



# Shrimathi Devkunvar Nanalal Bhatt Vaishnav College For Women (Autonomous)

Owned and Managed by Cork Industries Charities Trust  
Affiliated to University of Madras - Re-Accredited with 'A+' Grade by NAAC - 4th Cycle

## COURSE DATA SHEET

|                          |                                |             |                             |
|--------------------------|--------------------------------|-------------|-----------------------------|
| SEMESTER                 | I                              | BATCH       | 2026                        |
| COURSE NAME              | <b>BUSINESS<br/>STATISTICS</b> | COURSE CODE | 26UCOGE1D01                 |
| COURSE UNITS             | 5                              | COURSE TYPE | Generic<br>Elective(GE) - I |
| CONTACT HOURS<br>(L-T-P) | 75                             | CREDITS     | 5                           |
| OFFERED BY               | B.Com (Commerce)               | SHIFT       | 8:20 – 12:50 pm             |

### COURSE OBJECTIVES

|   |                                                                                   |
|---|-----------------------------------------------------------------------------------|
| 1 | To understand the role of statistics in business decision-making.                 |
| 2 | To acquire knowledge of fundamental statistical techniques.                       |
| 3 | To develop analytical and problem-solving skills using statistical methods.       |
| 4 | To apply statistical tools in analyzing trends and forecasting.                   |
| 5 | To enable interpretation and construction of index numbers for economic analysis. |

### COURSE OUTCOMES: On completion of the course the students will be able to...

|     | CO Statement                                                                                                                                             | Cognitive Level |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| CO1 | Gain knowledge on Data Collection and to organize, manage and present data. Compare the data sets using appropriate diagrams and graphs.                 | K3              |
| CO2 | Analyze statistical data using measures of central tendency. Evaluate the deviations on an average by measures of dispersion.                            | K4              |
| CO3 | Gain knowledge on correlation coefficient between two variables and its properties. To derive regression lines and properties of regression coefficient. | K5              |
| CO4 | Adequate knowledge about time series                                                                                                                     | K3 & K4         |
| CO5 | Relate qualitative and quantitative variables and their associations in Index numbers                                                                    | K4              |



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## SYLLABUS

| UNIT          | TOPICS                                                                                                                                                                                                                                                                                                                                                | HOURS |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| 1             | Business Statistics–Meaning & Definition, Collection, Classification and Tabulation of Statistical Data– Presentation of Statistical Data- Graphs and Diagrams (Simple Problems)                                                                                                                                                                      | 15    |
| 2             | Measures of Central Tendency- Mean, Median and Mode- Measures of Dispersion- Range, Quartile Deviation, Mean Deviation, Standard Deviation & Coefficient Of Variation- (Simple Problems).                                                                                                                                                             | 15    |
| 3             | Correlation- Meaning of Correlation- Simple Correlation- Scattered Diagram- Karl Pearson Coefficient of correlation – Spearman Rank Correlation - Simple Correlation only- Regression– Meaning of Regression– Two lines Regression- (Simple Problems)                                                                                                 | 15    |
| 4             | Time Series- Meaning and Components of Time Series- Measurement of Trend- Graphical Method-Semi Average Method, Moving Average Method, Least Square Method (Linear Trend Only)- Measurement of Seasonal Indices- Simple Average Method- (Simple Problems)                                                                                             | 15    |
| 5             | Definition and Meaning of Index Numbers- Methods of Construction of Index numbers- Unweighted Index Numbers- Simple aggregate method- Simple average of Price relative method- Weighted Index number- Aggregative Indices- Laspeyre's Index Number- Paasche's Index Number- Bowley's Index Number- Fisher's Index Number- Average of Relative Indices | 15    |
| Note (if any) |                                                                                                                                                                                                                                                                                                                                                       |       |

### TEXT/REFERENCE BOOKS/E - RESOURCES:

|            |                                                                                                                                                                                                                                                                                                                                                             |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Text Books | <ol style="list-style-type: none"><li>1. Gupta, S.P. Statistical Methods. Sultan Chand &amp; Sons, New Delhi, 2023.</li><li>2. Vittal, P.R. Business Statistics. Margham Publications, Chennai, 2020.</li><li>3. Rajagopalan, S.P. and Sattanathan, R. Business Statistics and Operations Research. Vijay Nicole Imprint Pvt. Ltd., Chennai, 2025</li></ol> |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|



