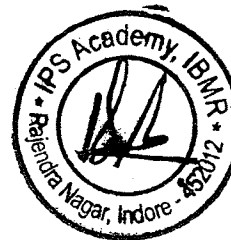
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Day 1: 8 Feb 2021
Session: 1
Time: 10 am to 12 pm

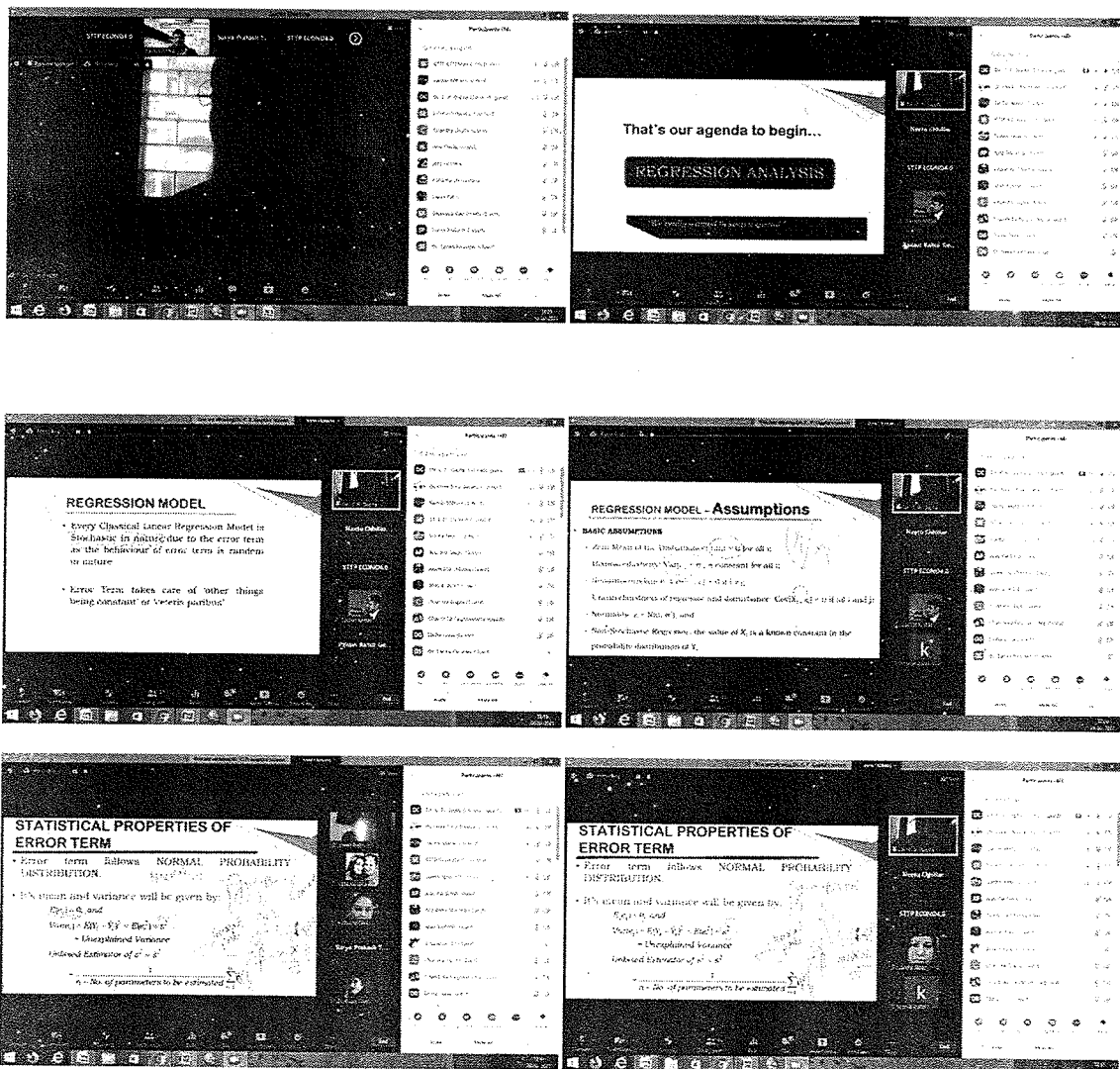
Speaker: Dr. Ganesh Kawadia



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Day 1: 8 Feb 2021
Session: 2 & 3
Time: 12 pm to 1 pm
&
3 pm to 5 pm
Speaker: Dr. C. P. Gupta

