# **GUJARAT TECHNOLOGICAL UNIVERSITY**



(Established Under Gujarat Act No.: 20 of 2007) ગુજરાત ટેકનોલોજીકલ યુનિવર્સિટી

(ગુજરાત અધિનિયમ ક્રમાંક : ૨૦/૨૦૦૭ દ્વારા સ્થાપિત)



GUJARAT TECHNOLOGICAL UNIVERSITY www.gtu.ac.in



CENTRE FOR GOVERNANCE SYSTEMS www.gturesearchcentres.edu.in

NATIONAL LEVEL FACULTY DEVELOPMENT PROGRAMME

GTU – CGS ANNOUNCES A NATIONAL LEVEL TWO-WEEK FDP ON

# Advanced Data Analysis For Business Research Using Statistical Packages

 $22^{ND}$  JUNE,  $2015 - 05^{TH}$  JULY, 2015

Gujarat Technological University (GTU), Centre for Governance Systems announces A National Level Two-Week Faculty Development Programme on 'Advanced Data Analysis for Business Research using Statistical Packages' during 22<sup>ND</sup> JUNE, 2015 – 05<sup>TH</sup> JULY, 2015 by Dr. Ritesh Patel, Dr. Amit Saraswat, Dr. Dhaval Maheta, Dr. Hitesh Parmar, Dr. Vipul Patel, Dr. K. Murlidharan, Dr. Nishith Bhatt, Dr. Bhavesh Vanparia, Dr. Balvinder Singh, Dr. Jignashu Yagnik and Dr. Naval Bajpai at GTU – Chandkheda Campus, Ahmedabad.

This is a 2<sup>nd</sup> series of FDP on Data Analysis for Business using Statistical Packages by GTU, last year it was organized during 21-25 July, 2014 and more than 90 Research Scholars, Faculties and Industry Delegates from all over the nation have successfully participated in it.

The current FDP aims to impart knowledge on Research Methodology, Econometrics, Fuzzy Logic, Design of Experiments, Quantitative Techniques, Marketing Research, Charts, Hypothesis Testing, Cluster Analysis, Multi-Dimensional Scaling (MDS), Correlation & Regression, Artificial Neural Network (ANN), Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA), Path Analysis, Structured Equation Modelling (SEM), etc. The FDP also aims to provide hands-on practical knowledge of using important Statistical Packages such as SPSS, AMOS, R, Minitab and Matlab.



# ABOUT THE PROGRAMME

With the increase in complexities of modern business, it is not possible to rely on the unscientific decisions based on the intuition. This provides the scientific methods for tackling various problems for modern business. Data analysis techniques provide the managers with a variety of tools from mathematics, statistics, economics and operational research. These tools help the manager to provide a more precise description and solution of the problem. The solutions obtained by using data analysis techniques are often free from the bias of the manager or the owner of the business. Data Analysis techniques provide solutions to almost every area of a business. These can be used in production, marketing, inventory, finance and other areas to find answers to various question like (a) how the resources should be used in production so that profits are maximized. (b) How should the production be matched to demand so as to minimize the cost of inventory? Data Analysis techniques provide a method of decision making in the face of uncertainty. These techniques are based upon decision theory. Statistical data analysis is one of the essential parts of the study in any field, specifically in business, economics, engineering & pharmacy. Quantitative Data Analysis is one the growing field and there are many opportunities in corporate sector as research analyst for the one who is equipped with data analysis using statistical software skills.

### **OBJECTIVES**

The objective of the FDP is to provide practical hands-on experience to the participants in understanding the process of conducting basic as well as advanced management research. The participants will be able to learn in-depth use of statistical packages that are widely used for conducting business research study. At an advanced level, the participants will get exposure to various multivariate data analysis in research. The programme is aimed to expose participants to a selected set of multivariate statistical tools and data mining approaches. It will help in understanding the applicability and the underlying logic of the statistical tools. It will also help in enhancing the knowledge base of using the statistical software for interpreting the outputs and utilizing the data for management and business related decisions.

### WHO SHOULD ATTEND?

The programme will be useful to the professors in field of Management / Commerce / Economics / Engineering / Pharmacy to upgrade their existing understanding and more importantly for the faculty aspiring to do their Ph.D. for further career advancement. In addition to this, participants from corporate who wish to pursue their Ph.D. will also benefit from this FDP. The fresh Ph.D. scholars, and Ph.D. Supervisors, who wish to enhance their computer based data analysis skills for future research projects will also benefit from this programme. Further, the working executives will be able to upgrade their knowledge in the areas of data analysis & quantitative techniques using statistical packages.

### **PEDAGOGY**

Application of concepts will be through class-room discussions, live software training, exercises and lectures.

### **GTU CERTIFICATE**

All participants of the FDP on 'Advanced Data Analysis for Business Research Using Statistical Packages' will be awarded a GTU – CGS certificate on successful completion of the programme.



# BRIEF PROFILE OF RESOURCE PERSONS

### Dr. Naval Bajpai



He is Assistant Professor of Statistics at the Indian Institute of Information Technology and Management, Gwalior. He has a multifarious background in industrial, teaching, and research fields spanning over a decade and is a life-time member of the Indian Society for Technical Education. A postgraduate in statistics, Professor Bajpai did his doctoral research in organizational behaviour at Pt Ravishankar Shukla University, Raipur. He also earned his master's degree in business administration from the same university and has conducted several management development programmes on leadership skills and research methods for international marketing. With over 25 research papers published in journals of national

and international repute, Professor Bajpai is an avid analyst of contemporary work trends in public-sector organizations. He is also a visiting faculty at the Institute of Finance Management, Dar es Salaam, Tanzania. He has authored several books on business statistics with globally renowned publisher Pearson Education. Some of this books are 'Research Methodology: For Gujarat Technological University' (ISBN: 9788131789360), 'Business Research Methods' (ISBN: 9788131754481), and 'Business Statistics' (ISBN: 9788131797006).

