



Re-Accredited B++ 2.86 CGPA by NAAC

VEER NARMAD SOUTH GUJARAT UNIVERSITY

University Campus, Udhna-Magdalla Road, SURAT - 395 007, Gujarat, India.

વીર નર્મદ દક્ષિણ ગુજરાત યુનિવર્સિટી

યુનિવર્સિટી કેમ્પસ, ઉધના-મગદલા રોડ, સુરત - ૩૯૫ ૦૦૭, ગુજરાત, ભારત.

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-:પરિપત્ર:-

યુનિવર્સિટી સંલગ્ન વાણિજ્ય વિદ્યાશાખા હેઠળની તમામ કોલેજોનાં આચાર્યશ્રીઓને જણાવવાનું કે, NEP-2020 અંતર્ગત શૈક્ષણિક વર્ષ ૨૦૨૬-૨૭ થી અમલમાં આવનાર B.Com. Statistics Sem.-1 & 2 (Major) નો અભ્યાસક્રમ આંકડાશાસ્ત્ર વિષયની અભ્યાસ સમિતિના ચેરમેનશ્રીએ અભ્યાસ સમિતિવતી અને વાણિજ્ય વિદ્યાશાખાના અધ્યક્ષશ્રીએ વિદ્યાશાખાવતી મંજૂર કરી એકેડેમિક કાઉન્સિલને કરેલ ભલામણ એકેડેમિક કાઉન્સિલની તા.૨૪/૧૨/૨૦૨૪ ની સભાનાં ઠરાવ ક્રમાંક:૩૫૩ અન્વયે માન.કુલપતિશ્રીને આપેલ સત્તા અંતર્ગત માનનીય કુલપતિશ્રી દ્વારા મંજૂર કરેલ છે, જેનો અમલ કરવા આથી જાણ કરવામાં આવે છે.

બિડાણ: ઉપર મુજબ

ક્રમાંક:ઓથો./પરિપત્ર/૧૪૧૮૮/૨૦૨૬
તા.૨૪/૦૬/૨૦૨૬

W. J. J.
કુલસચિવ

પ્રતિ,

- (૧) યુનિવર્સિટી સંલગ્ન વાણિજ્ય વિદ્યાશાખા હેઠળની તમામ કોલેજોનાં આચાર્યશ્રીઓ.
... આપશ્રીના વિભાગ/કોલેજના સંબંધિત શિક્ષકો/વિદ્યાર્થીઓને જાણ કરી અમલ કરવા સારું.
- (૨) અધ્યક્ષશ્રી, વાણિજ્ય વિદ્યાશાખા.
- (૩) પરીક્ષા નિયામકશ્રી, પરીક્ષા વિભાગ, વીર નર્મદ દ. ગુ. યુનિવર્સિટી, સુરત.
.....તરફ જાણ તેમજ અમલ સારું.

VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT

Faculty of Commerce | Statistics | B. Com (Sem. I & II) | As per NEP-2020 | A.Y. 2026-27

VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT PROGRAM TITLE	
Name of Program	Bachelor of Commerce (Statistics)
Program Abbreviation	B. Com
Duration	4 Years
Eligibility Criteria	10+2 (Higher Secondary Certificate) or Equivalent
Pre-requisite	➤ Students should possess a basic understanding of statistics at the higher secondary ➤ Ability to understand and work with numerical data, graphs and basic algebraic expressions
Medium of Instruction	English / Gujarati (As per institutional Provision)
Objective of Program	➤ To develop strong theoretical foundation in statistics ➤ To prepare competent professionals who can apply statistical reasoning and problem-solving skills
Program Outcome (PO)	PO-01: Knowledge & Conceptual Understanding: Develop a strong foundation in principles and concepts across disciplines, fostering interdisciplinary learning, advance knowledge and problem-solving abilities. PO-02: Analytical & Critical Thinking: Apply critical thinking and analytical reasoning to evaluate data, hypotheses and real-world problems, leading to evidence-based conclusions. PO-03: Research & Inquiry-based Learning: Develop investigative skills through experimentation, data analysis to contribute to research and innovation. PO-04: Technical Skills: Gain hands on experience with instrumentation and computational tools relevant to research and industry applications. PO-05: Digital & Computational Literacy: Utilize digital tools, computational techniques and emerging technologies such as AI, statistical modelling to enhance learning and problem-solving. PO-06: Environmental & Societal Responsibility: Understand the role- of science in addressing environmental, health and societal challenges, promoting sustainability and ethical responsibility. PO-07: Effective Communication & Collaboration: Develop proficiency in scientific communication, both written and oral, for-effective dissemination of knowledge while collaborating in multidisciplinary teams. PO-08: Innovation & Entrepreneurship: Foster an entrepreneurial mind-set by applying knowledge for. innovation, technology development, and industry-oriented applications. Develop sustainable solutions to address real-world challenges in research and environmental management. PO-09: Lifelong Learning & Professional Growth: Cultivate curiosity and adaptability for continuous learning, equipping students for higher education, research, and professional careers. PO-10: Ethical Leadership & Value-based Education: Develop leadership qualities, ethical values, and a sense of responsibility in applying societal progress, aligning with Indian knowledge systems and global perspectives.
Program Specific Outcomes (PSO)	PSO1: Understanding Statistical Principles Graduate Should comprehend the importance and value of statistical Principles and be able to convert problem description into testable research hypothesis. PSO2: Professional and Entrepreneurial Skills Development The program enhances student's professional skills and entrepreneurial capabilities, fostering independent logical and analytical thinking. It also emphasizes teamwork and leadership, preparing students for diverse environments by providing skill enhancement Certificate courses.

	PS03:Rea1-World Problem Solving Students are trained to investigate, design, and develop practical solutions for real-world challenges, ensuring they can apply theoretical knowledge to practical situations through Experiential Learning and by providing platform for extracurricular activities. PS04: Self-Learning and Problem-Solving Skills Students gain hands-on experience with advanced statistical tools and software, enhancing their ability to tackle real-world problems efficiently. PS05: Performing data Analysis Graduate should be able to apply analytical and statistical methods to analyze data, interpret results, and provide solutions in various settings. PS06: Develop Communication Skills Effectively Communicate Statistical results through clear & informative data visualizations. PS07: Commitment to Lifelong Learning and Research The program focuses not only on imparting core education but also to developing interest in research. PS08: Provide Employability Identify & explore career opportunities in statistics, including roles in industry, government & academia.																																																																																																			
Mapping between POs and PSOs	<table><tr><th></th><th>PSO1</th><th>PSO2</th><th>PSO3</th><th>PSO4</th><th>PSO5</th><th>PSO6</th><th>PSO7</th><th>PSO8</th></tr><tr><th>PO1</th><td>✓</td><td></td><td>✓</td><td></td><td>✓</td><td></td><td></td><td></td></tr><tr><th>PO2</th><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td></td><td></td><td></td></tr><tr><th>PO3</th><td>✓</td><td></td><td>✓</td><td></td><td></td><td></td><td>✓</td><td></td></tr><tr><th>PO4</th><td></td><td></td><td>✓</td><td>✓</td><td>✓</td><td></td><td>✓</td><td></td></tr><tr><th>PO5</th><td>✓</td><td></td><td>✓</td><td>✓</td><td>✓</td><td></td><td></td><td></td></tr><tr><th>PO6</th><td>✓</td><td></td><td>✓</td><td></td><td>✓</td><td></td><td></td><td>✓</td></tr><tr><th>PO7</th><td></td><td>✓</td><td>✓</td><td></td><td></td><td>✓</td><td></td><td></td></tr><tr><th>PO8</th><td>✓</td><td>✓</td><td></td><td></td><td></td><td></td><td></td><td>✓</td></tr><tr><th>PO9</th><td></td><td></td><td>✓</td><td>✓</td><td>✓</td><td></td><td>✓</td><td>✓</td></tr><tr><th>PO10</th><td></td><td>✓</td><td>✓</td><td></td><td></td><td>✓</td><td></td><td></td></tr></table>		PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PO1	✓		✓		✓				PO2	✓	✓	✓	✓	✓				PO3	✓		✓				✓		PO4			✓	✓	✓		✓		PO5	✓		✓	✓	✓				PO6	✓		✓		✓			✓	PO7		✓	✓			✓			PO8	✓	✓						✓	PO9			✓	✓	✓		✓	✓	PO10		✓	✓			✓		
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Structure of Program (Semester-wise) – Statistics

