# List of Courses Focus on Employability/ Entrepreneurship/ Skill Development

**Department : *Economics***

**Programme Name : *B.A. Ist & IInd and IIIrd & IVth***

***Academic Year : 2019-20***

***List of Courses Focus on Employability/ Entrepreneurship/Skill Development***

| Sr. No. | Course Code | Name of the Course |
|---|---|---|
| 01. | SS/EC/C-102 | Mathematical Method for Economics -I |
| 02. | SS/EC/C-204 | Mathematical Method for Economics -II |
| 03. | SS/EC/C-306 | Statistical Methods for Economics |
| 04. | SS/EC/C-(SEC-1) | Data Analysis |
| 05. | SS/EC/C-410 | Introductory Econometrics |

# Scheme and Syllabus

## School of Arts: BA (Hon's): Subject: -Economics

| Semester | Course Opted | Course Code | Name of the course | Credit | Hour / weak |
|---|---|---|---|---|---|
| I | Core-1 | SS/EC/C-101 | **Introductory Microeconomics Economics** | 5 | 5 |
| | Core -1 Tutorial | SS/EC/C-T-101 | Tutorial-1 based on Core-1 | 1 | 1 |
| | Core -2 | SS/EC/C-102 | **Mathematical Methods for Economics-I** | 5 | 5 |
| | Core -2 Tutorial | SS/EC/C-T-102 | Tutorial-2 based on Core-2 | 1 | 1 |
| | Generic Elective (GEI)-1 | SS/EC/GE-101/C | From pool of Generic elective courses (Introductory Macro Econ) | 5 | 5 |
| | Generic Elective - Tutorial | SS/EC/GE-T-101/PS | Tutorial-1 based on Generic Elective-1 | 1 | 1 |
| | Ability Enhancement Compulsory Course (AECC) | SS/EC/AE-101/EC | Environmental Science | 4 | 4 |
| | ECA | SS/EC/ECA-101 | ECA-Extracurricular activity/Educational Tour/ Field visit/ Industrial training/NSS//Yoga/ Swachhta/ sports/ community service/ others | 2 | (2) |
| | | | TOTAL | 24 | 24 |
| II | Core-3 | SS/EC/C-203 | **Introductory Macroeconomics** | 5 | 5 |
| | Core -3 Tutorial | SS/EC/C-T-203 | Tutorial-3 based on Core-3 | 1 | 1 |
| | Core -4 | SS/EC/C-204 | **Mathematical Methods for Economics-II** | 5 | 5 |
| | Core -4 Tutorial | SS/EC/C - T-204 | Tutorial-4 based on Core-4 | 1 | 1 |
| | Generic Elective (GEI-B)-2 | SS/EC/GE-202/PS | From pool of Generic elective courses (Introductory Macro Econ) | 5 | 5 |
| | Generic Elective - Tutorial | SS/EC/GE-T-202/PS | Tutorial-2 based on Generic Elective-2 | 1 | 1 |
| | Ability Enhancement Compulsory Course (AECC) | SS/EC/AE-201/ES | English Communication/ MIL (Hindi Communication) | 4 | 4 |
| | ECA | | ECA-Extracurricular activity/Educational Tour/ Field visit/ Industrial training/NSS/yoga/ Swachhta/ sports/ community service/ others | 2 | (2) |
| | | | Total | 24 | 24 |
| **SUMMER Internship: 15 days (Optional)** | | | **Swayam Swachhta / NSS / Industrial/ others** | **2** | **100** |