### Dr. K. Muralidharan



He is currently working as Professor and Head of department of Statistics, Faculty of Science, The Maharajah Sayajirao University of Baroda, Vadodara. He is also the Director of Population Research Centre, MSU Baroda. He has obtained his MSc degree in Statistics from Calicut University, Kerala; MPhil and Ph.D. in Statistics from Sardar Patel University and has completed Post-Doctoral Fellowship from Institute of Statistical Science at Academia Sinica, Taiwan. He is an internationally qualified Six Sigma Master Black belt from Indian Statistical Institute, Bangalore. He has about twenty two years of teaching and

research experience and has guided about five research students for doctorate degree. He has over ninety research publications in international and national journals. Recently, He had published a book entitled "Statistical Methods for Quality, Reliability and Maintainability" (ISBN-978-81-203-4543-0). The book is published by PHI learning private Ltd, New Delhi. This book is a blend of three disciplines, namely: management, science and engineering and can be very useful for Six Sigma consultants and practitioners besides Statistics and Mathematics students. He has co-authored another book entitled "An Introduction to Parametric inference" (ISBN-978-81-8487-416-7) with Prof. B. K. Kale, and the book is published by Narosa, New Delhi. His third book on "Six Sigma for Organizational Excellence: A Statistical approach (ISBN 978-81-322-2324-5, e-ISBN 978-81-322-2325-2 is on the way of publication with Springer. He can be reached on lmv\_murali@yahoo.com.

### Dr. Balwinder Singh



He is an Associate Professor at Department of Commerce, Guru Nanak Dev University, Amritsar and he has completed his M.Com from Guru Nanak Dev University. He also holds M.Phil degree and completed his doctoral research from Kurukshetra University. He has a teaching experience of more than 25 years and has been teaching post graduate classes through innovative pedagogy, teaching materials and aids. He has been teaching core financial courses and technical subjects like financial econometrics, research methods and data analysis with the aid of latest software and techniques. Dr. Balwinder Singh has research acumen for

core financial issues and special interests in the fields of banking and capital market. He has successfully guided eleven doctoral theses and five M.Phil theses in the areas of Capital Market Efficiency, Initial Public Offerings, Banking (Internet Banking), Corporate Governance. He holds to his credit 83 research articles published in top ranking journals of national and international repute with 351 citations, an H index of 9 and i10 index of 9 as compiled by google scholar. He has to his credit almost 100 conference papers presented in national and international conferences, contributions as important chapters in edited books and an edited book. He has been a prominent resource person, chairperson of technical sessions, key note speaker through his unique and emphatic contributions in numerous conferences. He can be reached on bksaini@gmail.com.

### Dr. Jignasu Yagnik



He is currently working as Professor with Entrepreneurship Development Institute, Gandhinagar. Specializes in the areas of information technology and statistical analysis. Associated with research and academics for more than 22 years. Involved in many state and national level research projects. Current interests include; data-base management, MIS, data mining, e-CRM, VBA programming, research methods and computer aided data analysis. He can be contacted on yagnik@ediindia.org.



### **Dr. Nishith Bhatt**



He is currently working as an associate professor in department of management, Hemchandracharya North Gujarat University, Patan, Gujarat since December, 1996. He has more than 18 years of an experience in teaching and academic field. He teaches subjects like Sales & Distribution management, Strategic Marketing and Brand Management, Strategic Management, International Marketing Management, Services Marketing. He has arranged as well as attended number of seminars and workshops. He is a member of Governing Council of V. M. Patel Institute of Business Management, Ganpat University, Kherva, Mehsana-Gujarat. He is also Advisory Board member at BBA College at Unjha. He has been also an Ex-

Member Executive Council as well as Academic Council of Hemchandracharya North Gujarat University, Patan, Gujarat. He has been a Chairman Board of studies in Management at HNGU from 2003 to 2005. He is the Chairman Board of Studies in Hospital Management at HNGU, Patan. His research papers have been published in various journals of national as well as international repute. You may write to him on callnishith@yahoo.com.

### **Dr. Amit Saraswat**



He is an Electrical Engineer from IIT- R. He has submitted his PhD with CEPT University, Ahmedabad. He started his career with Tata Motors Limited. He has 7 year of experience with academics where he has taught numerous subjects like Data Mining with SAS, Process analytics, Business Analytics, Business process Management, Marketing, Statistics, Multivariate analysis, operations management, Business analysis to name a few. He has authored papers which have been published in International journals. Currently he is working as a Principal Data scientist with Davizta, Pune which is an US firm and works in

the US health care industry. He is a consultant to International and national companies such as Telekom, Indonesia, CFRAM, France. His core area of expertise lies in Machine learning algorithms, Multivariate analysis and Data Mining. He works on multiple platforms such as R, SAS, SPSS, Rapid Miner, Tanagra, AMOS. He is a visiting faculty to many management institutes of repute such as Symbiosis, Pune, Nirma Institute of Management, PDPU, MICA, Alliance University, Bangalore. He is a sought after trainer in the industry with advanced level trainings delivered at HP, Cognizant, IBM, Technosoft, UNISYS, WNS, Persistent to name a few. He can be contacted on saraswatamit@yahoo.com.

### **Dr. Vipul Patel**



He is doctorate in management, having more than ten years of teaching experience at AICTE approved post graduate management institute. He holds master degree in management and bachelor degree in engineering. He is doctorate guide in management at Ganpat University, R K University and C U Shah University. He has published fourteen papers in national and international journals and edited books. He has presented sixteen research papers in national and international conferences in India. He has delivered expert

sessions in FDPs on Factor Analysis using SPSS and AMOS software. Currently, he is working as Associate Professor at Shanti Business School. His teaching interests are Marketing Management, Consumer Behavior, Marketing Research, Industrial Marketing, Retail Marketing, SPSS and Structure Equation Modeling using AMOS. He can be contacted at vipulpat@gmail.com.

### Dr. Dhaval Maheta



He is doctorate in management and currently working as an Assistant Professor, Department of Business and Industrial Management, VNSGU, Surat. He has thirteen years of Post – Graduate teaching experience over and above industrial experience with Multinational Finance Companies such as ICICI Bank and HDFC Ltd. His matter of interest is Financial Management, Financial Derivatives, Production Management, Corporate Taxation, Quantitative Techniques, Econometrics and Design of an Experiment. He is visiting faculty in Southern Gujarat Chamber of Commerce and Industry, Surat in the area of Export Import Finance and Exchange Controls. At present 5 students are carrying out Ph.D under him. He

has presented and published 12 research papers in National and International Conferences. He has been the key resource persons for the Research Methodology workshops organized at various levels including NITs. He has also published book on "Minitab" software with ISBN No. 9788174468710 / 8174468714 used for analyzing data using Minitab Software. He has organized various Faculty Development Programme on Data Analysis using SPSS, AMOS, Minitab, E-views, Gretl, Matlab, Design Expert, etc. More than 1000 faculties have been trained for various research softwares. At present he is working on minor research project titled "Effect of Money Supply on Stock Exchange". You can contact him on Email: dhavalmaheta007@rediffmail.com, (M) 099980 28491.