F.Y.B.Com. Semester I & II | NEP-2020 | From Academic Year 2026-27

Course Category	Course Code	Course Title	Marksheet Title	Level	Hrs/Week		Exam Dur.		Credit	Int. Marks		Ext. Marks		Total Marks	
					TH	PR	TH	PR		TH	PR	TH	PR	TH	PR
SEMESTER - I															
MAJOR	STAT-MJ	Data Collection Methods (Major)	Data Collection Methods	100	4	-	2 Hrs	-	4	50	-	50	-	100	-
SEMESTER - II															
MAJOR	STAT-MJ	Statistics for Business (Major)	Statistics for Business	100	4	-	2 Hrs	-	4	50	-	50	-	100	-

VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT
B.COM
Semester – I
Data Collection Methods (Major) – Credit - 4

Program Name	Bachelor of Commerce (Statistics)					
Semester	Semester I					
NCrF Credit Level	4.5					
Course Type	Major					
Course Subtype						
Subject Type	Discipline Specific					
Course Code	STAT-MJ					
Course Level	100					
Course Title	Data Collection Methods					
Credit	Theory:	4	Practical:	-	Total:	4
Effective From	Academic Year: 2026-27					
Course Objective	The main objective of this course is to acquaint students with different data collection methods and its process in research and project work. Students can develop skills about different diagram and Graphs and will be able to understand the ideology about suitable graphs. The purpose of this course is to give some essence of measures of central tendency and dispersion based on different scale so that they can get some idea about when a particular measure can be used.					
Course Outcomes	CO1	Understand about how to collect Data using different data collection methods.				
	CO2	Understand the process of data collection and its use in research/project work.				
	CO3	Understand about how to code and decode the data and how to use it using questionnaire so that they can easily enter the data into different statistical soft wares.				
	CO4	Represent the data using diagrams and graphs to present the data before laymen.				
	CO5	Develop the skills about different descriptive statistics for different measures of scale which will help them for further research work.				
Teaching Methodology	Hybrid (Interactive lectures, Lectures cum demonstration problem based learning & self study assignment)					
Evaluation Method	Internal Assessment: 50 Marks (50%) External Assessment: 50 Marks (50%)					
Course Content	Unit	Course Inputs (As per UGC Model Curriculum)			Weight	Marks
	Unit-1	Data Collection Methods and Its Process • Meaning of Data collection and its importance in research • Measurement of Scales: Nominal, Ordinal, Interval, Ratio • Primary Data Collection Methods: Surveys or Questionnaire, Observations, Experiments, Interview, Focus Groups, Delphi Technique • Sources of Secondary Data Collection: Financial Reports, Sales Reports, Government Reports, Company Statement, Internet • Process of Data Collection • Preparation of Questionnaire for the Research and Project Work			30%	15

