

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI

Course Schedule: November 2023 - April 2024

Department : **Mathematics**

Name/s of the Faculty : **Dr. A. S. Shanthi & Dr. Chinthamani.S (AS - 2hrs, CM - 3hrs)**

Course Title : **Mathematical Statistics – II**

Course Code : **19MT/AC/ST45**

Shift : **I**

Week & No. of hours	Units & Topics	Teaching Methodology	Text & References	Method of Evaluation
Nov 22 – 23, 2023 (Day Order 1 & 2) (AS – 1 hr, CM - 1 hr)	Unit 1 Regression 1.1 Definition 1.2 Uses of Regression Analysis Unit 2 Sampling Theory and Tests of Significance 2.1 Introduction 2.2 Point Estimation	Lecture	Pillai R. S. N. and Bagavathi V., <i>Statistics</i> , New Delhi: S. Chand & Company Ltd, Reprint 2007.	Short Q/A
Nov 24-30, 2023 (Day Order 1 to 6) (AS – 2 hrs, CM - 3 hrs)	Unit 1 Regression 1.3 Difference Between Correlation and Regression Unit 2 Sampling Theory and Tests of Significance 2.3 Testing of Hypothesis 2.4 Standard Error	Lecture & Problem Solving	Pillai R. S. N. and Bagavathi V., <i>Statistics</i> , New Delhi: S. Chand & Company Ltd, Reprint 2007.	Quiz
Dec 1-7, 2023 (Day Order 1 to 6) (AS – 2 hrs, CM - 3 hrs)	Unit 1 Regression 1.4 Method of Studying Regression Unit 2 Sampling Theory and Tests of Significance 2.5 Tests of Significance for Attributes 2.6 Tests of Significance for Large Samples	Lecture & Problem Solving	Pillai R. S. N. and Bagavathi V., <i>Statistics</i> , New Delhi: S. Chand & Company Ltd, Reprint 2007.	Short Q/A
Dec 8-9, 2023 (Day Order 1, 3) (CM - 2 hrs)	Unit 2 Sampling Theory and Tests of Significance 2.7 Testing the difference Between Means of two samples	Lecture & Problem Solving	Pillai R. S. N. and Bagavathi V., <i>Statistics</i> , New Delhi: S. Chand & Company Ltd, Reprint 2007.	Quiz
Dec 11-15, 2023 (Day Order 2 to 6) (AS – 2 hrs, CM - 2 hrs)	Unit 1 Regression 1.4 Method of Studying Regression 1.5 Mathematical Properties Unit 2 Sampling Theory and Tests of Significance 2.8 Tests of Significance for Small Samples (<i>t</i> -test) 2.9 The Use of <i>P</i> -Values for Decision Making in Testing Hypotheses	Lecture & Problem Solving	Pillai R. S. N. and Bagavathi V., <i>Statistics</i> , New Delhi: S. Chand & Company Ltd, Reprint 2007.	Summary