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|                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Books For Reference</b>  | <ol style="list-style-type: none"> <li>1. Vittal, P.R. Mathematical Statistics. Margham Publications, Chennai, 2020.</li> <li>2. Saxena, H.C. Elementary Statistics. S. Chand &amp; Company Ltd., New Delhi, 2016</li> <li>3. Sampath, S. Sampling Theory and Methods. Narosa Publishing House, New Delhi, 2005.</li> </ol>                                                                                                                                                                                                                                                                                                                                                            |
|                             | <ol style="list-style-type: none"> <li>4. Malik, S.C. and Arora, Savita. Mathematical Analysis. New Age International Publishers, New Delhi, 2022.</li> <li>5. Goon, A.M., Gupta, M.K., and Dasgupta, B. Fundamentals of Statistics (Volume One). The World Press Pvt. Ltd., Kolkata, 2008</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>E-Learning Resources</b> | <ol style="list-style-type: none"> <li>1. <a href="http://data36.com/statistical-average-mean-median-mode">http://data36.com/statistical-average-mean-median-mode</a></li> <li>2. <a href="http://www.mathsisfun.com/data/standard-deviation.html/">http://www.mathsisfun.com/data/standard-deviation.html/</a></li> <li>3. <a href="http://www.randomservices.org/random">http://www.randomservices.org/random</a></li> <li>4. <a href="https://www.khanacademy.org/math/statistics-probability">https://www.khanacademy.org/math/statistics-probability</a></li> <li>5. <a href="https://www.coursera.org/learn/statistics">https://www.coursera.org/learn/statistics</a></li> </ol> |

## PEDAGOGY (TEACHING METHODOLOGY):

- Chalk and Talk
- Online Coaching
- LCD
- Assignment
- Seminar
- Quiz



## CO-PO AND CO-PSO MAPPING:

|                                                                           | PO1      | PO2        | PO3        | PO4        | PO5        | PO6      |  | PSO1     | PSO2     | PSO3     |
|---------------------------------------------------------------------------|----------|------------|------------|------------|------------|----------|--|----------|----------|----------|
| CO1                                                                       | 3        | 2          | 2          | 2          | 1          | -        |  | 3        | 2        | 3        |
| CO2                                                                       | 3        | 2          | 2          | 2          | 1          | -        |  | 3        | 2        | 3        |
| CO3                                                                       | 3        | 3          | 3          | 3          | 2          | -        |  | 3        | 2        | 3        |
| CO4                                                                       | 3        | 3          | 3          | 3          | 2          | -        |  | 3        | 2        | 3        |
| CO5                                                                       | 3        | 3          | 3          | 3          | 2          | -        |  | 3        | 2        | 3        |
| <b>Average<br/>(Use only<br/>filled in<br/>cells for<br/>calculation)</b> | <b>3</b> | <b>2.6</b> | <b>2.6</b> | <b>2.6</b> | <b>1.6</b> | <b>-</b> |  | <b>3</b> | <b>2</b> | <b>3</b> |



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Correlation Level: Strong - 3    Moderate -2    Weak -1    No Correlation-0

| JUSTIFICATION OF CO-PO/PSO MAPPING |        |                      |                                                                                                                           |
|------------------------------------|--------|----------------------|---------------------------------------------------------------------------------------------------------------------------|
| CO                                 | PO/PSO | Level of correlation | Justification                                                                                                             |
| CO1                                | PO1    | 3                    | Students to confidently apply domain knowledge with clarity and assertiveness in data-driven decision-making.             |
|                                    | PO2    | 2                    | Utilize to develop life skills for logical appraisal and informed decision-making.                                        |
|                                    | PO3    | 2                    | Utilize advanced business statistics to design and develop innovative solutions for challenging societal problems.        |
|                                    | PO4    | 2                    | Develop a program-centric mindset facilitating advanced studies and specialization in the respective domain.              |
|                                    | PO5    | 1                    | To foster lifelong learning, adaptability, and clarity for field specialization in a dynamic environment.                 |
|                                    | PO6    | -                    | -                                                                                                                         |
|                                    | PSO1   | 3                    | To grasp essential concepts, principles, and practices necessary for successfully undertaking business ventures.          |
|                                    | PSO2   | 2                    | To build a strong foundation for pursuing professional courses like CA, ICWA, and ACS.                                    |
|                                    | PSO3   | 2                    | To create a robust platform connecting academic knowledge with real-world business applications.                          |
| CO2                                | PO1    | 3                    | Students to apply domain knowledge confidently and assertively in data analysis and decision-making.                      |
|                                    | PO2    | 2                    | Enhance life skills for logical appraisal and decision-making through a deeper understanding.                             |
|                                    | PO3    | 2                    | Students to design data-driven solutions for complex societal challenges.                                                 |
|                                    | PO4    | 2                    | Foster a program-centric mindset to facilitating further studies and specialization in the domain.                        |
|                                    | PO5    | 1                    | Incorporate to promote lifelong learning, adaptability, and preparedness for specialized fields in a dynamic environment. |
|                                    | PO6    | -                    | -                                                                                                                         |
|                                    | PSO1   | 3                    | To grasp the foundational concepts, principles, and practices essential for successful business ventures.                 |
|                                    | PSO2   | 2                    | To provides a foundational skillset essential for pursuing professional courses like CA, ICWA, and ACS.                   |



