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| <b>Subject Code: 2CM1010414</b> | <b>Subject Title: Advanced Statistic -4</b> |
|                                 | <b>COURSE TYPE : CORE ELECTIVE</b>          |

**Course Objective: To make the students aware about different statistical approaches which are applicable in corporate organizations.**

| Teaching Scheme (Hours per week) |          |           |        | Evaluation Scheme (Marks) |                          |       |
|----------------------------------|----------|-----------|--------|---------------------------|--------------------------|-------|
| Lecture                          | Tutorial | Practical | Credit | University Assessment     | Institutional Assessment | Total |
| 3                                | -        | -         | 3      | 70                        | 30                       | 100   |

| Subject Contents |                                                                                                                                                                                                                                                                                                                                                              |             |            |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|------------|
| Sr. No           | Topic                                                                                                                                                                                                                                                                                                                                                        | Total Hours | Weight (%) |
| 1                | <b>Liner Programming :</b><br>Introduction to L.P.P. , Structure and Assumptions of a L.P.P., General Mathematical Model of L.P.P., Simple Linear Programming Model Formulation (up to three variables), Important Definitions , Graphical Solution Method , Some Special Cases (Multiple Optimal Solution, Unbounded Solution, Infeasible Solution).        | 9           | 25%        |
| 2                | <b>Simplex Method:</b><br>Definition of slack and surplus variables and other basic terms like basic solution, basic feasible solution, initial basic feasible solution, Standard form of L.P.P., Introduction to Simplex Method, Simplex algorithm for solving LPP, Simple Simplex Algorithm (Problems with constraints “ $\leq$ ” and “ $=$ ” types only). | 9           | 25%        |
| 3                | <b>Arithmetic Progression and Geometric Progression:</b><br>Introduction of arithmetic progression and geometric progression, sum of series in arithmetic progression, arithmetic mean, geometric mean, sum of series in geometric progression. Its application based examples.                                                                              | 9           | 25%        |
| 4                | <b>Co - Ordinate Geometry:</b><br>Definition of slope, Intercept, Conditions for parallel and Perpendicular lines, Equations of a straight line in the following forms:<br>(i) $y = mx + c$ (ii) $y - y_1 = m (x - x_1)$<br>(ii) $\frac{x}{a} + \frac{y}{b} = 1$ (iv) $\frac{y-y_1}{y_1-y_2} = \frac{x-x_1}{x_1-x_2}$<br>Simple illustrative examples.       | 9           | 25%        |

**Reference Books:**

1. Anderson, Sweeney, Williams, An Introduction to Management Science Quantitative
2. Approach to Decision Making, Cengage Learning India Pvt. Ltd. New Delhi.
3. Barry Render, Ralph M. Stair , Michael E. Hanna, Quantitative Analysis for Management, Pearson Education(Singapore) Pte. Ltd.
4. Gass S. I.: Linear Programming Methods & Applications, Mc Graw Hill.
5. J.K.Sharma : O.R. Theory and Applications, Macmillan India Ltd.
6. Loomba & N. Paul : Linear Programming Tata Mc Graw Hill, New Delhi.