### Dr. Hitesh Parmar



He is currently working as Assistant Professor in Department of Business and Industrial Management, VNSGU, Surat. He has 8 years of Post Graduate Teaching experience and 1.5 Year of industry experience. He has taught Subjects like Quantitative Methods and Production and Operations Management. He has delivered guest lectures in various MBA institutes. He has published research papers in various journals and books. He has participated in various International and National Conferences. He is actively conducting Faculty development Programmes and Workshops in the area of Research Methodology

using SPSS, MINITAB and E Views. He has trained more than 700 faculties in the above mentioned subjects. He can be contacted on: parmarhitesh\_er@yahoo.co.in.

### Dr. Bhavesh Vanpariya



He is Faculty at Tolani Institute of Management Studies, Adipur-Kachchh. He holds MBA with Marketing specialization and PhD in Management. He also did LLB, Post Graduate Diploma in Research Methodology and Post Graduate in HRM. Dr. Vanpariya started his career in the corporate world with HCL and moved on to academics with a special focus on research since last nine years. He has authored three books entitled "Business Research Methods" and "Research Methodology and Operation Research", "Interdisciplinary Studies in Management" published by McGraw Hill Education, New York, USA. He holds the credit of presenting research papers in 35 International and National Conferences and has

published 30 research papers and articles in various reputed refereed National and International journals. He has conducted many workshops, seminars and FDPs on Research Methodology, SPSS, AMOS and Quantitative analysis. He is a member of International Association of Academicians and Researchers and Research Associate of Matrix Consultancy (I) Limited, Pune. He can be contacted at bhavindh@gmail.com.

### Dr. Ritesh Patel



He is currently working as an Assistant Professor at Centre for Governance Systems (CGS) a PG Research Centre at Gujarat Technological University (GTU), Chandkheda, Ahmedabad. He has gained his MBA degree in Marketing from Hemchandracharya North Gujarat University, Patan and Ph.D. in the area of Marketing from Department of Management, Sardar Patel University, Anand. He has also cleared UGC-NET in the subject of Management. He has sound academic experience of 6 years at Post Graduate Level and 5 years Industry experience at Managerial level. Prior to joining GTU he worked as Academic Associate with Indian Institute of Management Ahmedabad (IIM-A); He has also

worked as Assistant Professor at Institute of Law, Nirma University for a short stint. He has presented several research papers in various national and international level conferences. He has published around 25 research papers in various referred journals of national and international repute. Based on his thesis he has also published a book 'Brand Management in Retail Banking', with LAP LAMBERT Publishing, Germany. He has also published a reference book on Research Methodology, with Ahmedabad based publisher. His area of consulting, research and teaching are Branding, Retailing, CRM, Research Methodology, Quantitative Techniques, Consumer Behaviour and Good Governance. You can write to him on visit\_ritesh@yahoo.com, (M) 9687100199.





### T A I L E D $\mathbf{S}$ U L $\mathbf{C}$ Н ${f E}$ E $\mathbf{D}$ E

| DAY 1. MONDAY 22ND HINE 2015 (Dr. Lignery)  | Vacarila)                                  |
|---|--|
| DAY-1: MONDAY, 22 <sup>ND</sup> JUNE, 2015 ( Dr. Jignasu )<br>Schedule  |  |
|   | Time                                       |
| Registration, Tea & Breakfast   | 10.30 am - 11.00 am<br>11.00 am - 11.30 am |
| Inaugural Function and Key-note Address   |  |
| Questionnaire Designing   | 11.30 am - 01.00 pm                        |
| • Concepts of measurement properties of scale and levels of   |  |
| measurement (nominal, ordinal, interval and ratio).   |  |
| <ul> <li>Types of data - metric data and non-metric data</li> </ul>   |  |
| Lunch Break   | 01 00 02 00                                |
|   | 01.00 pm - 02.00 pm                        |
| Population and sample   | 02.00 pm - 3.30 pm                         |
| Census and sampling   |  |
| Sample size determination techniques  |  |
| Hypothesis testing  | 2.20                                       |
| Tea Break   | 3.30 pm – 4.00 pm                          |
| One-tailed and two-tailed test  | 4.00 pm - 5.30 pm                          |
| Type I and Type II errors  PANA THEODAY 22RD HINE 2015 (D. N. 144)  |  |
| DAY-2: TUESDAY, 23 <sup>RD</sup> JUNE, 2015 (Dr. Nishith  |  |
| Schedule Tea & Breakfast  | <b>Time</b> 10.30 am – 11.00 am            |
|   |  |
| Normal distribution   | 11.00 am - 01.00 pm                        |
| Standard normal distribution - z scores   |  |
| <ul> <li>Effect sizes and statistical power</li> </ul>  |  |
| Sampling distribution and Standard Error  |  |
| Lunch Break   | 01.00 pm – 02.00 pm                        |
| <ul> <li>Confidence interval and confidence level</li> </ul>  | 02.00 pm - 3.30 pm                         |
| <ul> <li>Level of significance</li> </ul>   |  |
| <ul> <li>Traditional method and p-value method of hypotheses testing</li> </ul>   |  |
| Tea Break   | 3.30 pm- 4.00 pm                           |
| <ul> <li>Introduction to Parametric and non-parametric statistics</li> </ul>  | 4.00 pm - 5.30 pm                          |
| <ul> <li>Reliability and validity of scale</li> </ul>   |  |
| DAY-3: WEDNESDAY, 24 <sup>TH</sup> JUNE, 2015 ( Dr. K. Mur  |  |
| Schedule  | Time                                       |
| Tea & Breakfast   | 10.30 am – 11.00 am                        |
| <ul> <li>Introduction to SPSS</li> </ul>  | 11.00 am - 01.00 pm                        |
| <ul> <li>Understanding data editor and output viewer,</li> </ul>  |  |
| <ul> <li>entering data and cleaning data, defining variable properties,</li> </ul>                                      |  |
| sort cases and variables, transpose, restructure, merge files,  |  |
| copy data sets, split files, select cases, weight cases,  |  |
| computing variables, count values within cases,   |  |
| • Recode into same variables, recode into different variables,  |  |
| automatic recoding, weight cases, rank cases, replace missing values.   |  |
| Lunch Break   | 01.00 pm – 02.00 pm                        |
| • Charts and graphs using SPSS (simple bar chart, clustered bar   | 02.00 pm - 3.30 pm                         |
| Charts and graphs using 51 55 (simple bar chart, clustered bar  |  |
|   |  |
| chart, line chart, area chart, pie chart, scatter plot, high-low chart, range bar chart, box plot, histogram and normal |  |



