**Curriculum plan (Even Semester 2020-21)**

**Teacher Name: Madhuri Singh**

**Paper name: SEC-BASIC COMPUTATIONAL TECHNIQUES FOR DATA ANALYSIS**

**Class type: BA Prog/ Sem 6**

**Paper shared with: NA**

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| **Unit to be taken** | **Month wise schedule to be followed** | **Tests/Assignments/ Revision/Presentations etc** |
| Introduction to MS Excel: Spreadsheet basics and inputting of data, word processing and presentation of data using graphs and tables.  (i) Inputting data; (ii) Selecting data; (iii) Multiplication, Division and  Addition; (iv) Formatting Cells; (v) Hide/unhide columns; (vi) Sorting Data; (vii) Filtering Data;  (viii) Freezing and Unfreezing Headers; (ix) AUTO SUM and SUMIF commands; (x) Using  MAX, MIN, COUNT, COUNTIF and POWER command; (xi) Pivot Tables; (xii) Line Graph,  Column Chart, Histogram, Pie Chart and Scatter Plot. | January (Week1-Week 3) | PROJECT REPORT-25 MARKS  PRESENTATION(in lieu of computer based test)- 10 MARKS  HOME ASSIGNMENT- 10 MARKS  ATTENDANCE-5 MARKS |
| Review of (i) Measures of Central Tendency - Mean, Median and Mode; Arithmetic Mean, Geometric Mean and Harmonic Mean; (ii) Measures of Dispersion – Standard Deviation and  Variance;  (iii) Skewness; (iv) Kurtosis.  Focus should be on computation techniques in MS Excel, and interpretation of numbers based on what has been covered in the BA Program Semester V SEC paper ‘Data Analysis’. | January(Week 4)-February (Week 2) |
| Introduction to calculation of financial formulae: Net Present Value (NPV), Internal Rate of  Return, Future Value, Equated Monthly Instalment (EMI), Compound Growth Rate | February (Week 3) -March (Week1) |
| Review of Correlation and Rank Correlation.  Introduction to simple Ordinary Least Squares (OLS) (i.e. only one explanatory variable); Testing hypotheses related to regression coefficients; Goodness of fit (R2); Reporting the estimation results. | March (Week 2-Week 3) |
| PRESENTATIONS | April (Week 1-Week 4) |

**References**

1. P.H. Karmel and M. Polasek (1978), Applied Statistics for Economists, 4th edition
2. M.R. Spiegel, L.J. Stephens and N. Kumar (2010), Statistics, 4th edition, Schaum Series, McGraw Hill
3. Coursera Lectures by Sharad Borle (available free on Coursera.org)
4. MS EXCEL 2010 (available free online), and/or other Excel manuals
5. Dr. K.L. Dahiya, Adhyayan Samagri 1 (1-12), Chapters 1 to 8, B.Com (H), 1st year, Vyavsahik Sankhiki, Department of Commerce, Mukt Shiksha Parishad, Dilli Vishwavidhalaya (HINDI)
6. Financial Management, Chapter 6; Investment Decisions, Chapter 7, Institute of Chartered Accountants of India study material.
7. Pamela Drake and Frank Fabozzi, 2009, Foundations and Applications of the Time Value of Money, John Wiley and Sons, Chapters 1, 2, 5, 9