

**STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI**

**Course Schedule: November 2023 - April 2024**

**Department** : MATHEMATICS  
**Name/s of the Faculty** : DR. ARUL ROSELET MERYLINE S  
**Course Title** : MATHEMATICAL STATISTICS – II  
**Course Code** : 19MT/AC/ST45  
**Shift** : II

<b>Week &amp; No. of hours</b>	<b>Units &amp; Topics</b>	<b>Teaching Methodology</b>	<b>Text &amp; References</b>	<b>Method of Evaluation</b>
Nov 22 – 23, 2023 (Day Order 1 & 2) (2 hours)	<b>UNIT 1 -Regression</b> 1.1 Definition 1.2 Uses of Regression	Lecture & Group discussion	Pillai R. S. N. and Bagavathi V., <i>Statistics</i> , New Delhi: S. Chand & Company Ltd, Reprint2007. Gupta O. P. and Vishal Sharma, <i>Mathematical Statistics</i> , Meerut: Mohan Print Media (P)Ltd., 2019.	Problem Solving
Nov 24-30, 2023 (Day Order 1 to 6) (5 hours)	<b>UNIT 1 -Regression</b> 1.3 Difference Between Correlation and Regression  1.4 Method of Studying Regression	Lecture & Group discussion	Pillai R. S. N. and Bagavathi V., <i>Statistics</i> , New Delhi: S. Chand & Company Ltd, Reprint2007. Gupta O. P. and Vishal Sharma, <i>Mathematical Statistics</i> , Meerut: Mohan Print Media (P)Ltd., 2019.	Short Q/A Assignment
Dec 1-7, 2023 (Day Order 1 to 6) (5 hours)	<b>UNIT 1 -Regression</b> 1.5 Mathematical Properties 1.6 Standard Error of Estimate	Lecture & Group discussion	Pillai R. S. N. and Bagavathi V., <i>Statistics</i> , New Delhi: S. Chand & Company Ltd, Reprint2007.	Presentation Quiz
Dec 8-9, 2023 (Day Order 1, 3) (2 hours)	<b>UNIT 2 -Sampling Theory and Tests of Significance</b> 2.1 Introduction 2.2 Point Estimation	Lecture & Group discussion	Pillai R. S. N. and Bagavathi V., <i>Statistics</i> , New Delhi: S. Chand & Company Ltd, Reprint2007.	Quiz Short Q/A Assignment

Dec 11-15, 2023 (Day Order 2 to 6 ) (4 hours)	<b>UNIT 2 -Sampling Theory and Tests of Significance</b> 2.3 Testing of Hypothesis 2.4 Standard Error 2.5 Tests of Significance for Attributes 2.6 Tests of Significance for Large Samples	Lecture & Group discussion	Pillai R. S. N. and Bagavathi V., <i>Statistics</i> , New Delhi: S. Chand & Company Ltd, Reprint2007. Gupta O. P. and Vishal Sharma, <i>Mathematical Statistics</i> , Meerut: Mohan Print Media (P)Ltd., 2019.	Presentation Quiz
Dec 16 – 22, 2023 (Day Order 1 to 6) (5 hours)	<b>UNIT 2 -Sampling Theory and Tests of Significance</b> 2.7 Testing the difference Between Means of two samples 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 & Group discussion	Pillai R. S. N. and Bagavathi V., <i>Statistics</i> , New Delhi: S. Chand & Company Ltd, Reprint2007. Walpole Ronald E. Raymond H. Myers, Sharon L. Myers, Keying Ye. <i>Probability &amp; Statistics for Engineers &amp; Scientists</i> . Pearson Education International, 8 <sup>th</sup> Edition: 2007.	Component - I Test (Part of Unit 2)
Jan 3 – 6, 2024 (Day Order 1 to 4) (4 hours)	<b>UNIT 3 - Chi Square test Interval Estimation</b> 3.1 Characteristics of – test	Lecture & Group discussion	Pillai R. S. N. and Bagavathi V., <i>Statistics</i> , New Delhi: S. Chand & Company Ltd, Reprint2007.	Quiz
Jan 8 – 12, 2024	<b>C.A. Test – I (Unit 1 &amp; part of unit 2)</b>			
Jan 13, 2024 (Day Order 1) (1 hour)	<b>UNIT 3 - Chi Square test Interval Estimation</b> 3.2 – test of Goodness of Fit	Lecture & Group discussion	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	Problem solving
Jan 18 -20, 2024 (Day Order 4 to 6) (2 hours)	<b>UNIT 3 - Chi Square test Interval Estimation</b> 3.3 Chi Square as a test of Independence	Lecture & Group discussion	Pillai R. S. N. and Bagavathi V., <i>Statistics</i> , New Delhi: S. Chand & Company Ltd, Reprint 2007.	Presentation Quiz