		• Practical: Questionnaire Preparation using Practical Research Problem		
	Unit-2	Data Handling & Its Presentation • Meaning of coding and meaning of decoding • Process of Data Coding and its practical • Diagrammatic and Graphical Presentation of Data • Diagrams: Meaning, Rules for construction; Types: Line Diagrams, Bar Diagrams, Stem and Leaf Diagram • Graphs: Meaning; Types: Frequency Distribution Graphs, Histogram, Frequency Distribution Curves, Cumulative Frequency Distribution Graphs, Ogive • Difference between Diagram and Graph	40%	20
	Unit-3	Descriptive Statistics for Different Measures of Scale (Scale Based Illustrations Only) • Concept of Measures of Central Tendency • Descriptive Statistics for Nominal Scale: Mode • Descriptive Statistics for Ordinal Scale: Median, Quartiles, Deciles, Percentile • Descriptive Statistics for Interval or Ratio Scale: Measures of Central Tendency: (1) Mean: Arithmetic Mean, Harmonic Mean, Geometric Mean, (2) Quartiles, (3) Deciles, (4) Percentiles • Measures of Dispersion: Variance, Standard Deviation, Coefficient of Variation	30%	15
	Grand Total		100%	50
Reference Books	Sr.	Author	Book Title / Publisher	
	1	Hooda, R.P	Statistics for Business and Economics; Macmillan, New Delhi.	
	2	Dr. S.S. Chaudhary, Dr. Madhu Gupta, Dr. Govind Singhal, Dr. Sanjay Jain	Descriptive Statistics – Text Book For B.Sc, M.Sc, Ph.D & Other Research Purpose in Statistics	
	3	Goon A.M., Gupta M.K. and Dasgupta B. (2000)	Fundamentals of Statistics, Vol. I & II, 8th Edn. The World Press, Kolkata.	
	4	Dr. M. H. Lohgaonkar	Descriptive Statistics-I	
	5	Gun. A.M. Gupta, M.k. and Dasgupta.B.(2008)	Fundamental of Statistics, Vol. II, 9th Edition World press.	
	6	S.P. Gupta, M.P. Gupta	Business Statistics 18th Edition	
	7	Hole & Jessen	Basic Statistics for Business and Economics: John Wiley and Sons, New York	
	8	P. Sundara Pandian, S. Muthulakshmi, T. Vijaykumar	Research Methodology & Applications of SPSS in Social Science Research	
	9	Prof. H.D. Shah	ગાણિતિક આંકડાશાસ્ત્ર, યુનિવર્સિટી ગ્રંથનિર્માણ બોર્ડ – અમદાવાદ, ગુજરાત	
	10	ડૉ. આર. એસ. પટેલ	સંશોધન માટે આંકડાશાસ્ત્રીય પ્રયુક્તિઓ – Jay Publication	
	11	M.C.Jayswal (1974)	અર્થ વિષયક આંકડાશાસ્ત્ર, યુનિવર્સિટી ગ્રંથ નિર્માણ બોર્ડ – અમદાવાદ, ગુજરાત.	

	12	Dr. R T Ratani			પ્રયુક્ત આંકડાશાસ્ત્ર, ગુજરાત યુનિવર્સિટી ગ્રંથનિર્માણ બોર્ડ – અમદાવાદ, ગુજરાત				
Mapping between COs and PSOs	COs / PSOs	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8
	CO1	✓		✓		✓		✓	
	CO2	✓	✓	✓		✓		✓	
	CO3	✓	✓	✓	✓	✓		✓	✓
	CO4			✓	✓	✓	✓		✓
	CO5	✓	✓	✓	✓	✓		✓	✓

VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT
B.COM
Semester – II
Statistics for Business (Major) – Credit - 4