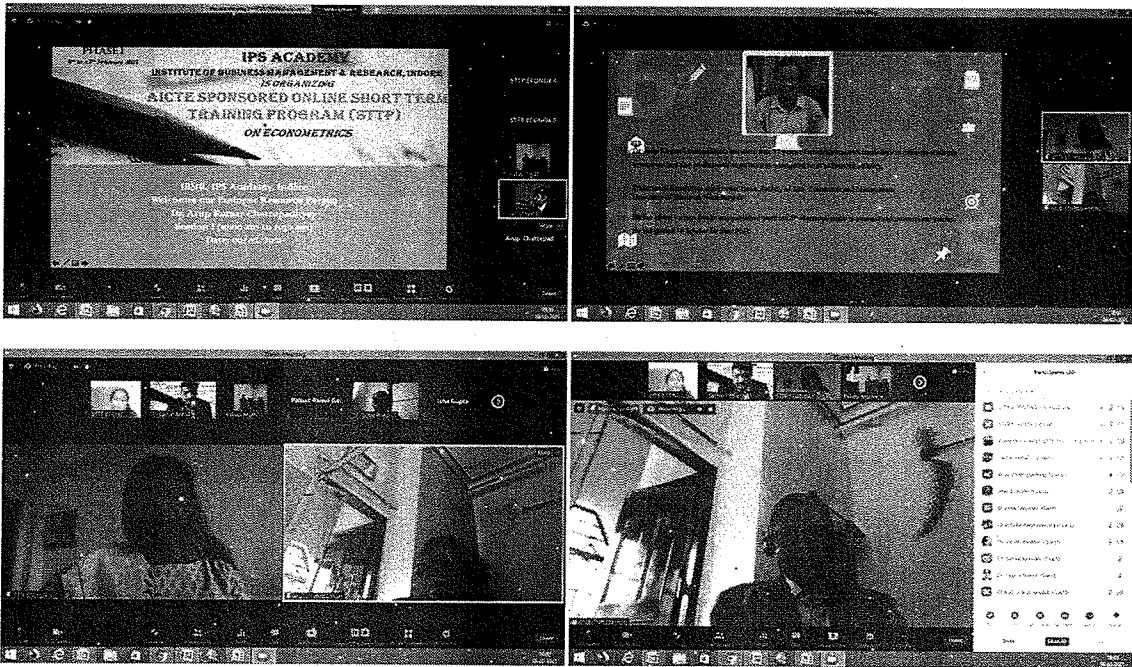


Day 2: 9 Feb 2021

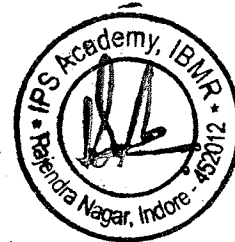
Session: 1

Time: 10 am to 12pm

Speaker: Dr Arup Kumar Chattopadhyay



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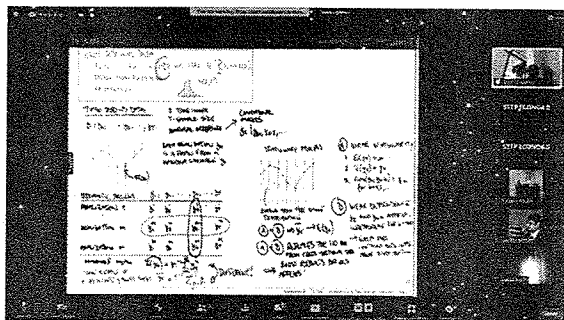
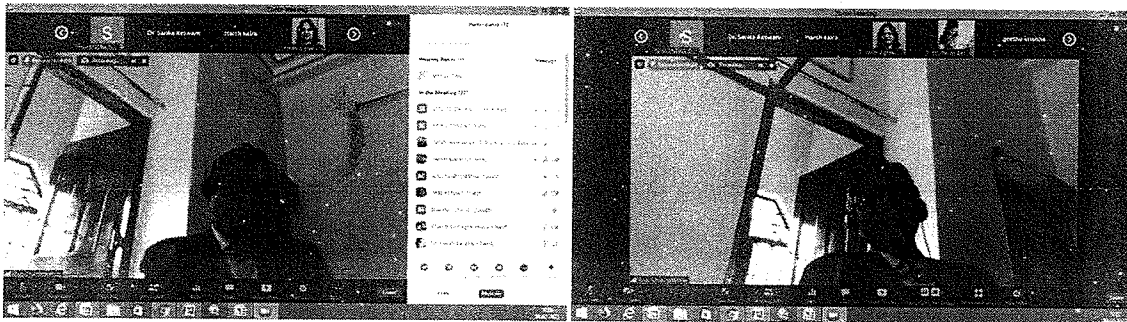