Dec 16 – 22, 2023 (Day Order 1 to 6) (AS – 2 hrs, CM - 3 hrs)	<p>Unit 1 Regression 1.6 Standard Error of Estimate</p> <p>Unit 2 Sampling Theory and Tests of Significance 2.9 The Use of <i>P</i>-Values for Decision Making in Testing Hypotheses</p> <p>Unit 4 F – test and Analysis of Variance 4.1 F – test or the Variance Ratio Test</p>	Lecture	<p>Pillai R. S. N. and Bagavathi V., <i>Statistics</i>, New Delhi: S. Chand & Company Ltd, Reprint 2007.</p> <p>Walpole Ronald E. Raymond H. Myers, Sharon L. Myers, Keying Ye. <i>Probability & Statistics for Engineers & Scientists</i>. Pearson Education International, 8th Edition: 2007</p> <p>Gupta S. P., <i>Statistical Methods</i>, New Delhi: Sultan Chand & Sons, 2003.</p>	III Component Test – Case study - 20 Marks
Jan 3 – 6, 2024 (Day Order 1 to 4) (AS – 1 hr, CM - 2 hrs)	<p>Unit 3: Chi Square test 3.1 Characteristics of χ^2- test</p> <p>Unit 4 F – test and Analysis of Variance 4.2 Assumptions in F – test 4.3 Applications of F – test</p>	Lecture & Problem Solving	<p>Pillai R. S. N. and Bagavathi V., <i>Statistics</i>, New Delhi: S. Chand & Company Ltd, Reprint 2007.</p> <p>Gupta S. P., <i>Statistical Methods</i>, New Delhi: Sultan Chand & Sons, 2003.</p>	Questioning
Jan 8 – 12, 2024	C.A. Test – I (Unit 1: Sec 1.1-1.4 & Unit 2)			
Jan 13, 2024 (Day Order 1) (CM - 1 hr)	<p>Unit 4 F – test and Analysis of Variance 4.4 Analysis of Variance</p>	Lecture & Discussion	Gupta S. P., <i>Statistical Methods</i> , New Delhi: Sultan Chand & Sons, 2003.	Short Q/A
Jan 18 -20, 2024 (Day Order 4 to 6) (AS – 1 hr, CM - 1 hr)	<p>Unit 3: Chi Square test 3.1 Characteristics of χ^2- test (Contd)</p> <p>Unit 4 F – test and Analysis of Variance 4.4 Analysis of Variance (Contd)</p>	Lecture	<p>Pillai R. S. N. and Bagavathi V., <i>Statistics</i>, New Delhi: S. Chand & Company Ltd, Reprint 2007.</p> <p>Gupta S. P., <i>Statistical Methods</i>, New Delhi: Sultan Chand & Sons, 2003.</p>	Quiz

Jan 22-29, 2024 (Day Order 1 to 6) (AS – 2 hrs, CM - 3 hrs)	Unit 3: Chi Square test 3.2 χ^2 - test of Goodness of Fit Unit 4 F – test and Analysis of Variance 4.5 One – Way Classification	Lecture & Problem Solving	Pillai R. S. N. and Bagavathi V., <i>Statistics</i> , New Delhi: S. Chand & Company Ltd, Reprint 2007. Gupta S. P., <i>Statistical Methods</i> , New Delhi: Sultan Chand & Sons, 2003.	Summary
Jan 30 – Feb 2, 2024 (Day Order 1 to 4) (AS – 1 hr, CM - 2 hrs)	Unit 3: Chi Square test 3.2 χ^2 - test of Goodness of Fit(Contd) Unit 4 F – test and Analysis of Variance 4.6 Two – Way Classification	Lecture & Problem Solving	Pillai R. S. N. and Bagavathi V., <i>Statistics</i> , New Delhi: S. Chand & Company Ltd, Reprint 2007. Gupta S. P., <i>Statistical Methods</i> , New Delhi: Sultan Chand & Sons, 2003.	Short Q/A
Feb 3, 2024 (Day Order 2) (AS – 1 hr)	Unit 3: Chi Square test 3.2 χ^2 - test of Goodness of Fit(Contd)	Lecture & Problem Solving	Pillai R. S. N. and Bagavathi V., <i>Statistics</i> , New Delhi: S. Chand & Company Ltd, Reprint 2007	Quiz
Feb 5- 6, 2024 (Day Order 5 to 6) (AS – 1 hr, CM - 1 hr)	Unit 3: Chi Square test 3.3 χ^2 –as a test of Independence Unit 4 F – test and Analysis of Variance 4.6 Two – Way Classification (Contd)	Lecture & Problem Solving	Pillai R. S. N. and Bagavathi V., <i>Statistics</i> , New Delhi: S. Chand & Company Ltd, Reprint 2007. Gupta S. P., <i>Statistical Methods</i> , New Delhi: Sultan Chand & Sons, 2003.	Summary
Feb 7 – 14, 2024 (Day Order 1 to 6) (AS – 2 hrs, CM - 3 hrs)	Unit 3: Interval Estimation 3.4 Confidence Interval for the Mean Unit 5 Analysis of Time Series 5.1 Definition 5.2 Uses of Time Series	Lecture	Gupta O. P. and Vishal Sharma, <i>Mathematical Statistics</i> , Meerut: Mohan Print Media (P) Ltd., 2019. Pillai R. S. N. and Bagavathi V., <i>Statistics</i> , New Delhi: S. Chand & Company Ltd, Reprint 2007.	Discussion