Program Name	Bachelor of Commerce (Statistics)					
Semester	Semester II					
NCrF Credit Level	4.5					
Course Type	Major					
Course Subtype						
Subject Type	Discipline Specific					
Course Code	STAT-MJ					
Course Level	100					
Course Title	Statistics for Business (Major)					
Credit	Theory:	4	Practical:	-	Total:	4
Effective From	Academic Year: 2026-27					
Course Objective	The main objective of this course is to provide fundamental knowledge of probability, mathematical expectation and use of probability distribution. The purpose is to make the students aware about the concept of probability and its application in mathematical expectation and probability distributions.					
Course Outcomes	CO1	Understand the basic concept of probability and its uses for advance study.				
	CO2	Understand the basic idea about how to utilize the concept of probability to find expected value of a random variable.				
	CO3	Understand basic concept of probability distribution and its application.				
	CO4	Understand basic terminology about discrete and continuous variable.				
	CO5	Apply the course content for the further study of statistics.				
Teaching Methodology	Hybrid (Interactive lectures, Lectures cum demonstration problem based learning & self study assignment)					
Evaluation Method	Internal Assessment: 50 Marks (50%) External Assessment: 50 Marks (50%)					
Course Content	Unit	Course Inputs (As per UGC Model Curriculum)			Weight	Marks
	Unit-1	Probability • Probability as a concept; Random experiments, Sample space, Events • Mutually exclusive events, Exhaustive event, equally likely event, Independent events • The three approaches for defining probability; Addition and Multiplication laws of probability • Conditional probability			20%	10
	Unit-2	Mathematical Expectations • Random variable: Discrete and Continuous • Expectation of a function for discrete random variable • Properties of Mathematical expectation (without proof) • Expectation of a linear combination of random variable for discrete case only (no proof required)			30%	15

		• Mean, variance and covariance in terms of expectation (up to two variables only), some exercises related to discrete random variables						
	Unit-3	Discrete Probability Distribution • Concept of Probability distribution • Binomial, Poisson and Hyper geometric distribution – their properties and their applications					30%	15
	Unit-4	Continuous Probability Distribution • Properties of Normal distribution • Normal distribution, Exponential Distribution and their Application					20%	10
	Grand Total						100%	50

Reference Books	Sr.	Author	Book Title / Publisher						
	1	Goon A.M., Gupta M.K. and Dasgupta B. (2000)	Fundamentals of Statistics, Vol. I & II, 8th Edn. The World Press, Kolkata.						
	2	Miller, Irwin and Miller, Marylees (2006)	John E. Freund's Mathematical Statistics With Applications, (7th Edn.), Pearson education, Asia.						
	3	Mood, A.M. Graybill, F.A. And Boes, D.C. (2007)	Introduction to the theory of Statistics, 3rd Edn., (Reprint), Tata McGraw-Hill Pub. Co. Ltd.						
	4	Pavate D.C. Bhagwat	The Element Calculus: Popular Prakashan, Bombay						
	5	Gupta S.P	Statistical Method: S. Chand & Co., New Delhi						
	6	Rohtgi V.K.	An Introduction to probability theory and mathematical statistics: Wiley EslemLtd.						
	7	S.C. Gupta & V.K. Kapoor	Fundamentals of Mathematical Statistics: S. Chand & Co., New Delhi						
	8	Prof. H.D. Shah	ગાણિતિક આંકડાશાસ્ત્ર, યુનિવર્સિટી ગ્રંથનિર્માણ બોર્ડ – અમદાવાદ, ગુજરાત						
	9	ડો.આર.એસ. પટેલ	સંશોધન માટે આંકડાશાસ્ત્રીય પ્રયુક્તિઓ – Jay Publication						
	10	Dr. R T Ratani	પ્રયુક્ત આંકડાશાસ્ત્ર, ગુજરાત યુનિવર્સિટી ગ્રંથનિર્માણ બોર્ડ – અમદાવાદ, ગુજરાત						
	11	M.C.Jayswal (1974)	અર્થ વિષયક આંકડાશાસ્ત્ર, યુનિવર્સિટી ગ્રંથ નિર્માણ બોર્ડ – અમદાવાદ, ગુજરાત.						
	12	B L Agarwal	Programmed Statistics, Third Edition						

Mapping between COs and PSOs	COs / PSOs	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8
	CO1	✓		✓		✓	✓	✓	
	CO2	✓	✓	✓		✓		✓	
	CO3	✓	✓		✓	✓		✓	✓
	CO4			✓	✓	✓	✓		✓
	CO5	✓	✓	✓	✓	✓		✓	✓