Day 2: 9 Feb 2021

Session: 2

Time: 12 pm to 1:30 pm

Speaker: Dr Arup Kumar Chattopadhyay

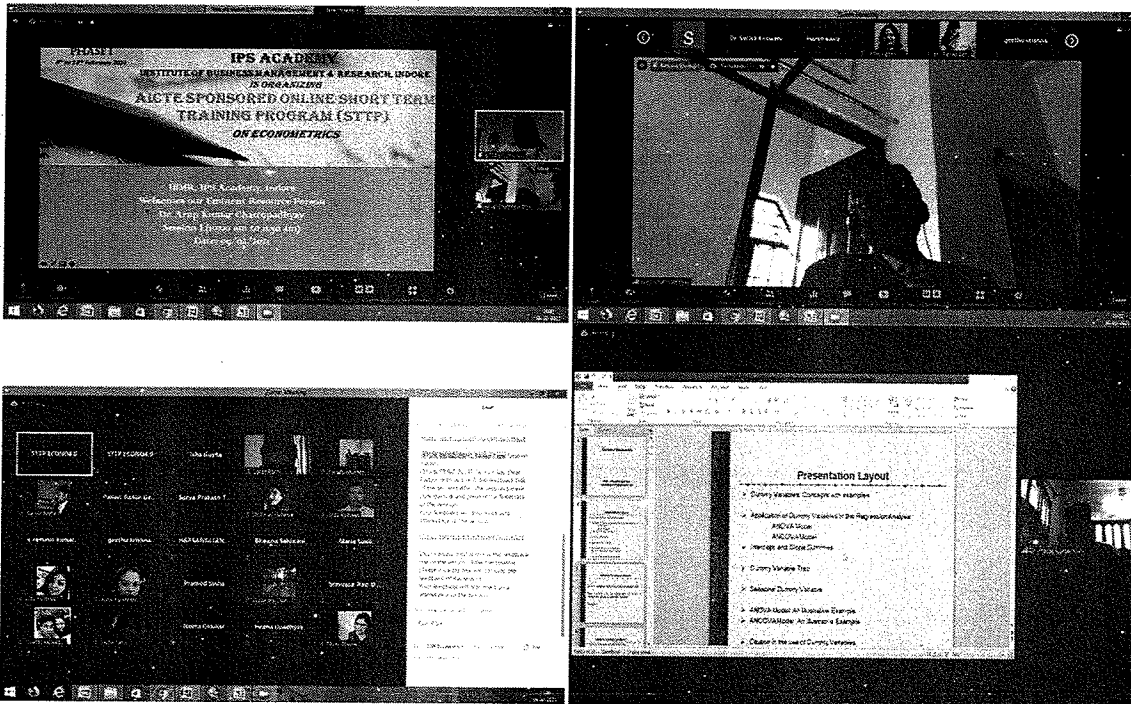


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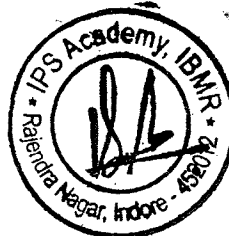


Day 2: 9 Feb 2021
Session: 3
Time: 2:30 pm to 4:30 pm

Speaker: Dr Arup Kumar Chattopadhyay



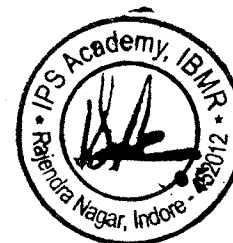
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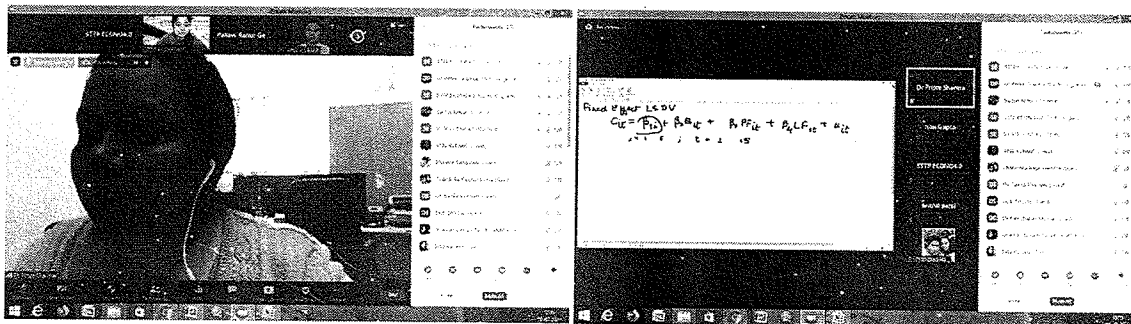
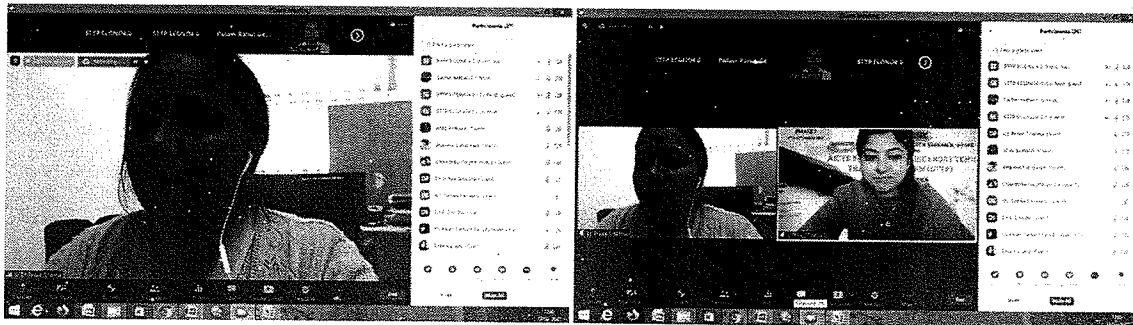
Day 3: 10 Feb 2021
Session: 1
Time: 10:00 am to 11:30 am
Speaker: Dr. Preeti Sharma



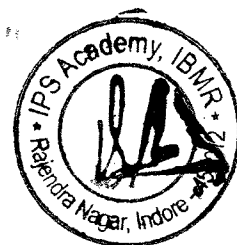
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Day 3: 10 Feb 2021
 Session: 2
 Time: 12:00 pm to 12:00 pm
 Speaker: Dr. Preeti Sharma