| • Descriptive statistics   |  |
|--|--|
| <ul> <li>Descriptive statistics.</li> <li>Massures of central tandency (crithmetic mean simple</li> </ul>  |  |
| • Measures of central tendency (arithmetic mean - simple mean, weighted mean, harmonic mean and geometric mean,  |  |
| median, mode, quartile, decile, quintile percentile).  |  |
| Tea Break  | 3.30 pm - 4.00 pm  |
| Measures of dispersion (range, coefficient of range, inter)  | 4.00 pm - 5.30 pm  |
| quartile range, absolute measure of dispersion, relative   | 4.00 pm 3.30 pm  |
| measure of dispersion, standard deviation, absolute mean   |  |
| deviation, variance, coefficient of variance).   |  |
| <ul> <li>Measures of shapes - Skewness and Kurtosis.</li> </ul>  |  |
| DAY-4: Thursday, 25 <sup>TH</sup> JUNE, 2015 ( Dr. Bhavesh V   | anpariva)  |
| Schedule   | Time   |
| Tea & Breakfast  | 10.30 am – 11.00 am  |
| One-sample t-test  | 11.00 am - 01.00 pm  |
| One-sample z-test  | 1  |
| Lunch Break  | 01.00 pm – 02.00 pm  |
| Two-sample t-test (Independent-sample t-test and Paired-   | 02.00 pm - 3.30 pm   |
| sample t-test)   | ozwo pini owo pini   |
| <ul> <li>One-sample chi-square test</li> </ul>   |  |
| Tea Break  | 3.30 pm - 4.00 pm  |
| Chi-square test of contingency   | 4.00 pm - 5.30 pm  |
| Bivariate Correlation - Pearson's correlation coefficient,   | r  |
| ·  |  |
| Spearman's correlation coefficient. Kendali's tau (non-  |  |
| Spearman's correlation coefficient, Kendall's tau (non-parametric), Eta test.  |  |
| parametric), Eta test.  DAY-5: FRIDAY, 26 <sup>TH</sup> JUNE, 2015 ( Dr. Dhaval Maheta & D   | r. Hitesh Parmar )   |
| parametric), Eta test.   | Time   |
| parametric), Eta test.  DAY-5: FRIDAY, 26 <sup>TH</sup> JUNE, 2015 ( Dr. Dhaval Maheta & D   |  |
| parametric), Eta test.  DAY-5: FRIDAY, 26 <sup>TH</sup> JUNE, 2015 ( Dr. Dhaval Maheta & D  Schedule   | Time   |
| parametric), Eta test.  DAY-5: FRIDAY, 26 <sup>TH</sup> JUNE, 2015 ( Dr. Dhaval Maheta & D  Schedule  Tea & Breakfast  | <b>Time</b> 10.30 am – 11.00 am  |
| parametric), Eta test.  DAY-5: FRIDAY, 26 <sup>TH</sup> JUNE, 2015 ( Dr. Dhaval Maheta & D  Schedule  Tea & Breakfast  Introduction to Econometrics Simple Linear Regression Multiple regression and Pooled Regression   | Time 10.30 am – 11.00 am 11.00 am - 01.00 pm   |
| parametric), Eta test.  DAY-5: FRIDAY, 26 <sup>TH</sup> JUNE, 2015 ( Dr. Dhaval Maheta & D  Schedule  Tea & Breakfast  Introduction to Econometrics Simple Linear Regression   | Time 10.30 am – 11.00 am 11.00 am - 01.00 pm  01.00 pm – 02.00 pm  |
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| parametric), Eta test.  DAY-5: FRIDAY, 26 <sup>TH</sup> JUNE, 2015 ( Dr. Dhaval Maheta & D  Schedule  Tea & Breakfast  Introduction to Econometrics Simple Linear Regression Multiple regression and Pooled Regression  Lunch Break  Logistic Regression   | Time 10.30 am - 11.00 am 11.00 am - 01.00 pm  01.00 pm - 02.00 pm  |
| parametric), Eta test.  DAY-5: FRIDAY, 26 <sup>TH</sup> JUNE, 2015 ( Dr. Dhaval Maheta & D  Schedule  Tea & Breakfast  Introduction to Econometrics Simple Linear Regression Multiple regression and Pooled Regression  Lunch Break  Logistic Regression Multinomial Logistic Regression   | Time 10.30 am - 11.00 am 11.00 am - 01.00 pm  01.00 pm - 02.00 pm  |
| parametric), Eta test.  DAY-5: FRIDAY, 26 <sup>TH</sup> JUNE, 2015 ( Dr. Dhaval Maheta & D  Schedule  Tea & Breakfast  Introduction to Econometrics Simple Linear Regression Multiple regression and Pooled Regression  Lunch Break  Logistic Regression Multinomial Logistic Regression Multicollinearity   | Time 10.30 am – 11.00 am 11.00 am - 01.00 pm  01.00 pm – 02.00 pm  |
| parametric), Eta test.  DAY-5: FRIDAY, 26 <sup>TH</sup> JUNE, 2015 ( Dr. Dhaval Maheta & D  Schedule  Tea & Breakfast  Introduction to Econometrics Simple Linear Regression Multiple regression and Pooled Regression  Lunch Break  Logistic Regression Multinomial Logistic Regression Multicollinearity Heteroscedasticity  | Time  10.30 am – 11.00 am  11.00 am - 01.00 pm  01.00 pm – 02.00 pm  02.00 pm - 3.30 pm  |
| parametric), Eta test.  DAY-5: FRIDAY, 26 <sup>TH</sup> JUNE, 2015 ( Dr. Dhaval Maheta & D  Schedule  Tea & Breakfast  Introduction to Econometrics Simple Linear Regression Multiple regression and Pooled Regression  Lunch Break  Logistic Regression Multinomial Logistic Regression Multicollinearity Heteroscedasticity  Tea Break   | Time 10.30 am - 11.00 am 11.00 am - 01.00 pm  01.00 pm - 02.00 pm 02.00 pm - 3.30 pm  3.30 pm- 4.00 pm   |
