SARDAR PATEL UNIVERSITY
Vallabh Vidyanagar, Gujarat
(Reaccredited with 'A' Grade by NAAC (CGPA 3.11))
Programme: B.COM   Semester: V
Syllabus with effect from the Academic Year: June, 2023

B.COM. SEMESTER-V		
Paper Code **UB05CCOM73**	**Title of the Paper** Business Mathematics & Statistics – V	**Total Credit** 3

Course Objectives	• To enhance analytical ability in students for processing data. • To familiarize students with applications of Statistical Techniques in business decision Making.

Course Description		
Unit	**Description**	**Weightage**
1.	**Discrete Probability Distributions:** Probability mass function of Hyper-Geometric distribution, properties and simple applications based on it. Probability mass function of Negative Binomial distribution and Geometric distribution, its properties, uses and simple examples based on it.	25%
2.	**Theory of Games and Sequencing Problem**: Introduction, Assumptions of the Game, Two-person Zero-Sum Games, Pure Strategies (Minimax- Maximin Principles): Games with Saddle Point, Rules to Determine Saddle point, Mixed Strategies: Game without Saddle Point, Principles of Dominance. Solution method for Games without Saddle Point (Algebraic Method only). **Sequencing:** Introduction, Concept of Sequencing Problem, Processing of N jobs through two machines. Applications of Game theory and Sequencing problems.	25%
3.	**Demographic Statistics:** Meaning, definition and uses of demographic Statistic, Methods of collecting demographic statistics – Registration Method, Census Method and Analytical Method. Mortality rates pertaining to (i) CDR (ii) SDR (iii) IMR, Crude birth rate C.B.R, Fertility rates pertaining to (i)GFR (ii) SFR (iii) TFR. Simple illustrations.	25%
4.	**Product Control Techniques:** Meaning of Product Control Technique and its advantages, Single Sampling Plan, Explanation of the terms: AQL and LTPD, Producer's risk, Consumer's risk, O.C. Curve, ATI, AOQ, AOQL Simple example based on Hyper-Geometric and Poisson distribution.	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. Enables to take best course of action out of several alternative courses for the purpose of achieving objectives by applying topic like game theory and sequencing models.   2. For Apply selected probability distributions to solve real life problems.   3. Useful techniques covered for knowing the trend of population growth, Death rate, Fertility rate etc.

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.	Grant E.L.: Statistical Quality Control, McGrawill.
2.	Levin and Rubin: "Statistics for Management", Prentice Hall of IndiaPvt.Ltd.
3.	Sancheti& Kapoor: Business Mathematics, Sultan Chand &Sons, NewDelhi
4.	Sancheti& Kapoor: Business Statistics. Sultan Chand & Sons, NewDelhi.
5.	Sharma J.K: "Introduction to OperationResearch.
6.	Srivastava O.S.: A Text Book on Demography, VikasPublishing.
7.	Sharma J.K: "Introduction to OperationResearch.
On-Line Resources available that can be used as Reference Material	
https://ugcmoocs.inflibnet.ac.in/view_module_ug.php/157	