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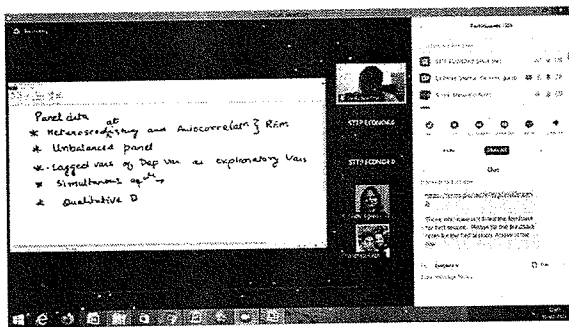
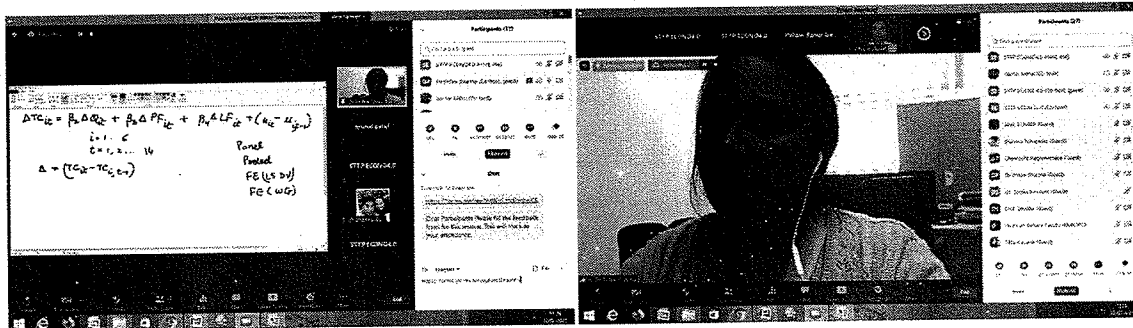


Day 3: 10 Feb 2021

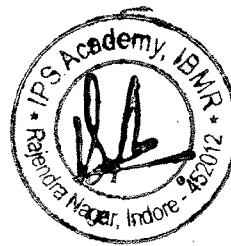
Session: 3

Time: 2:00 pm to 4:30 pm

Speaker: Dr. Preeti Sharma



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Day 4: 11 Feb 2021

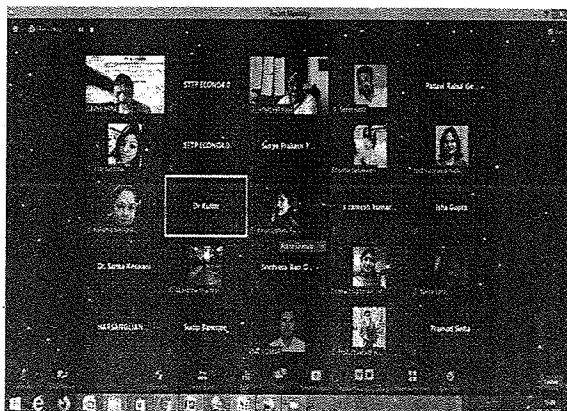
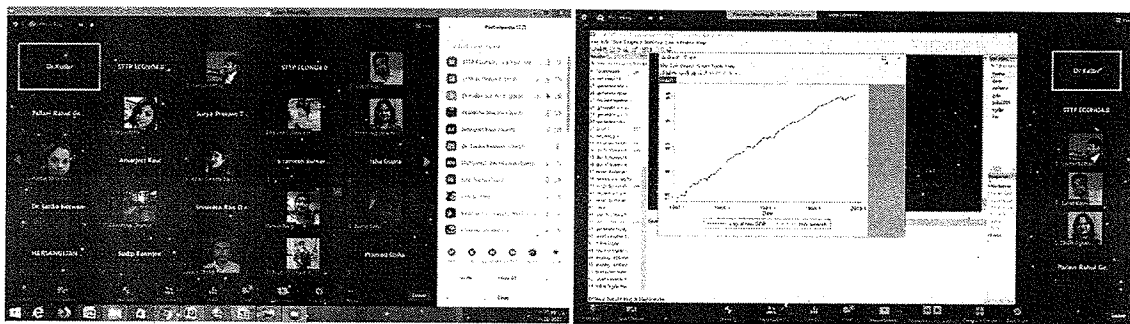
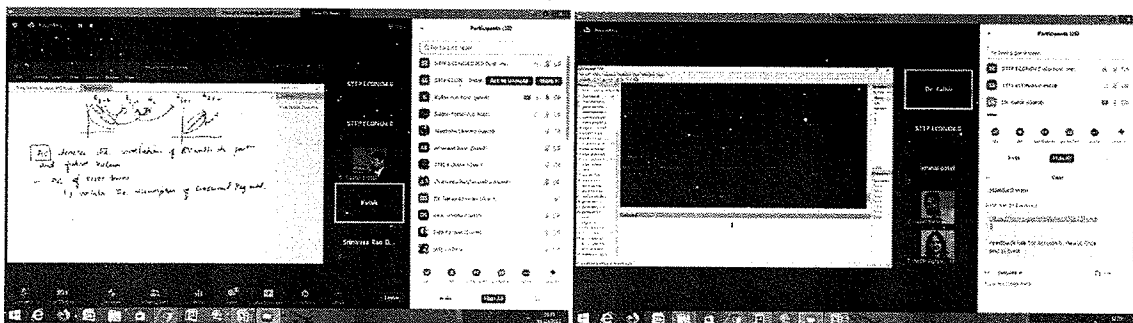
Session: 1,2 &3

