

DELHI SCHOOL OF ECONOMICS

DEPARTMENT OF ECONOMICS

Minutes of Meeting

Subject: B.A. (Prog) Economics Discipline, Sixth Semester (CBCS)

Course: Basic Computational Techniques for Data Analysis: Skill-Enhancement Elective Courses (SEC) - Credit: 4

Date: 29th December, 2021

Venue: Online

Convener: Prof. Rohini Somanathan

The course meeting was attended by following teachers:

1. Prof. Rohini Somanathan - Convenor
2. Dr Devesh Birwal- Co-Convenor
3. Dr Renu Kumari Verma – Motilal Nehru College Evening
4. Dr Enakshi Sinha Ray Chaudhary – Rajdhani college
5. Dr Appala Naidu – ARSD College
6. Dr Promila Sehwat- Aditi Mahavidyalaya
7. Loveleen Gupta- Bharti College
8. Abhinav Parashar – Sri Aurobindo College Evening
9. Shweta nanda- ARSD College
10. Ajay Gupta- Shyamlal College Evening
11. Rakesh Kumar – ARSD College
12. Akanksha Saini – Kamla Nehru College
13. Akshay Garg- PGDAV College
14. Bhavna Seth – Dyal Singh College
15. Swarup Santra-Satyawati College
16. Suneyana Sharma – Ram Lal Anand College
17. Kapil Dev Yadav- LSR
18. Vickey Mahariya – Maharaja Agrasen College
19. Dushyant Tyagi-Zakir Hussain Delhi College Evening
20. Abhishek Jaiswal- SPM College
21. Arun Kumar-DCAC
22. Md Irfan Alam-Shivaji College
23. Manvi Jain- IP College for Women
24. Sharad Ranjan-ZHCCE
25. Komal Garg
26. Nimisha Chauhan
27. Sumit Singh
28. Nidhi Gupta

Decisions:

1. No changes were made to the reading list of set of topics covered.
2. For project work and internal assessment, the R programme can be used instead of excel.

Purpose / Objective of the paper:

The main purpose of this Skill Enhancement Course (SEC) in Economics is to provide B.A. Program students with hands-on experience in developing skills in statistical techniques involving computer applications. The course would enable students to become familiar with different data sources relating to various aspects of the economy, with estimation of simple relationship between economic variables, and with interpretation of the estimation results.

This course is an extension of the previous semester's course SEC: Data Analysis, which is a prerequisite for taking this course. This course develops computational skills based on the knowledge of Statistics developed in the previous semester. Along with the previous semester's SEC papers (i.e. 'Understanding the Economic Survey and the Union Budget', 'Research Methodology' and 'Data Analysis'), this course aims to equip students with the ability to undertake basic research projects pertaining to the Indian economy, which in turn, would prove helpful in a variety of professions.

Course outline:

Unit -1

Introduction to MS Excel: Spreadsheet basics and inputting of data, word processing and presentation of data using graphs and tables.

Unit - II

- a) Review of concepts (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.
- b) Introduction to calculation of financial formulae, net present value (NPA), internal rate of return, future value, Equated monthly instalment (EMI), computed growth rate.
- c) Using spreadsheet to perform the above mathematical/statistical/financial functions.

Unit III

- a) Review of the concept of Correlation and Rank Correlation.
- b) Introduction to simple Ordinary Least Squares (OLS) in two variable case (one dependent and one explanatory variable); Testing of hypotheses related to regression coefficients; Goodness of fit (R^2); Reporting the estimation results.
- c) Using of MS Excel/GRETL (Free ware) for above.

Unit IV

Introduction to economic and business data sets available in the public domain, such as from the NSE, BSE, RBI, MOSPI, etc.

Any of these datasets may be used for demonstrating the statistical concepts studied in the course

Unit V

Preparation of a project report based on data available in the public domain, using concepts studied in units II and III.

References:

1. Spreadsheet-Microsoft office/Open office manual.
2. GRETLM-Manual.
3. P.H. Karmel and M. Polasek (1978), Applied Statistics for Economists, 4th edition, Pitman.
4. M.R. Spiegel, L.J. Stephens and N. Kumar (2010), Statistics, 4th edition, Schaum Series, McGraw Hill

Marking scheme:

1. Internal assessment of 25 marks, comprising:
 - (a) 5 marks for attendance,
 - (b) 10 marks for written test,
 - (c) 10 marks for computer based test
2. End Semester assessment of 75 marks, comprising: (a) 25 marks for project based on Unit V, to be submitted before the final exam, and (b) 50 marks for a written final exam, which will include one compulsory question based on interpreting computer output related to OLS. Questions in the final exam will be based on only Unit 1 to IV.