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|     |      |   |                                                                                                                                                                                |
|-----|------|---|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|     | PSO3 | 3 | To bridge academia and the business world, facilitating the application of statistical concepts in real-world scenarios.                                                       |
| CO3 | PO1  | 3 | Students to confidently apply domain knowledge with clarity and assertiveness in data-driven decision-making.                                                                  |
|     | PO2  | 3 | Enhance life skills for logical appraisal and decision-making through a deeper understanding.                                                                                  |
|     | PO3  | 3 | Utilize correlation and regression analysis to design data-driven solutions for complex societal challenges.                                                                   |
|     | PO4  | 3 | Fostering a program-centric mindset facilitates deeper understanding and advanced exploration within a specific domain, paving the way for further studies and specialization. |
|     | PO5  | 2 | To promote lifelong learning, adaptability, and readiness for specialized fields in a dynamic environment.                                                                     |
|     | PO6  | 2 | Integrate ethical values into correlation and regression analysis to foster self-actualization and compassion in data-driven decision-making.                                  |
|     | PSO1 | 3 | To comprehend the essential concepts, principles, and practices for successful business ventures.                                                                              |
|     | PSO2 | 2 | To provides essential skills for pursuing professional courses like CA, ICWA, and ACS, enhancing data analysis capabilities                                                    |
|     | PSO3 | 3 | To bridge academia and the business world, facilitating the application of statistical methods in real-world business scenarios.                                               |
| CO4 | PO1  | 3 | Students to confidently apply domain knowledge with clarity and assertiveness in analyzing temporal data                                                                       |
|     | PO2  | 3 | Enhance life skills for logical appraisal and decision-making through a deeper understanding                                                                                   |
|     | PO3  | 3 | Incorporate time series analysis to develop data-driven solutions for societal challenges.                                                                                     |
|     | PO4  | 3 | Foster a program-centric mindset through time series analysis, facilitating further studies and specialization in the respective domain.                                       |
|     | PO5  | 2 | To foster lifelong learning, adaptability, and readiness for specialized fields amidst a dynamic environment.                                                                  |
|     | PO6  | - | -                                                                                                                                                                              |
|     | PSO1 | 3 | Incorporate time series analysis to comprehend essential concepts, principles, and practices for successful business ventures.                                                 |
|     | PSO2 | 2 | Mastering time series analysis provides essential skills for pursuing professional courses like CA, ICWA, and ACS, enhancing data analysis capabilities.                       |
|     | PSO3 | 3 | To bridge academic theory with real-world business applications, facilitating practical understanding.                                                                         |



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|     |      |   |                                                                                                                                                |
|-----|------|---|------------------------------------------------------------------------------------------------------------------------------------------------|
| CO5 | PO1  | 3 | cultivates clarity in concepts, confidence in domain knowledge application, and assertiveness in decision-making across diverse opportunities. |
|     | PO2  | 3 | Enhance life skills for logical appraisal and decision-making through a deeper understanding.                                                  |
|     | PO3  | 3 | Incorporate operations research to develop effective solutions for complex societal challenges.                                                |
|     | PO4  | 3 | Foster a program-centric thought process through comprehensive study, facilitating further specialization in the respective domain.            |
|     | PO5  | 2 | Incorporate lifelong learning to adapt and specialize effectively in a dynamic environment.                                                    |
|     | PO6  | - | -                                                                                                                                              |
|     | PSO1 | 3 | Incorporate operation research to grasp essential concepts, principles, and practices for successful business ventures.                        |
|     | PSO2 | 2 | To enhances analytical skills essential for pursuing professional courses like CA, ICWA, and ACS.                                              |
|     | PSO3 | 3 | To bridge academia with practical business applications, fostering a seamless integration of theoretical knowledge and real-world practices.   |