Time: 10:00 am to 11:30 am

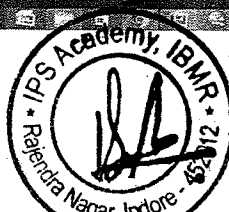
1:00 pm to 2:00pm

2 pm to 4:30 pm

Speaker: Prof Kulbir Singh



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Day 5: 12 Feb 2021

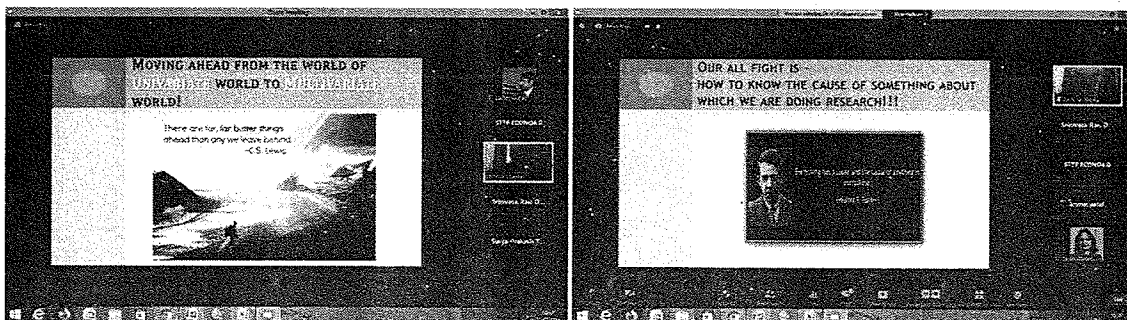
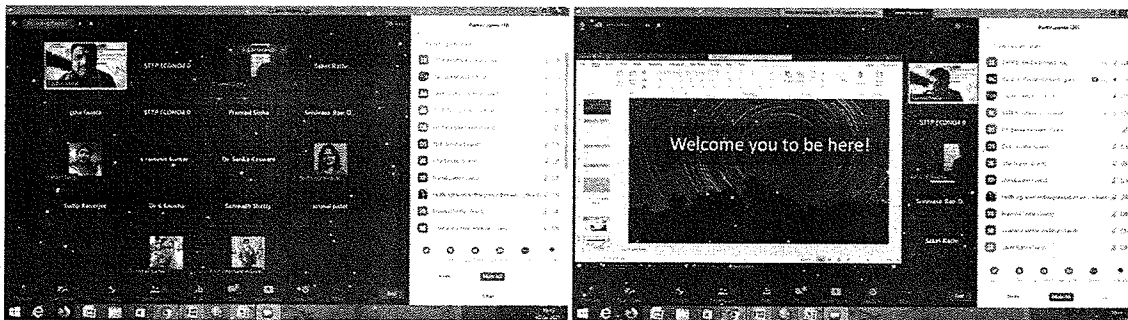
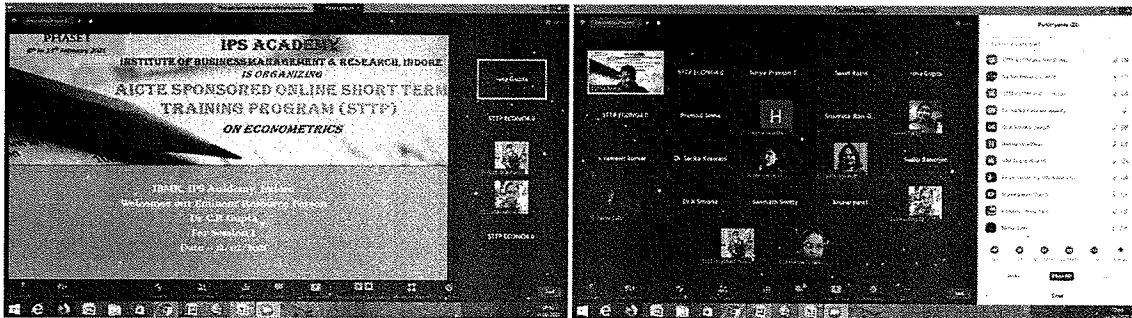
Session: 1, 2 & 3

