SARDAR PATEL UNIVERSITY

B.COM **SEMESTER: V**

Paper code: UB05DCOM 36

Title of Paper**: Advanced Statistics X**

(TOTAL CREDIT:3) Syllabus will effect from : June 2020

Objectives: (1) To enhance analytical ability in students for processing data.

(2) To familiarize students with applications of Statistical Techniques in business decision Making.

UNIT	DESCRIPTION IN DETAIL	WEIGHTAGE
1	**Student's t Test:** Introduction to t-distribution, its probability density function (statement only), assumptions for small sample tests, applications of t-test (both one and two tailed): (1) testing mean of a small sample, (2) comparing means of two samples (independent samples), (3) paired t-test for dependent samples, simple examples based on these tests.	**25%**
2	**Chi-square Test:** Introduction to chi-square distribution, its probability density function (statement only), Applications of chi-square test: (1) testing variance of a small sample, (2) testing independence of attributes using m by n contingency table, using the formula for 2×2 contingency table with Yate's correction (without proof), (3) testing goodness of fit (Binomial and Poisson distributions only),simple examples based on these tests.	**25%**
3	**Variance Ratio Test and ANOVA:** Introduction to F-distribution, its probability density function (statement only), applications of F test: (1) comparing variances of 2 small samples, (2) testing means of several small samples– ANOVA (one way and two-way analysis). Simple application.	**25%**
4	**Non Parametric Tests:** Meaning - Importance of NP test, Sign test, Median test, Run test, Mann-Whitney test, Wilcoxon's test, Kruskal-Wallis test, Kolmogorov - Smirnov test (without derivation). Simple examples (table value given), simple examples based on these tests.	**25%**

Reference Books:

1. Goon. Gupta, Dasgupta: "An outline of Statistical Theory" Vol-1 and II. World Press, Calcutta

2. Sancheti & Kapoor: Business Statistics. Sultan Chand & Sons, New Delhi.

3. S.C. Gupta: "Fundamentals of Mathematical Statistics" Sultan Chand & Sons, New Delhi.

4. Levin and Rubin: "Statistics for Management", Prentice Hall of India Pvt. Ltd. New Delhi.

5. Parimal Mukhopadhyay: "Mathematical Statistics" Books & Allied (P) Ltd.