SARDAR PATEL UNIVERSITY
Vallabh Vidyanagar, Gujarat
(Reaccredited with 'A' Grade by NAAC (CGPA 3.25))
Programme: B.COM   Semester: III
Syllabus with effect from the Academic Year: 2022-2023

B.COM. SEMESTER-III		
Paper Code UB03DCOM85	**Title of the Paper** **Advanced Statistics – V**	**Total Credit** **3**
Course Objectives	The objective of the course is to provide basic knowledge of fundamentals of Statistics for interpreting business data and their commercial application for decision making in business	

Course Description		
Unit	**Description**	**Weightage**
1.	**Principle of Mathematical Induction and Binomial Theorem** Meaning of Principle of Mathematical Induction and Simple illustrative problems based on it. Binomial expansion of $(x \pm a)^n$ where n is a positive integer, Characteristics of Binomial expansion, its application in simple examples.	**25%**
2.	**Multiple and Partial Correlation and Regression** Definition and concept of Partial and Multiple Correlation (three variables), Concept Multiple Regression equations, Numerical example.	**25%**
3.	**Sampling Methods - 1** Meaning of population and sample, need for sampling, Definition of population size and sample size, points to be considered for determining sample size, Theoretical description of different sampling methods (i) Non probabilistic sampling methods- convenience, quota, judgmental, purposive (ii) Probabilistic sampling methods- simple random sampling method, stratified random sampling method, systematic sampling method, two stage sampling method, cluster sampling method, sequential sampling method, and their comparisons.	**25%**
4.	**Sampling Methods - 2** Verification of various results- (i) mean of sample mean is an unbiased estimator for sample mean (ii) verification of the formulae for variance of sample mean (iii) sample variance is an unbiased estimator for population variance, (for with replacement and without replacement simple random sampling) Simple numerical examples for stratifies random sample- to verify the result that the stratified random sample mean is an unbiased estimator for population variance and calculation of the variance of stratified sample mean, Simple numerical examples for systematic sample- to verify the result that the systematic random sample mean is an unbiased estimator for population variance and calculation of its variance.	**25%**

*Units will have the same Weightage in the evaluation as suggested in the course outline.

Teaching- Learning Methodology	• Lecture Method • Online Lectures • Group Discussion • Practical Problem Solving

Evaluation Pattern		
Sr. No.	**Details of the Evaluation**	**Weightage**
1.	Internal/Written Examination	**15%**
2.	Internal Continuous Assessment in the form of Practical, Viva-Voce, Quizzes, Seminars, Assignments, Attendance	**15%**
3.	University Examination	**70%**

* Students will have to score a minimum of 40 (Forty) Percent to pass the course.

Course Outcomes: Having Completed this course, the students will be able to
1. Employee theprinciplesof linear regression and correlation, including least square method, predicting a particular value of Y for a given value of X and significance of the correlationcoefficient. 2. Calculate and interpret the correlation between twovariables. 3. Calculate the simple linear regression equation for a set ofdata. 4. Employee theprinciplesof linear regression and correlation, including least square method, predicting a particular value of Y for a given value of X and significance of the correlationcoefficient. 5. Uses of sampling methods andestimations.

Suggested References: (include Reference Material from where a student is expected to study the said content in APA Style) Reference Websites can also be included)	
Sr. No	**References**
1.	Goon. Gupta, Dasgupta, An outline of Statistical Theory, Vol - 1 and II. WorldPress,Calcutta.
2.	Sancheti& Kapoor, Business Statistics. Sultan Chand & Sons, NewDelhi.
3.	David R. Anderson, Dennis J. Sweeney, Thomas A. Williams, Statistics For Businessand Economics, South-Western Cengage Learning India Pvt. Ltd. NewDelhi.
4.	Levin and Rubin, Statistics for Management, Prentice Hall of India Pvt. Ltd. NewDelhi.
5.	Parimal Mukhopadhyay, Theory and Methods of Survey Sampling, Perntice Hallof India, NewDlehi.
6.	Amir D Aczel, JayavelSounderpandian, Complete Business Statistics, Tata Mc GrawHill, NewDelhi.
On-Line Resources available that can be used as Reference Material	
https://ugcmoocs.inflibnet.ac.in/view_module_ug.php/227	