Time: 10:00 am to 11:30 am

12:00 pm to 1:30 pm

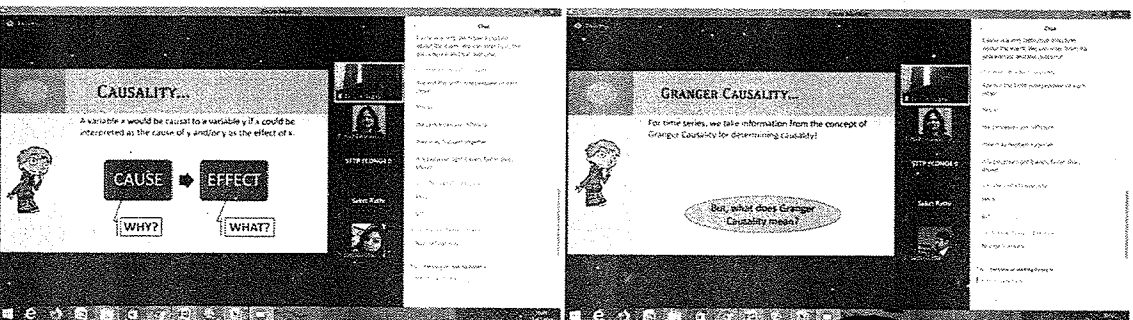
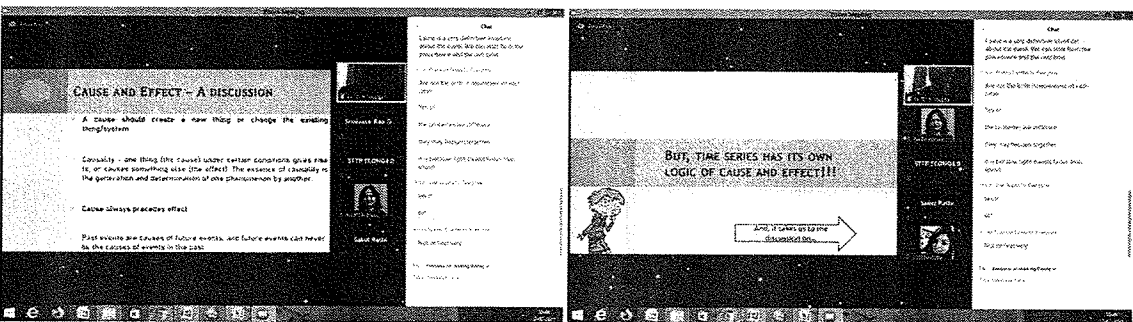
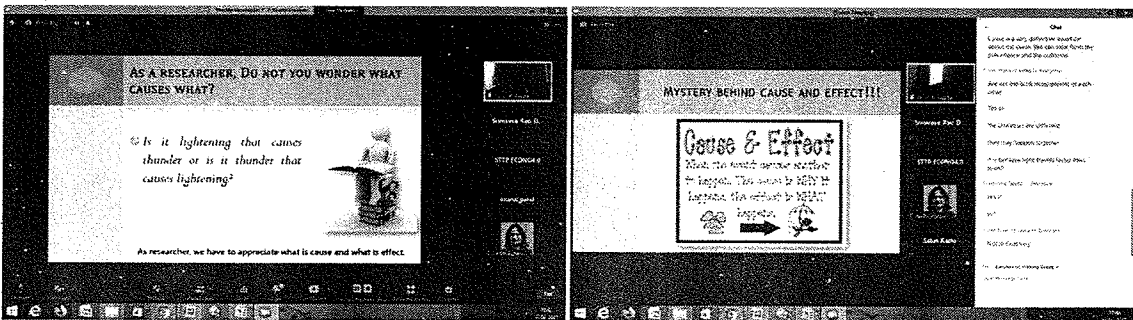
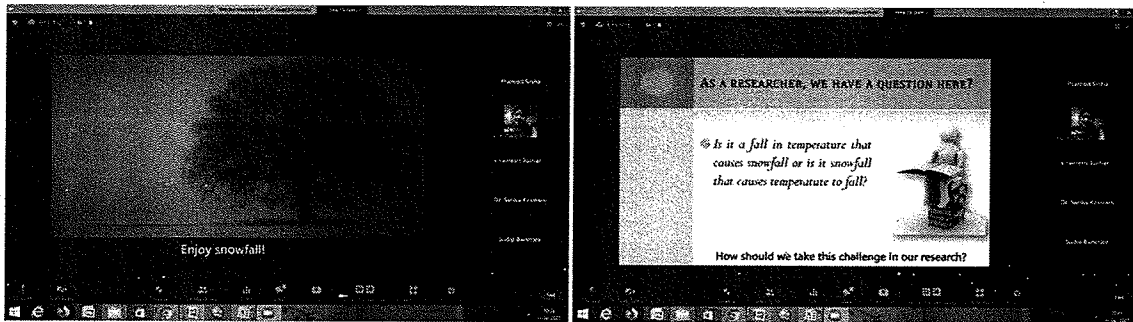
2:30 pm to 4:30 pm

Speaker: Dr. C. P. Gupta



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GRANGER CAUSALITY...

The concept is based on the premise:

Cause always precedes effect

- It means that the concept of Granger Causality is related to the idea of succession in time.
- It means that on a time-line, if an event X happens before the other variable, Y, then we can say that X Granger Causes Y!

Ques

Which of the following is not a Granger Causality test?

1. The hypothesis that the error term in the regression is not correlated with the error term in the regression of the dependent variable on the independent variable.

2. The hypothesis that the error term in the regression is not correlated with the error term in the regression of the dependent variable on the independent variable.

3. The hypothesis that the error term in the regression is not correlated with the error term in the regression of the dependent variable on the independent variable.

4. The hypothesis that the error term in the regression is not correlated with the error term in the regression of the dependent variable on the independent variable.

5. The hypothesis that the error term in the regression is not correlated with the error term in the regression of the dependent variable on the independent variable.

6. The hypothesis that the error term in the regression is not correlated with the error term in the regression of the dependent variable on the independent variable.

7. The hypothesis that the error term in the regression is not correlated with the error term in the regression of the dependent variable on the independent variable.

8. The hypothesis that the error term in the regression is not correlated with the error term in the regression of the dependent variable on the independent variable.

9. The hypothesis that the error term in the regression is not correlated with the error term in the regression of the dependent variable on the independent variable.

10. The hypothesis that the error term in the regression is not correlated with the error term in the regression of the dependent variable on the independent variable.

PRECISELY, GRANGER CAUSALITY MEANS ...