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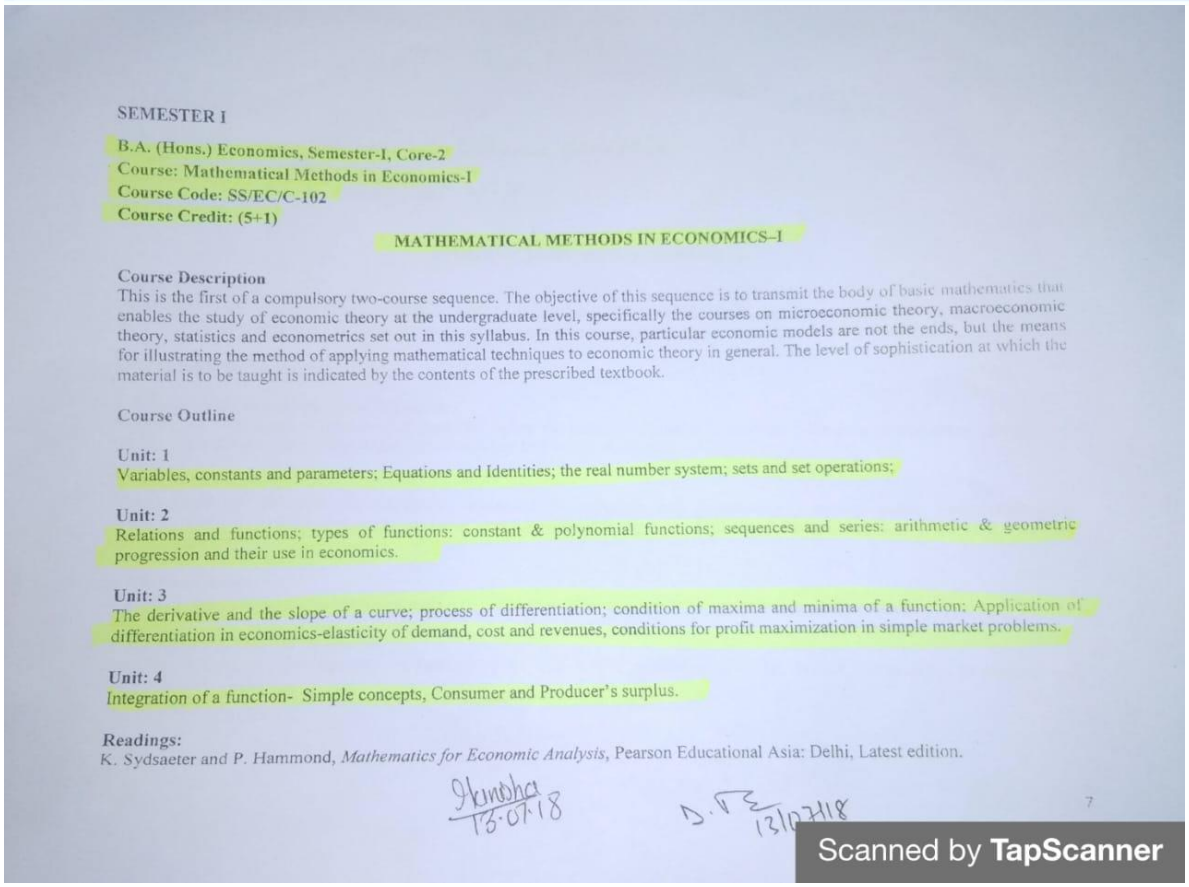

SEMESTER I

B.A. (Hons.) Economics, Semester-I, Core-2
Course: Mathematical Methods in Economics-I
Course Code: SS/EC/C-102
Course Credit: (5+1)

## MATHEMATICAL METHODS IN ECONOMICS–I

**Course Description**

This is the first of a compulsory two-course sequence. The objective of this sequence is to transmit the body of basic mathematics that enables the study of economic theory at the undergraduate level, specifically the courses on microeconomic theory, macroeconomic theory, statistics and econometrics set out in this syllabus. In this course, particular economic models are not the ends, but the means for illustrating the method of applying mathematical techniques to economic theory in general. The level of sophistication at which the material is to be taught is indicated by the contents of the prescribed textbook.

**Course Outline**

**Unit: 1**
Variables, constants and parameters; Equations and Identities; the real number system; sets and set operations;

**Unit: 2**
Relations and functions; types of functions: constant & polynomial functions; sequences and series: arithmetic & geometric progression and their use in economics.

**Unit: 3**
The derivative and the slope of a curve; process of differentiation; condition of maxima and minima of a function: Application of differentiation in economics-elasticity of demand, cost and revenues, conditions for profit maximization in simple market problems.

**Unit: 4**
Integration of a function- Simple concepts, Consumer and Producer's surplus.

**Readings:**
K. Sydsaeter and P. Hammond, *Mathematics for Economic Analysis*, Pearson Educational Asia: Delhi, Latest edition.

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SEMESTER II

B.A. (Hons.) Economics, Semester-II, Core-4
Course: Mathematical Methods in Economics-II
Course Code: SS/EC/C-204
Course Credit: (5+1)

## MATHEMATICAL METHODS IN ECONOMICS - II

Course Description

This course is the second part of a compulsory two-course sequence. This part is to be taught in Semester II following the first part in Semester I. The objective of this sequence is to transmit the body of basic mathematics that enables the study of economic theory at the undergraduate level, specifically the courses on microeconomic theory, macroeconomic theory, statistics and econometrics set out in this Syllabus. In this course, particular economic models are not the ends, but the means for illustrating the method of applying mathematical techniques to economic theory in general. The level of sophistication at which the material is to be taught is indicated by the contents of the prescribed textbook.