| parametric), Eta test.  DAY-5: FRIDAY, 26 <sup>TH</sup> JUNE, 2015 ( Dr. Dhaval Maheta & D  Schedule  Tea & Breakfast  Introduction to Econometrics Simple Linear Regression Multiple regression and Pooled Regression  Lunch Break  Logistic Regression Multinomial Logistic Regression Multicollinearity Heteroscedasticity  Tea Break  Autocorrelation  | Time 10.30 am - 11.00 am 11.00 am - 01.00 pm  01.00 pm - 02.00 pm 02.00 pm - 3.30 pm  3.30 pm- 4.00 pm   |
| parametric), Eta test.  DAY-5: FRIDAY, 26 <sup>TH</sup> JUNE, 2015 ( Dr. Dhaval Maheta & D  Schedule  Tea & Breakfast  Introduction to Econometrics Simple Linear Regression Multiple regression and Pooled Regression  Lunch Break  Logistic Regression Multinomial Logistic Regression Multicollinearity Heteroscedasticity  Tea Break  Autocorrelation Dummy Variable Analysis  | Time 10.30 am - 11.00 am 11.00 am - 01.00 pm  01.00 pm - 02.00 pm 02.00 pm - 3.30 pm  3.30 pm- 4.00 pm 4.00 pm - 5.30 pm   |
| parametric), Eta test.  DAY-5: FRIDAY, 26 <sup>TH</sup> JUNE, 2015 ( Dr. Dhaval Maheta & D  Schedule  Tea & Breakfast  Introduction to Econometrics Simple Linear Regression Multiple regression and Pooled Regression  Lunch Break  Logistic Regression Multinomial Logistic Regression Multicollinearity Heteroscedasticity  Tea Break  Autocorrelation Dummy Variable Analysis Non-Stationarity and Unit Root Tests  DAY-6: SATURDAY, 27 <sup>TH</sup> JUNE, 2015 ( Dr. Dhaval Maheta & Schedule  | Time  10.30 am - 11.00 am  11.00 am - 01.00 pm  01.00 pm - 02.00 pm  02.00 pm - 3.30 pm  3.30 pm- 4.00 pm  4.00 pm - 5.30 pm  Dr. Hitesh Parmar )  Time  |
| parametric), Eta test.  DAY-5: FRIDAY, 26 <sup>TH</sup> JUNE, 2015 ( Dr. Dhaval Maheta & D  Schedule  Tea & Breakfast  Introduction to Econometrics Simple Linear Regression Multiple regression and Pooled Regression  Lunch Break  Logistic Regression Multinomial Logistic Regression Multicollinearity Heteroscedasticity  Tea Break  Autocorrelation Dummy Variable Analysis Non-Stationarity and Unit Root Tests  DAY-6: SATURDAY, 27 <sup>TH</sup> JUNE, 2015 ( Dr. Dhaval Maheta &   | Time  10.30 am - 11.00 am  11.00 am - 01.00 pm  01.00 pm - 02.00 pm  02.00 pm - 3.30 pm  3.30 pm - 4.00 pm  4.00 pm - 5.30 pm  Dr. Hitesh Parmar )  Time  10.30 am - 11.00 am  |
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| parametric), Eta test.  DAY-5: FRIDAY, 26 <sup>TH</sup> JUNE, 2015 ( Dr. Dhaval Maheta & D  Schedule  Tea & Breakfast  Introduction to Econometrics Simple Linear Regression Multiple regression and Pooled Regression  Lunch Break  Logistic Regression Multinomial Logistic Regression Multicollinearity Heteroscedasticity  Tea Break  Autocorrelation Dummy Variable Analysis Non-Stationarity and Unit Root Tests  DAY-6: SATURDAY, 27 <sup>TH</sup> JUNE, 2015 ( Dr. Dhaval Maheta & Schedule  Tea & Breakfast                                       | Time  10.30 am - 11.00 am  11.00 am - 01.00 pm  01.00 pm - 02.00 pm  02.00 pm - 3.30 pm  3.30 pm - 4.00 pm  4.00 pm - 5.30 pm  Dr. Hitesh Parmar  Time  10.30 am - 11.00 am  11.00 am - 01.00 pm  01.00 pm - 02.00 pm  |
| parametric), Eta test.  DAY-5: FRIDAY, 26 <sup>TH</sup> JUNE, 2015 ( Dr. Dhaval Maheta & D  Schedule  Tea & Breakfast  Introduction to Econometrics Simple Linear Regression Multiple regression and Pooled Regression  Lunch Break  Logistic Regression Multinomial Logistic Regression Multicollinearity Heteroscedasticity  Tea Break  Autocorrelation Dummy Variable Analysis Non-Stationarity and Unit Root Tests  DAY-6: SATURDAY, 27 <sup>TH</sup> JUNE, 2015 ( Dr. Dhaval Maheta & Schedule  Tea & Breakfast  Introduction to Minitab              | Time  10.30 am - 11.00 am  11.00 am - 01.00 pm  01.00 pm - 02.00 pm  02.00 pm - 3.30 pm  3.30 pm- 4.00 pm  4.00 pm - 5.30 pm  Dr. Hitesh Parmar )  Time  10.30 am - 11.00 am  11.00 am - 01.00 pm                      |
| parametric), Eta test.  DAY-5: FRIDAY, 26 <sup>TH</sup> JUNE, 2015 ( Dr. Dhaval Maheta & D  Schedule  Tea & Breakfast  Introduction to Econometrics Simple Linear Regression Multiple regression and Pooled Regression  Lunch Break  Logistic Regression Multinomial Logistic Regression Multicollinearity Heteroscedasticity  Tea Break  Autocorrelation Dummy Variable Analysis Non-Stationarity and Unit Root Tests  DAY-6: SATURDAY, 27 <sup>TH</sup> JUNE, 2015 ( Dr. Dhaval Maheta & Schedule  Tea & Breakfast  Introduction to Minitab  Lunch Break | Time  10.30 am - 11.00 am  11.00 am - 01.00 pm  01.00 pm - 02.00 pm  02.00 pm - 3.30 pm  3.30 pm- 4.00 pm  4.00 pm - 5.30 pm  Dr. Hitesh Parmar )  Time  10.30 am - 11.00 am  11.00 am - 01.00 pm  01.00 pm - 02.00 pm |