- If past values of X help to explain Y, then X Granger causes Y.
- It is a **Statistical concept**.
- A lack of Granger causality does not imply that there is no causal relationship.

From where do we get the necessary information for our econometric models to establish cause and effect relation?

- For cross-sectional data, it is the **THEORY** which provides us necessary information about cause and effect.
- But, what about time series analysis?

Ques

Which of the following is not a Granger Causality test?

1. The hypothesis that the error term in the regression is not correlated with the error term in the regression of the dependent variable on the independent variable.

2. The hypothesis that the error term in the regression is not correlated with the error term in the regression of the dependent variable on the independent variable.

3. The hypothesis that the error term in the regression is not correlated with the error term in the regression of the dependent variable on the independent variable.

4. The hypothesis that the error term in the regression is not correlated with the error term in the regression of the dependent variable on the independent variable.

5. The hypothesis that the error term in the regression is not correlated with the error term in the regression of the dependent variable on the independent variable.

6. The hypothesis that the error term in the regression is not correlated with the error term in the regression of the dependent variable on the independent variable.

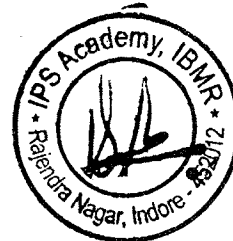
7. The hypothesis that the error term in the regression is not correlated with the error term in the regression of the dependent variable on the independent variable.

8. The hypothesis that the error term in the regression is not correlated with the error term in the regression of the dependent variable on the independent variable.

9. The hypothesis that the error term in the regression is not correlated with the error term in the regression of the dependent variable on the independent variable.

10. The hypothesis that the error term in the regression is not correlated with the error term in the regression of the dependent variable on the independent variable.

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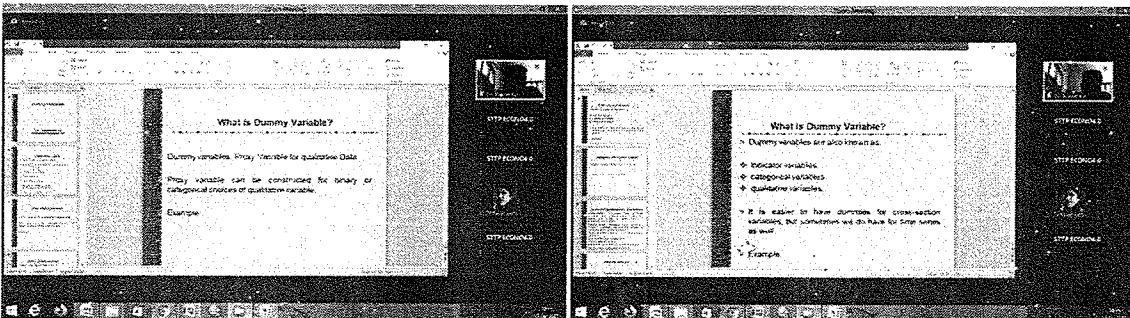
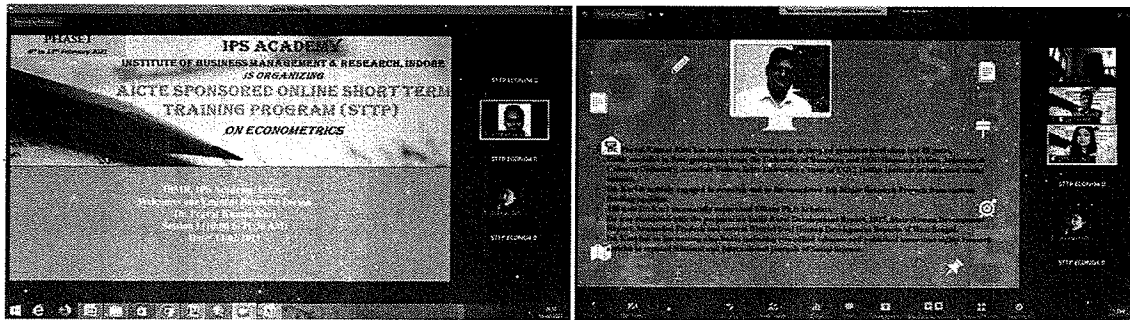