Course Outline

Unit: 1
Linear Programming: Graphical solution and its application in economics, Duality

Unit: 2
Matrix: various types, addition and subtraction, multiplication of matrix.

Unit: 3
Determinants, singular matrix, inverse of a matrix, solution of simultaneous equations through crammer's rule

Unit: 4
Game theory-simple and mixed strategy, saddle point solution, prisoner's dilemma

Readings:

K. Sydsaeter and P. Hammond, *Mathematics for Economic Analysis*, Pearson Educational Asia: Delhi, Latest edition.

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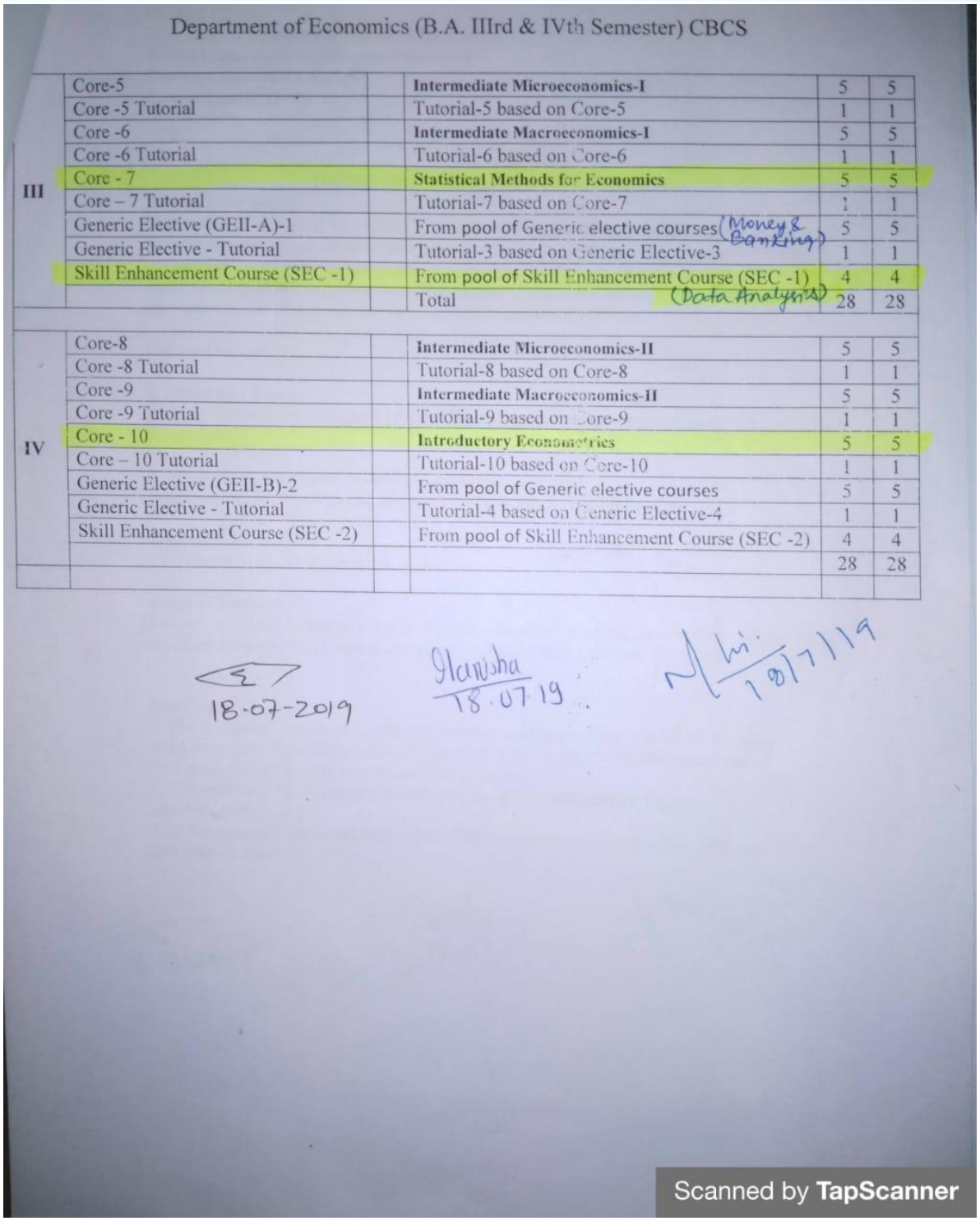