| DAY # CUNDAY ACTUATION ACTUAL |                      |  |  |
|---|----------------------|--|--|
| DAY-7: SUNDAY, 28 <sup>TH</sup> JUNE, 2015 ( Dr. Ritesh Patel)  |                      |  |  |
| Schedule  | Time                 |  |  |
| Tea & Breakfast   | 10.30 am – 11.00 am  |  |  |
| Group Revision & Hans-On Practice Session   | 11.00 am - 01.00 pm  |  |  |
| Lunch Break   | 01.00 pm – 02.00 pm  |  |  |
|   |                      |  |  |
| Group Revision & Hans-On Practice Session   | 02.00 pm - 3.30 pm   |  |  |
| Tea Break   | 3.30 pm- 4.00 pm     |  |  |
| <ul> <li>Group Revision &amp; Hans-On Practice Session</li> </ul>   | 4.00 pm - 5.30 pm    |  |  |
| DAY-8: MONDAY, 29 <sup>TH</sup> JUNE, 2015 ( Dr. Naval Bajpai & I   |                      |  |  |
| Schedule  | Time                 |  |  |
| Tea & Breakfast   | 10.30 am – 11.00 am  |  |  |
| <ul> <li>Discriminant Analysis</li> </ul>   | 11.00 am - 01.00 pm  |  |  |
| <ul> <li>Cluster Analysis for market segmentation</li> </ul>  |                      |  |  |
| Lunch Break   | 01.00 pm – 02.00 pm  |  |  |
| <ul> <li>Multidimensional scaling for brand positioning</li> </ul>  | 02.00 pm - 3.30 pm   |  |  |
| • Attribute based Perceptual Mapping Using Discriminant   |                      |  |  |
| Analysis  |                      |  |  |
| Tea Break   | 3.30 pm- 4.00 pm     |  |  |
| <ul> <li>Conjoint Analysis for Product Design</li> </ul>  | 4.00 pm - 5.30 pm    |  |  |
| DAY-9: TUESDAY, 30 <sup>TH</sup> JUNE, 2015 ( Dr. Amit Sa   | raswat)              |  |  |
| Schedule  | Time                 |  |  |
| Tea & Breakfast   | 10.30 am – 11.00 am  |  |  |
| <ul> <li>Design of an experiment – Introduction</li> </ul>  | 11.00 am - 01.00 pm  |  |  |
| Select Experimental Design  |                      |  |  |
| Full Factorial Designs  |                      |  |  |
| Lunch Break   | 01.00 pm – 02.00 pm  |  |  |
| Fractional Factorial Designs  | 02.00 pm - 3.30 pm   |  |  |
| <ul> <li>Comparing several means (ANOVA)</li> </ul>   |                      |  |  |
| <ul> <li>Analysis of covariance (ANCOVA)</li> </ul>   |                      |  |  |
| Factorial ANOVA   |                      |  |  |
| Tea Break   | 3.30 pm- 4.00 pm     |  |  |
| Multivariate analysis of variance (MANOVA)  | 4.00 pm - 5.30 pm    |  |  |
| Multivariate analysis of covariance (MANCOVA)   |                      |  |  |
| DAY-10: WEDNESDAY, 01 <sup>ST</sup> JULY, 2015 ( Dr. Amit Saraswat )  |                      |  |  |
| Schedule  | Time                 |  |  |
| Tea & Breakfast   | 10.30 am – 11.00 am  |  |  |
| Introduction to R   | 11.00 am - 01.00 pm  |  |  |
| <ul> <li>Performing basic univariate and bivariate tests using R</li> </ul>   | r                    |  |  |
| Lunch Break   | 01.00 pm – 02.00 pm  |  |  |
| Time Series Forecasting   | 02.00 pm - 3.30 pm   |  |  |
| Artificial Neural Network (ANN) - Introduction  |                      |  |  |
| Tea Break   | 3.30 pm- 4.00 pm     |  |  |
| Performing Artificial Neural Network (ANN) – using SPSS   | 4.00 pm - 5.30 pm    |  |  |
| DAY-11: THURSDAY, 02 <sup>ND</sup> JULY, 2015 ( Dr. Vipu  | <u> </u>             |  |  |
| Schedule Time   |                      |  |  |
| Tea & Breakfast   | 10.30 am – 11.00 am  |  |  |
| Exploratory Factor analysis (EFA)   | 11.00 am - 01.00 pm  |  |  |
| - 17/21/12/14/24 9 1 42/42/1 (111011 9/21/2 ) 1 / 1 / 3 /   | 21.00 mii 01.00 piii |  |  |