Feb 15 – 22, 2024 (Day Order 1 to 6) (AS – 2 hrs, CM - 3 hrs)	Unit 3: Interval Estimation 3.5 Confidence Interval for Difference between the Means Unit 5 Analysis of Time Series 5.3 Time Series Models	Lecture & Problem Solving	Gupta O. P. and Vishal Sharma, <i>Mathematical Statistics</i> , Meerut: Mohan Print Media (P) Ltd., 2019. Pillai R. S. N. and Bagavathi V., <i>Statistics</i> , New Delhi: S. Chand & Company Ltd, Reprint 2007.	III Component Test – Assignment & Slip test on Unit 3 (3.1-3.3)- 20 Marks
Feb 23 – 24, 2024 (Day Order 1 & 5) (AS – 2 hrs, CM - 2 hrs)	Unit 3: Interval Estimation 3.6 Confidence Interval for Difference between the Means in Case of Paired Observations Unit 5 Analysis of Time Series 5.4 Components of Time Series	Lecture & Problem Solving	Gupta O. P. and Vishal Sharma, <i>Mathematical Statistics</i> , Meerut: Mohan Print Media (P) Ltd., 2019. Pillai R. S. N. and Bagavathi V., <i>Statistics</i> , New Delhi: S. Chand & Company Ltd, Reprint 2007.	Short Q/A
Feb 26 – Mar 1, 2024 (Day Order 2 to 6) (AS – 2 hrs, CM - 2 hrs)	Unit 3: Interval Estimation 3.7 Confidence Interval for Proportions Unit 5 Analysis of Time Series 5.5 Measurement of Secular Trend	Lecture & Problem Solving	Gupta O. P. and Vishal Sharma, <i>Mathematical Statistics</i> , Meerut: Mohan Print Media (P) Ltd., 2019. Pillai R. S. N. and Bagavathi V., <i>Statistics</i> , New Delhi: S. Chand & Company Ltd, Reprint 2007.	Quiz
Mar 2, 2024 (Day Order 1) (CM - 1 hr)	Unit 5 Analysis of Time Series 5.5 Measurement of Secular Trend (Contd)		Pillai R. S. N. and Bagavathi V., <i>Statistics</i> , New Delhi: S. Chand & Company Ltd, Reprint 2007.	Summary
Mar 4 –8, 2024	C.A. Test – II (Unit 3: Sec 3.4 - 3.7 & Unit 4)			
Mar 9 – 16, 2024 (Day 6 & Day Order 1 to 6) (AS – 2 hrs, CM - 3 hrs)	Unit 3: Interval Estimation 3.8 Confidence Interval for Variance and Standard Deviations Unit 5 Analysis of Time Series 5.6 Measurement of Seasonal Variations	Lecture & Problem Solving	Gupta O. P. and Vishal Sharma, <i>Mathematical Statistics</i> , Meerut: Mohan Print Media (P) Ltd., 2019. Pillai R. S. N. and Bagavathi V., <i>Statistics</i> , New Delhi: S. Chand & Company Ltd, Reprint 2007.	III Component Test – Written test on Unit 4 - 10 Marks

<p>Mar 18 - 19, 2024 (Day Order 2 to 3) (AS - 1hr, CM - 1 hr)</p>	<p>Unit 3: Interval Estimation 3.8 Confidence Interval for Variance and Standard Deviations</p> <p>Unit 5 Analysis of Time Series 5.6 Measurement of Seasonal Variations</p>	<p>Lecture & Problem Solving</p>	<p>Gupta O. P. and Vishal Sharma, <i>Mathematical Statistics</i>, Meerut: Mohan Print Media (P) Ltd., 2019.</p> <p>Pillai R. S. N. and Bagavathi V., <i>Statistics</i>, New Delhi: S. Chand & Company Ltd, Reprint 2007.</p>	<p>Short Q/A</p>
<p>Mar 20-22, 2024 (Day Order 4 to 6) (AS - 1hr, CM - 1 hr)</p>	<p>REVISION</p>			