Department of Economics (B.A. IIIrd & IVth Semester) CBCS

| | | | | | |
|---|---|---|---|---|---|
| III | Core-5 | | **Intermediate Microeconomics-I** | 5 | 5 |
| | Core -5 Tutorial | | Tutorial-5 based on Core-5 | 1 | 1 |
| | Core -6 | | **Intermediate Macroeconomics-I** | 5 | 5 |
| | Core -6 Tutorial | | Tutorial-6 based on Core-6 | 1 | 1 |
| | Core - 7 | | **Statistical Methods for Economics** | 5 | 5 |
| | Core – 7 Tutorial | | Tutorial-7 based on Core-7 | 1 | 1 |
| | Generic Elective (GEII-A)-1 | | From pool of Generic elective courses (Money & Banking) | 5 | 5 |
| | Generic Elective - Tutorial | | Tutorial-3 based on Generic Elective-3 | 1 | 1 |
| | Skill Enhancement Course (SEC -1) | | From pool of Skill Enhancement Course (SEC -1) | 4 | 4 |
| | | | Total (Data Analysis) | 28 | 28 |
| IV | Core-8 | | **Intermediate Microeconomics-II** | 5 | 5 |
| | Core -8 Tutorial | | Tutorial-8 based on Core-8 | 1 | 1 |
| | Core -9 | | **Intermediate Macroeconomics-II** | 5 | 5 |
| | Core -9 Tutorial | | Tutorial-9 based on Core-9 | 1 | 1 |
| | Core - 10 | | **Introductory Econometrics** | 5 | 5 |
| | Core – 10 Tutorial | | Tutorial-10 based on Core-10 | 1 | 1 |
| | Generic Elective (GEII-B)-2 | | From pool of Generic elective courses | 5 | 5 |
| | Generic Elective - Tutorial | | Tutorial-4 based on Generic Elective-4 | 1 | 1 |
| | Skill Enhancement Course (SEC -2) | | From pool of Skill Enhancement Course (SEC -2) | 4 | 4 |
| | | | | 28 | 28 |

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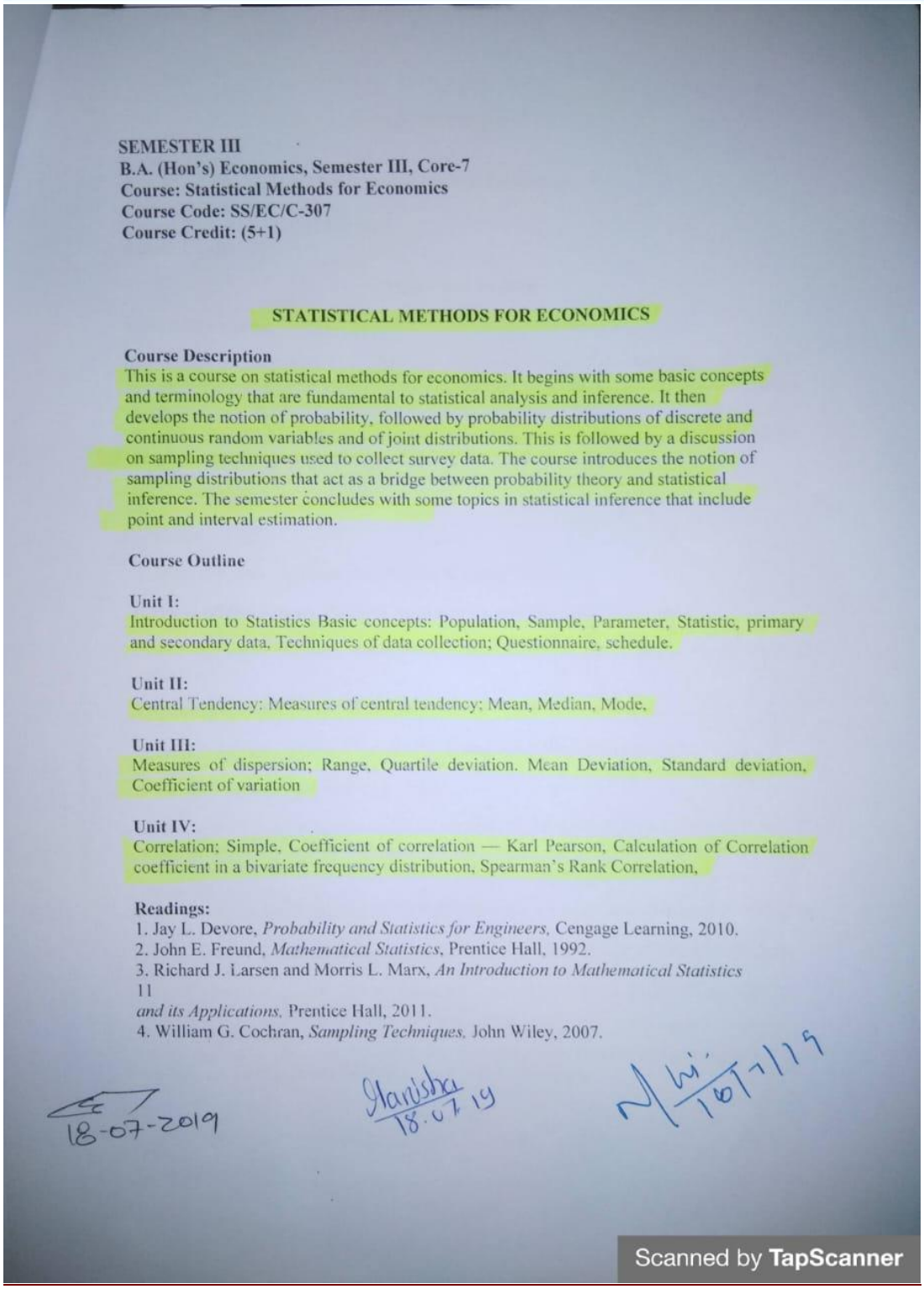

