

**UNIVERSITY OF DELHI
DELHI SCHOOL OF ECONOMICS
DEPARTMENT OF ECONOMICS**

Minutes of Meeting

Subject: B.A. (Hons) Economics, Third Semester (CBCS)

Course: Statistical Methods for Economics (HC33), Core Course - (CC) Credit: 6

Date: 11th August, 2020

Venue: Online

Convener: Prof. Rohini Somanathan

Attended by:

S. No.	Name of Teacher	College
1	Pooja Sharma	Daulat Ram College
2	Dr. Apra Sinha	ARSD College
3	Anita Balani	HRC
4	Poonam Kalra	St. Stephens
5	Chandan Singha	Hindu College
6	Deepika Goel	Aryabhatta College
7	Sanjay Singh	Dyal Singh College (M)
8	Ankur	Satyawati (D)
9	Sonia Goel	Ramjas College
10	Priyanka Bhatia	SRCC
11	Paramjeet Kaur	SGGSCC
12	Jasneet Wadhwa	SGTB Khalsa College
13	Archana Jain	DCAC
14	Deepak Manchanda	JDMC
15	Jasmine Gambhir	Shivaji College
16	Harish Dhawan	Aryabhatta College
17	Rakesh Kumar	Dyal Singh (M)
18	Garima Agarwal	SRCC
19	Manavi Jain	Indraprastha College for Women
20	Pallavi Manchanda	SPM
21	Ashish Taru Deb	CVS
22	Isha	Lakshmi Bai College
23	Ajay Kumar	KNC
24	Gaurav Bhattacharya	Gargi College
25	Iti Tomar	SPM
26	Juhi Lohani	Deshbandhu
27	Leema Mohan	St Stephen's
28	Akshara Awasthi	JMC
29	Anita	Kalindi
30	Neha Verma	KMC
31	Nupur Kataria	Maitreyi College

32	Sanjay Kumar	Dayal Singh
33	Surabhi Gupta	LSR College
34	Yogita Yadav	Sri Venkateswara College
35	Abhinav Parashar	Sri Aurobindo College (Evening)
36	Neetu	Miranda

Course Description

The course teaches students the basics of probability theory and statistical inference. It sets a necessary foundation for the econometrics courses within the Honours programme. The familiarity with probability theory will also be valuable for courses in advanced microeconomic theory.

Unit 1

Introduction and overview, The distinction between populations and samples and between population parameters and sample statistics

Devore: Ch 1.1

Unit 2

Elementary probability theory Sample spaces and events; probability axioms and properties; counting techniques; conditional probability and Bayes' rule; independence

Devore: Ch 2

Unit 3

Random variables and probability distributions Defining random variables; probability distributions; expected values and functions of random variables; properties of commonly used discrete and continuous distributions (uniform, binomial, exponential, Poisson, hypergeometric and Normal random variables)

Devore: Ch3 (except Negative Binomial Distribution), Ch 4.1-4.3 and pgs. 165-166

Unit 4

Random sampling and jointly distributed random variables Density and distribution functions for jointly distributed random variables; computing expected values of jointly distributed random variables; covariance and correlation coefficients

Devore: Ch 5.1-5.3 (except pgs 200-202), 5.4, 5.5

Unit 5

Point and interval estimation, estimation of population parameters using methods of moments and maximum likelihood procedures; properties of estimators; confidence intervals for population parameters

Devore: Ch 6 (except pages 249-250), Ch7 (till page 289)

Unit 6

Hypothesis testing Defining statistical hypotheses; distributions of test statistics; testing hypotheses related to population parameters; Type I and Type II errors; power of a test; tests for comparing parameters from two samples

Devore: Ch8 (except β and sample size determination in each case)

References

1. Devore, J. (2012). Probability and statistics for engineers, 8th ed. Cengage Learning.
2. Larsen, R., Marx, M. (2011). An introduction to mathematical statistics and its applications. Prentice Hall.
3. Miller, I., Miller, M. (2017). J. Freund's mathematical statistics with applications, 8th ed. Pearson.

Assessment:

This course carries 100 marks of which the end semester examination is 75 marks and internal assessment is worth 25 marks as per the following norms: Two class tests/assignment of 10 marks each and 5 marks for attendance.

Minutes of the Meeting (August 11, 2020)

1. Chapter wise Exclusions are reported above
2. While students should be aware of the following topics, no questions should be asked in the examinations:
 - a) Double integration for Joint continuous random variables Ch 5
 - b) Simulations Ch 5
 - c) Bootstrap Confidence intervals Ch7
 - d) Score interval for p Ch7
3. The following note is to be included for the setting of question paper: All questions within each section are to be answered in a contiguous manner on the answer sheet. Start each question on a new page, and all subparts of a question should follow one after the other.
4. It was agreed that the question paper will include internal choice in each section with limited number of sub parts.
5. The following distribution of topics and marks, and the amount of choice within each topic, was agreed upon:
 - a. Section 1: Unit 1 and Unit 2: (indicative weightage 10 marks), Two questions of 5 marks each with one question from Unit 1 and the other from Unit 2. No internal choice in these units should be given.
 - b. Section 2: Unit 3 and Unit 4: (indicative weightage 25 marks), One compulsory question of 5 marks and Two questions out of Three for 10 marks each.
 - c. Section 3: Unit 5: (indicative weightage 20 marks), Two questions out of Three for 10 marks each.
 - d. Section 4: Unit 6: (indicative weightage 20 marks), Two questions out of Three for 10 marks each.
6. It was also felt by the members that since online teaching is going on during the times of pandemic and there is no physical presence of teachers to help students with their doubts, computationally difficult questions should not be set for an exam.