Jan 22-29, 2024 (Day Order 1 to 6) (5 hours)	<b>UNIT 3 - Chi Square test Interval Estimation</b>  3.4 Confidence Interval for the Mean  3.5 Confidence Interval for Difference between the Means  3.6 Confidence Interval for Difference between the Means in Case of Paired Observations	Lecture & Group discussion	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 Assignment
Jan 30 – Feb 2, 2024 (Day Order 1 to 4) (4 hours)	<b>UNIT 3 - Chi Square test Interval Estimation</b> 3.7 Confidence Interval for Proportions <b>UNIT 4 -F – test and Analysis of Variance</b> 4.1 F – test or the Variance Ratio Test 4.2 Assumptions in F – test	Lecture & Group discussion	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 Assignment
Feb 3, 2024 (Day Order 2) (1 hour)	<b>UNIT 4 -F – test and Analysis of Variance</b> 4.3 Applications of F – test	Lecture & Group discussion	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.	Presentation Quiz
Feb 5- 6, 2024 (Day Order 5 to 6) (1 hour)	<b>UNIT 4 -F – test and Analysis of Variance</b> 4.4 Analysis of Variance		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 Assignment
Feb 7 – 14, 2024 (Day Order 1 to 6) (5 hours)	<b>UNIT 4 -F – test and Analysis of Variance</b> 4.6 One – Way Classification	Lecture & Group discussion	Gupta S. P., <i>Statistical Methods</i> , New Delhi: Sultan Chand & Sons, 2003.	Short Q/A Assignment
Feb 15 – 22, 2024	<b>UNIT 4 -F – test and</b>	Lecture	Pillai R. S. N. and	Problem

(Day Order 1 to 6) (5 hours)	<b>Analysis of Variance</b> 4.6 Two – Way Classification  <b>UNIT 5 - Analysis of Time Series</b> 5.1 Definition 5.2 Uses of Time Series	& Group discussion	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.	solving
Feb 23 – 24, 2024 (Day Order 1 & 5) (2 hours)	<b>UNIT 5 - Analysis of Time Series</b> 5.3 Time Series Models	Lecture & Group discussion	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 Assignment
Feb 26 – Mar 1, 2024 (Day Order 2 to 6) (4 hours)	<b>UNIT 5 - Analysis of Time Series</b> 5.4 Components of Time Series 5.5 Measurement of Secular Trend	Lecture & Group discussion	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.	Third component-Project
Mar 2, 2024 (Day Order 1) (1 hour)	5.5 Measurement of Secular Trend	Lecture & Group discussion	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 Assignment
Mar 4 –8, 2024	<b>C.A. Test – II (Unit 3 and 4)</b>			
Mar 9 – 16, 2024 (Day 6 & Day	<b>UNIT 5 - Analysis of Time Series</b> 5.6 Measurement of	Lecture & Group discussion	Pillai R. S. N. and Bagavathi V., <i>Statistics</i> , New Delhi: S. Chand & Company	Third Component (Part of Unit5)

Order 1 to 6) (5 hours)	Seasonal Variations		Ltd, Reprint 2007. Gupta S. P., <i>Statistical Methods</i> , New Delhi: Sultan Chand & Sons, 2003.	solving
Mar 18 - 19, 2024 (Day Order 2 to 3) (2 hours)	UNIT 5 - <b>Analysis of Time Series</b> 5.6 Measurement of Seasonal Variations	Lecture & Group discussion	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.	Problem Solving
Mar 20-22, 2024 (Day Order 4 to 6)	<b>REVISION</b>			