

**SARDAR PATEL UNIVERSITY****B.COM SEMESTER: VI****Paper code: UB06DCOM35 Title of Paper: Advanced Statistics –XI****TOTAL CREDIT:3 Syllabus will effect from: November 2020**

- Objectives: (1) To enhance analytical ability in students for processing data.**  
**(2) To familiarize students with applications of Statistical technique in business decision Making.**

<b>UNIT</b>	<b>DESCRIPTION IN DETAIL</b>	<b>WEIGHTAGE</b>
1	<b>Demand Analysis &amp; Monopoly &amp; Duopoly Problems:</b> Demand and supply function, Market equilibrium, effect of taxation and subsidy, marginal and average, revenue & cost function, Discussion of monopoly problems-classical duopoly problems (idea only), Simple examples of monopoly under perfect competition, Difference between monopoly & duopoly problems.	<b>25%</b>
2	<b>Partial Derivatives and its applications:</b> Definition of partial derivative involving two variables up to second order, Homogeneous functions, Statement of Euler's theorem (without proof) and its application to homogeneous function, Application of partial derivative to the problems related to constrained optimization problems, (Cost function and Utility function).	<b>25%</b>
3	<b>Statistical Software:</b> Simple introduction to SPSS and R Software and their Simple uses. Define Variable and find mean and standard deviation using both software and how to write basic Formula.	<b>25%</b>
4	<b>Curve Fitting:</b> Meaning and definition of least square principle, Fitting of linear, quadratic and exponential curves like (i) $y = ab^x$ (ii) $y = ae^{bx}$ (iii) $y = ax^b$ etc. and simple examples based on it.	<b>25%</b>

**Reference Books:**

1. J. K. Sharma, Mathematics for Business and Economics, Asian Books Private Ltd.
2. S. C. Gupta, V. K. Kapoor, Fundamentals of Applied Statistics, Sultan Chand & sons, New Delhi.
3. David R. Anderson, Dennis J. Sweeney, Thomas A. Williams, Statistics For Business and Economics, South-Western Cengage Learning India Pvt. Ltd. New Delhi.
4. S.C. Gupta: "Fundamentals of Mathematica Statistics" S. Chand, New Delhi.
5. R. G. D. Allen, Mathematical Analysis for Economists, Macmillan, New, York.
6. Statistical Analysis Using R Software Dr. Dhaval Mehta, Sai Publications, India.
7. Discovering Statistics Using IBM SPSS by ANDY FIELD,

**SARDAR PATEL UNIVERSITY**

**B.COM SEMESTER: VI**

**Paper code: UB06DCOM36**

**Title of Paper: Advanced Statistics –XII**

**TOTAL CREDIT:3 Syllabus will effect from: November 2020**

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

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

<b>UNIT</b>	<b>DESCRIPTION IN DETAIL</b>	<b>WEIGHTAGE</b>
1	<b>Market Research:</b> Definition of Market Research, scope, problem and formulation, cost value and round off use of EMV and EVPS approach. Research design data collection. Strategies, univariate and bi-variate analytical tools and quantitative methods applied to Marketing problems. Bayesian approach to problems of market research.	<b>25%</b>
2	<b>Design Of Experiment:</b> Principles of randomization replication and local control, Completely randomized Design, Randomized block Design and Latin Square Design and their ANOVA table. Simple Applications.	<b>25%</b>
3	<b>Sampling Techniques:</b> Meaning of Sample and population. Characteristics of an ideal sample. Systematic Sampling, Cluster sampling and two stage sampling methods and estimation of population mean and standard error without proof. Non-sampling error.	<b>25%</b>
4	<b>Demography:</b> Meaning and Scopes of demography, history and growth of demography, measures of population growth, common measures of growth rate, growth curves, logarithmic, exponential, Gompertz and logistic curves. Life tables scope, Importance and limitations of life tables, Different methods of construction of life tables, abridged life tables, numerical examples to illustrate these methods.	<b>25%</b>

**Reference Books:**

1. J. K. Sharma, Mathematics for Business and Economics, Asian Books Private Ltd.
2. S. C. Gupta, V. K. Kapoor, Fundamentals of Applied Statistics, Sultan Chand & sons, New Delhi.
3. David R. Anderson, Dennis J. Sweeney, Thomas A. Williams, Statistics For Business and Economics, South-Western Cengage Learning India Pvt. Ltd. New Delhi.
4. S.C. Gupta: "Fundamentals of Mathematica Statistics" S. Chand, New Delhi.
5. R. G. D. Allen, Mathematical Analysis for Economists, Macmillan, New, York.
6. World Population Dynamics Barban A. Anderson
7. The life Table Wunsch, Guillium.