SEMESTER III
B.A. (Hon's) Economics, Semester III, Core-7
Course: Statistical Methods for Economics
Course Code: SS/EC/C-307
Course Credit: (5+1)

## STATISTICAL METHODS FOR ECONOMICS

**Course Description**

This is a course on statistical methods for economics. It begins with some basic concepts and terminology that are fundamental to statistical analysis and inference. It then develops the notion of probability, followed by probability distributions of discrete and continuous random variables and of joint distributions. This is followed by a discussion on sampling techniques used to collect survey data. The course introduces the notion of sampling distributions that act as a bridge between probability theory and statistical inference. The semester concludes with some topics in statistical inference that include point and interval estimation.

**Course Outline**

**Unit I:**
Introduction to Statistics Basic concepts: Population, Sample, Parameter, Statistic, primary and secondary data, Techniques of data collection; Questionnaire, schedule.

**Unit II:**
Central Tendency: Measures of central tendency: Mean, Median, Mode,

**Unit III:**
Measures of dispersion; Range, Quartile deviation. Mean Deviation, Standard deviation, Coefficient of variation

**Unit IV:**
Correlation; Simple, Coefficient of correlation — Karl Pearson, Calculation of Correlation coefficient in a bivariate frequency distribution, Spearman's Rank Correlation,

**Readings:**

1. Jay L. Devore, *Probability and Statistics for Engineers*, Cengage Learning, 2010.
2. John E. Freund, *Mathematical Statistics*, Prentice Hall, 1992.
3. Richard J. Larsen and Morris L. Marx, *An Introduction to Mathematical Statistics*
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*and its Applications*, Prentice Hall, 2011.
4. William G. Cochran, *Sampling Techniques*, John Wiley, 2007.