| Lunch Break  | 01.00 pm – 02.00 pm  |  |  |
|--|--|--|--|
| Confirmatory Factor Analysis (CFA)   | 02.00 pm - 3.30 pm   |  |  |
| Tea Break  | 3.30 pm- 4.00 pm   |  |  |
| <ul> <li>Second Order Confirmatory Factor Analysis (CFA)</li> </ul>  | 4.00 pm - 5.30 pm  |  |  |
| DAY-12: FRIDAY, 03 <sup>RD</sup> JULY, 2015 (Dr. Vipul Patel)  |  |  |  |
| Schedule   | Time   |  |  |
| Tea & Breakfast  | 10.30 am – 11.00 am  |  |  |
| Structured Equation Modelling (SEM) using AMOS   | 11.00 am - 01.00 pm  |  |  |
| Lunch Break  | 01.00 pm – 02.00 pm  |  |  |
| Measures of Model-Fit  | 02.00 pm - 3.30 pm   |  |  |
| <ul> <li>Relative Fit Indices (IFI, TLI, NFI)</li> </ul>   |  |  |  |
| <ul> <li>Parsimonious Fit Indices (PGFI, PNFI, PNFI2, PCFI)</li> </ul>   |  |  |  |
| <ul> <li>Non centrality-based Indices (RMSEA, CFI, RNI, CI)</li> </ul>   |  |  |  |
| Tea Break  | 3.30 pm- 4.00 pm   |  |  |
| Measuring Mediating and Moderating Effects with SEM  | 4.00 pm - 5.30 pm  |  |  |
| DAY-13: SATURDAY, 04 <sup>TH</sup> JULY, 2015 ( Dr. Balvinder Singh)   |  |  |  |
| DAY-13: SATURDAY, 04 <sup>TH</sup> JULY, 2015 ( Dr. Balvino  | der Singh)   |  |  |
| DAY-13: SATURDAY, 04 <sup>TH</sup> JULY, 2015 ( Dr. Balvino<br>Schedule  | der Singh)<br>Time   |  |  |
| DAY-13: SATURDAY, 04 <sup>TH</sup> JULY, 2015 ( Dr. Balvino  |  |  |  |
| DAY-13: SATURDAY, 04 <sup>TH</sup> JULY, 2015 ( Dr. Balvino Schedule   | Time   |  |  |
| DAY-13: SATURDAY, 04 <sup>TH</sup> JULY, 2015 ( Dr. Balvino<br>Schedule<br>Tea & Breakfast   | Time 10.30 am - 11.00 am 11.00 am - 01.00 pm 01.00 pm - 02.00 pm   |  |  |
| DAY-13: SATURDAY, 04 <sup>TH</sup> JULY, 2015 ( Dr. Balvino Schedule  Tea & Breakfast  Introduction to Non-parametric tests  | <b>Time</b> 10.30 am – 11.00 am 11.00 am - 01.00 pm  |  |  |
| DAY-13: SATURDAY, 04 <sup>TH</sup> JULY, 2015 ( Dr. Balvino Schedule  Tea & Breakfast  Introduction to Non-parametric tests  Lunch Break  Mann-Whitney U Test  Wilcoxon signed rank test   | Time 10.30 am - 11.00 am 11.00 am - 01.00 pm 01.00 pm - 02.00 pm   |  |  |
| DAY-13: SATURDAY, 04 <sup>TH</sup> JULY, 2015 ( Dr. Balvino Schedule  Tea & Breakfast  Introduction to Non-parametric tests  Lunch Break  Mann-Whitney U Test  | Time 10.30 am - 11.00 am 11.00 am - 01.00 pm 01.00 pm - 02.00 pm   |  |  |
| DAY-13: SATURDAY, 04 <sup>TH</sup> JULY, 2015 ( Dr. Balvino Schedule  Tea & Breakfast  Introduction to Non-parametric tests  Lunch Break  Mann-Whitney U Test  Wilcoxon signed rank test   | Time 10.30 am - 11.00 am 11.00 am - 01.00 pm 01.00 pm - 02.00 pm 02.00 pm - 3.30 pm  |  |  |
| DAY-13: SATURDAY, 04 <sup>TH</sup> JULY, 2015 ( Dr. Balvine Schedule  Tea & Breakfast  Introduction to Non-parametric tests  Lunch Break  Mann-Whitney U Test  Wilcoxon signed rank test  Tea Break  | Time  10.30 am - 11.00 am  11.00 am - 01.00 pm  01.00 pm - 02.00 pm  02.00 pm - 3.30 pm  3.30 pm- 4.00 pm  |  |  |
| DAY-13: SATURDAY, 04 <sup>TH</sup> JULY, 2015 ( Dr. Balving Schedule  Tea & Breakfast  Introduction to Non-parametric tests  Lunch Break  Mann-Whitney U Test Wilcoxon signed rank test  Tea Break  Run test   | Time  10.30 am - 11.00 am  11.00 am - 01.00 pm  01.00 pm - 02.00 pm  02.00 pm - 3.30 pm  3.30 pm- 4.00 pm  4.00 pm - 5.30 pm   |  |  |
| DAY-13: SATURDAY, 04 <sup>TH</sup> JULY, 2015 ( Dr. Balving Schedule  Tea & Breakfast  Introduction to Non-parametric tests  Lunch Break  Mann-Whitney U Test  Wilcoxon signed rank test  Tea Break  Run test  Krushal-Wallis test.  | Time  10.30 am - 11.00 am  11.00 am - 01.00 pm  01.00 pm - 02.00 pm  02.00 pm - 3.30 pm  3.30 pm- 4.00 pm  4.00 pm - 5.30 pm   |  |  |
| DAY-13: SATURDAY, 04 <sup>TH</sup> JULY, 2015 ( Dr. Balving Schedule  Tea & Breakfast  Introduction to Non-parametric tests  Lunch Break  Mann-Whitney U Test  Wilcoxon signed rank test  Tea Break  Run test  Krushal-Wallis test.  DAY-14: SUNDAY, 05 <sup>TH</sup> JULY, 2015 ( Dr. Bavlinder Singh &                                       | Time  10.30 am - 11.00 am  11.00 am - 01.00 pm  01.00 pm - 02.00 pm  02.00 pm - 3.30 pm  3.30 pm- 4.00 pm  4.00 pm - 5.30 pm   |  |  |
| DAY-13: SATURDAY, 04 <sup>TH</sup> JULY, 2015 ( Dr. Balving Schedule  Tea & Breakfast  Introduction to Non-parametric tests  Lunch Break  Mann-Whitney U Test  Wilcoxon signed rank test  Tea Break  Run test  Krushal-Wallis test.  DAY-14: SUNDAY, 05 <sup>TH</sup> JULY, 2015 ( Dr. Bavlinder Singh & Schedule                              | Time  10.30 am - 11.00 am  11.00 am - 01.00 pm  01.00 pm - 02.00 pm  02.00 pm - 3.30 pm  3.30 pm- 4.00 pm  4.00 pm - 5.30 pm   |  |  |
| Schedule  Tea & Breakfast  Introduction to Non-parametric tests  Lunch Break  Mann-Whitney U Test  Wilcoxon signed rank test  Tea Break  Run test  Krushal-Wallis test.  DAY-14: SUNDAY, 05 <sup>TH</sup> JULY, 2015 ( Dr. Bavlinder Singh & Schedule  Tea & Breakfast  Group Revision & Hans-On Practice Session  Lunch Break                 | Time  10.30 am - 11.00 am  11.00 am - 01.00 pm  01.00 pm - 02.00 pm  02.00 pm - 3.30 pm  3.30 pm- 4.00 pm  4.00 pm - 5.30 pm  Time  10.30 am - 11.00 am  11.00 am - 01.00 pm  01.00 pm - 02.00 pm  |  |  |
| Schedule Tea & Breakfast  Introduction to Non-parametric tests Lunch Break  Mann-Whitney U Test Wilcoxon signed rank test  Tea Break  Run test Krushal-Wallis test.  DAY-14: SUNDAY, 05 <sup>TH</sup> JULY, 2015 ( Dr. Bavlinder Singh & Schedule  Tea & Breakfast  Group Revision & Hans-On Practice Session Lunch Break  Valedictory Session | Time  10.30 am - 11.00 am  11.00 am - 01.00 pm  01.00 pm - 02.00 pm  02.00 pm - 3.30 pm  3.30 pm- 4.00 pm  4.00 pm - 5.30 pm  2 Dr. Ritesh Patel)  Time  10.30 am - 11.00 am  11.00 am - 01.00 pm  01.00 pm - 02.00 pm  02.00 pm - 3.30 pm |  |  |
| Schedule  Tea & Breakfast  Introduction to Non-parametric tests  Lunch Break  Mann-Whitney U Test  Wilcoxon signed rank test  Tea Break  Run test  Krushal-Wallis test.  DAY-14: SUNDAY, 05 <sup>TH</sup> JULY, 2015 ( Dr. Bavlinder Singh & Schedule  Tea & Breakfast  Group Revision & Hans-On Practice Session  Lunch Break                 | Time  10.30 am - 11.00 am  11.00 am - 01.00 pm  01.00 pm - 02.00 pm  02.00 pm - 3.30 pm  3.30 pm- 4.00 pm  4.00 pm - 5.30 pm  Time  10.30 am - 11.00 am  11.00 am - 01.00 pm  01.00 pm - 02.00 pm  |  |  |