Day 6: 13 Feb 2021

Session: 1

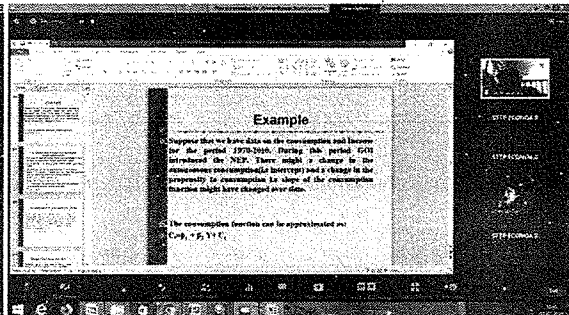
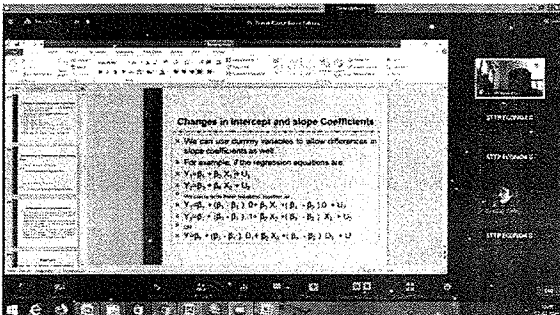
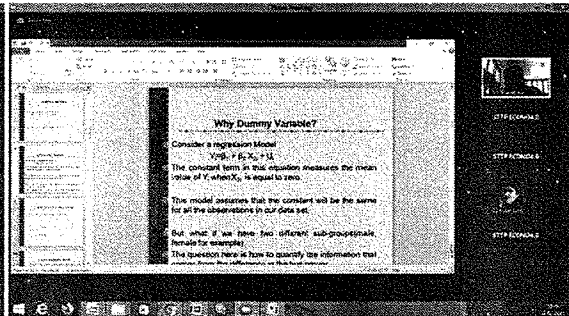
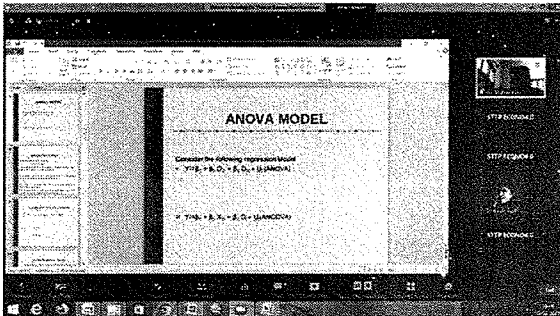
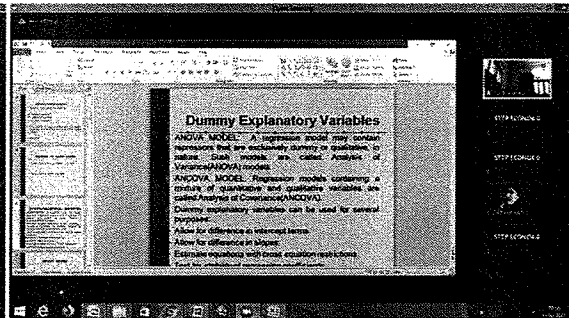
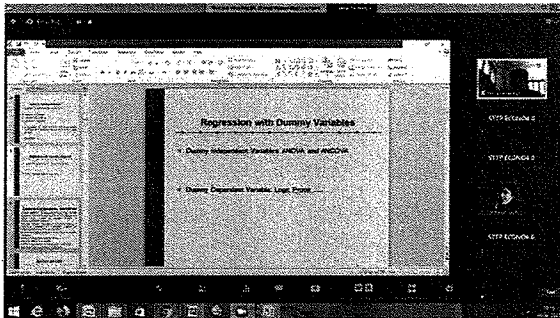
Time: 10:00 am to 11:30 am

Speaker: Dr. Pravat Kumar Kuri



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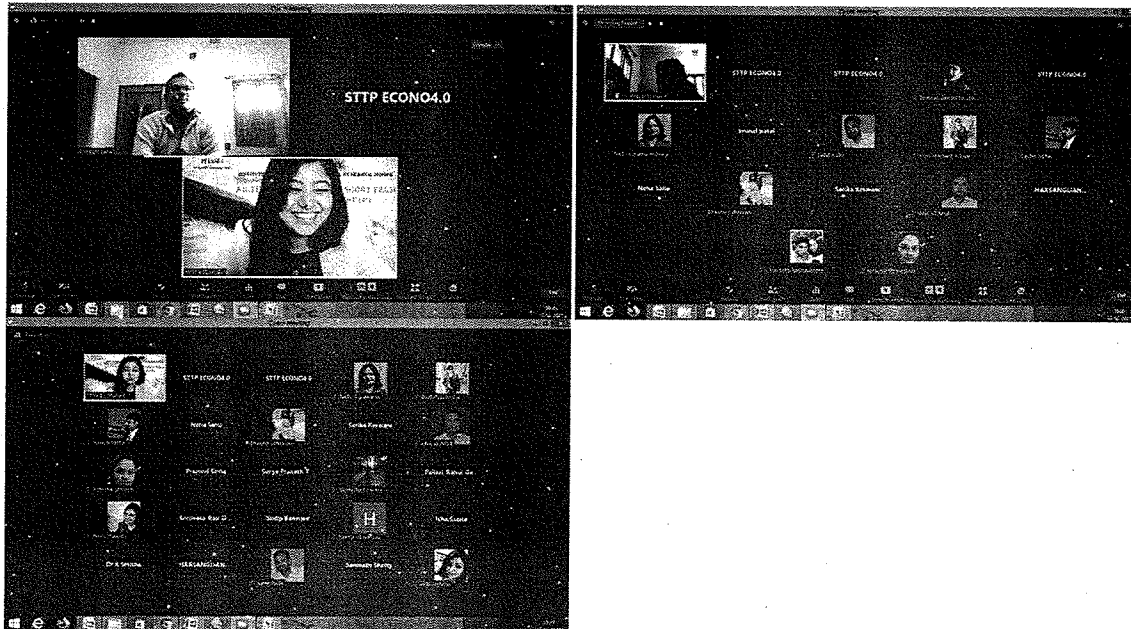


Day 6: 13 Feb 2021

Session: 2

Time: 12:00 pm to 1:30 pm

Speaker: Dr. Arindam Laha



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