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	**Title of the Paper**	**Total Credit**
UB05DCOM85	**Advanced Statistics IX**	**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.	**Inventory Control:** Introduction, Meaning of Inventory Control, Advantages of Carrying Inventory, Terms of Inventory Controls, Various Deterministic Inventory Models: Economic Order Quantity (EOQ) without Shortages (derivation of the model), EOQ with Shortages, EOQ with finite production rate, EOQ with Price Discounts, simple examples based on these models.	**25%**
2.	**Queuing Theory:** Introduction, Essential features of Queuing Systems (Input source, Queue configuration, Queue discipline, Service pattern), Operating characteristics of Queuing System (Expected waiting time in queue and system, expected number of customers in queue and system, busy period of server),Probability distribution in Queuing Systems ,Queuing Models: M/M/1 with unlimited and limited queue length, simple examples based on these models.	**25%**
3.	**Sequencing Problems:** Introduction, Notations, Terminology and Assumptions of Sequencing Problem, Processing n jobs through two machines, processing n jobs through three jobs, simple examples based on these models, simple examples based on these models.	**25%**
4.	**Transportation Problems:** Introduction to the T.P., Mathematical formulation of T.P., Loops in T.P. and their properties, Methods for finding Initial Solution: North West Corner , Least Cost , Vogel's Approximation Method., Test for Optimality, MODI Method for obtaining Optimal Solution., Special Cases in T.P. (Unbalanced problem, Degeneracy, Alternative Optimal Solution, Prohibited routes) ,Maximization T.P.	**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
Uses inventory control in real life situation and able to manage inventory. Uses of Queuing problem and probability distribution problem based on Queuing theory. Identify the sequencing and transportation problem.

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.	H.A. Taha, Operations. Research, Macmillan Publishing Co. Inc.
2.	Vohra N.D, Quantitative Techniques in Management Tata McGraw Hill, New Delhi
3.	J.K.Sharma : O.R. Theory and Applications, Macmillan India Ltd.
4.	Anderson, Sweeney, Williams, An Introduction to Management ScienceQuantitative Approach to Decision Making, Cengage Learning India Pvt. Ltd. New Delhi
5.	Barry Render, Ralph M. Stair , Michael E. Hanna, Quantitative Analysis for Management, Pearson Education(Singapore) Pte. Ltd
On-Line Resources available that can be used as Reference Material	