# TU - CENTRE FOR GOVERNANCE SYSTEMS

# R E G I S T R A T I O N P R O C E S S

**Duration:** Monday, 22<sup>nd</sup> June, 2015 to Sunday, 05<sup>th</sup> July, 2015

**Timings**: 10.30 am to 5.30 pm.

Venue: GTU - Chandkheda Campus, Ahmedabad.

|   | Programme              | Fee*                   |          |
|---|------------------------|------------------------|----------|
| Registration Deadline                     | GTU Affiliated         | Other Academic         | Industry |
|   | Academic Institution's | Institution's Delegate | Delegate |
|   | Delegate               |                        |          |
| After 10th June, 2015                     | ₹ 3000                 | ₹ 3500                 | ₹ 4000   |
| No later than 10 <sup>th</sup> June, 2015 | ₹ 2000                 | ₹ 2500                 | ₹ 3200   |

**Note:** All the participants are required to bring in their Organizational ID-Card to verify their identity as per the registration categories mentioned above.

Early Bird Discount: Register no later than 10<sup>th</sup> June, 2015 to avail an Early Bird Discount on the above mentioned fees.

**Seats: Limited Seats** available on first-cum-first serve basis, using online registration link mentioned below.

# **Online Payment Process:**

All payment must be made using online payment mode using following link: <a href="https://www.onlinesbi.com/prelogin/institutiontypedisplay.htm">https://www.onlinesbi.com/prelogin/institutiontypedisplay.htm</a>

- Step 1: State of Corporate/Institution: Gujarat
- Step 2: Type of Corporate/Institution: Educational Institutions
- Step 3: Educational Institutions Name: GUJARAT TECHNOLOGICAL UNIVERSITY
- Step 4: Select Payment Category: Registration Fees for Conference
- Step 5: Conference Name: GTU-CGS FDP 2015
- Step 6: Fill in your personal details and select the mode of payment
- Step 7: At the end, collect the Payment Ref. No. starting with "DU".
- Step 8: Using Payment Ref. No. fill in the online Delegate Registration Form.

# Online Delegate Registration Form: <a href="http://tinyurl.com/GTUFDP2015">http://tinyurl.com/GTUFDP2015</a>

For instructions and query related to online payment, kindly refer: <a href="http://www.gtu.ac.in/ImpCircular/SBIPayment%20Instructions.pdf">http://www.gtu.ac.in/ImpCircular/SBIPayment%20Instructions.pdf</a>

**Accommodation (optional):** The provision of basic accommodation is available on prior request. Kindly write to: conference@gtu.edu.in or just call Mr. Gopal Bhatt on +91-9099060336, with details of your accommodation plans and requirements.

<sup>\*</sup>Programme fee includes study material, lunch, and tea. The organizer reserves the right to change the schedule and/or venue of the FDP with prior notice. Fees are subject to change without notice.



# **Important Instructions for Participants:**

- The participants will be acknowledged about their seating arrangements, venue and conformation of their seats via e-mail.
- The certificate of participation will be issued only after successful completion of the faculty development programme.
- Participant may bring their personal laptops with pre-installed IBM SPSS AMOS 21.0 for effective practical learning. Trial versions are available online at: www.ibm.com.
- Once registered, it is not possible to cancel or transfer the registered seat. Registration fees in any case is not refundable.

| For Any Query CONTACT: | <b>Dr. Ritesh K. Patel</b> Assistant Professor, CGS, GTU. |                             |
|------------------------|---|-----------------------------|
| $\operatorname{FDP}$   | E-mail: ap_cgs@gtu.edu.in                                 | (preferred mode of contact) |
| Convenor               | Desk: +91-079-23267-585/586                               | (10.30 am to 06.10 pm)      |
|                        | Cell: +91-9687100199                                      | (in urgent case only)       |

### **ORGANIZING COMMITTEE MEMBERS:**









GUJARAT TECHNOLOGICAL UNIVERSITY www.gtu.ac.in



CENTRE FOR GOVERNANCE SYSTEMS www.gturesearchcentres.edu.in

### **GUJARAT TECHNOLOGICAL UNIVERSITY**

(Established Under Gujarat Act. No. 20 of 2007)

## CHANDKHEDA CAMPUS

Nr. Vishwakarma Government Engineering College, Visat - Gandhinagar Highway, Chandkheda, Ahmedabad – 382424 – Gujarat. Phone: 079-23267500, Fax: 079-2630 1500.