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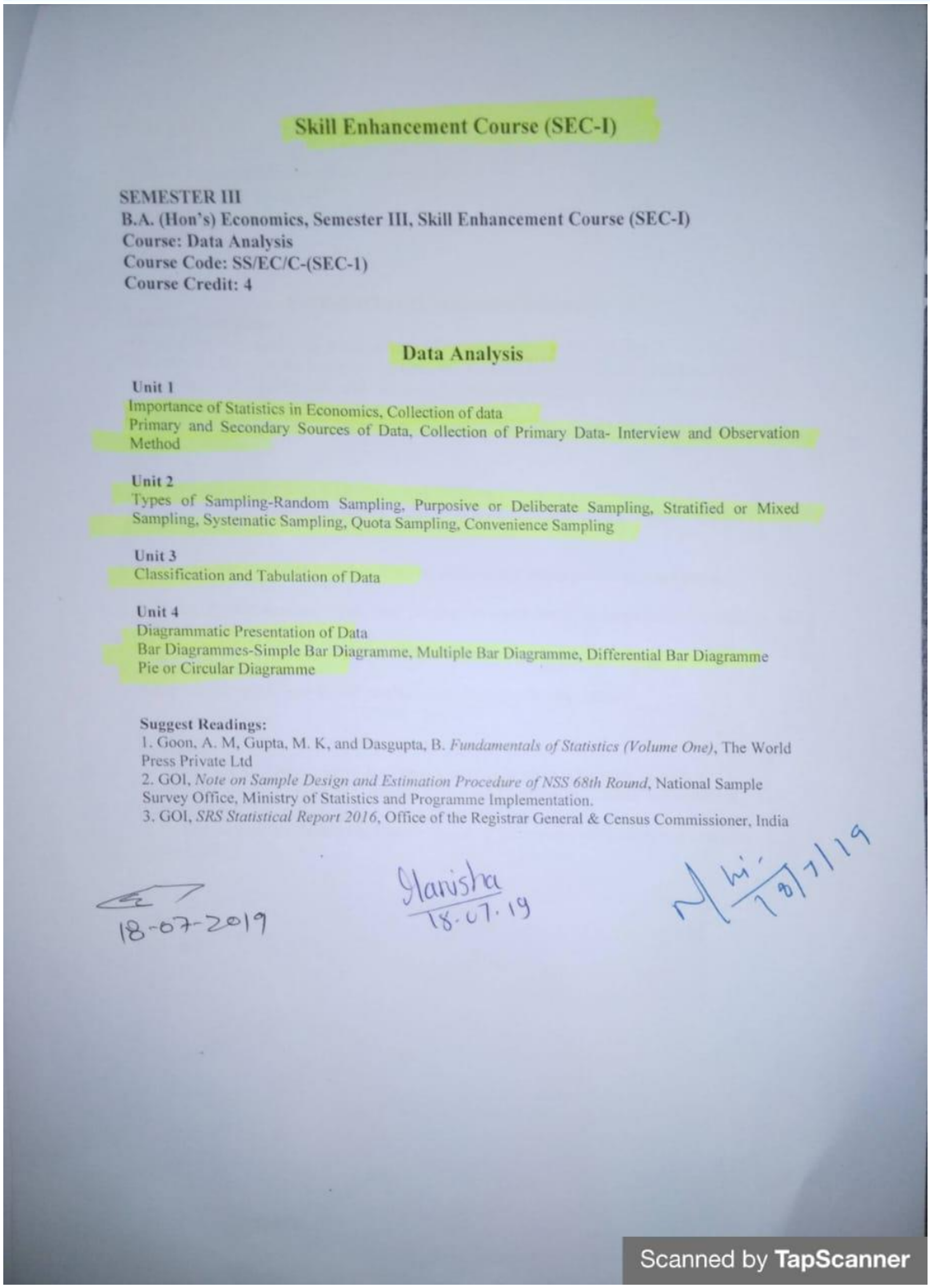

## Skill Enhancement Course (SEC-I)

SEMESTER III
B.A. (Hon's) Economics, Semester III, Skill Enhancement Course (SEC-I)
Course: Data Analysis
Course Code: SS/EC/C-(SEC-1)
Course Credit: 4

### Data Analysis

**Unit 1**
Importance of Statistics in Economics, Collection of data
Primary and Secondary Sources of Data, Collection of Primary Data- Interview and Observation Method

**Unit 2**
Types of Sampling-Random Sampling, Purposive or Deliberate Sampling, Stratified or Mixed Sampling, Systematic Sampling, Quota Sampling, Convenience Sampling

**Unit 3**
Classification and Tabulation of Data

**Unit 4**
Diagrammatic Presentation of Data
Bar Diagrammes-Simple Bar Diagramme, Multiple Bar Diagramme, Differential Bar Diagramme
Pie or Circular Diagramme

**Suggest Readings:**
1. Goon, A. M, Gupta, M. K, and Dasgupta, B. *Fundamentals of Statistics (Volume One)*, The World Press Private Ltd
2. GOI, *Note on Sample Design and Estimation Procedure of NSS 68th Round*, National Sample Survey Office, Ministry of Statistics and Programme Implementation.
3. GOI, *SRS Statistical Report 2016*, Office of the Registrar General & Census Commissioner, India

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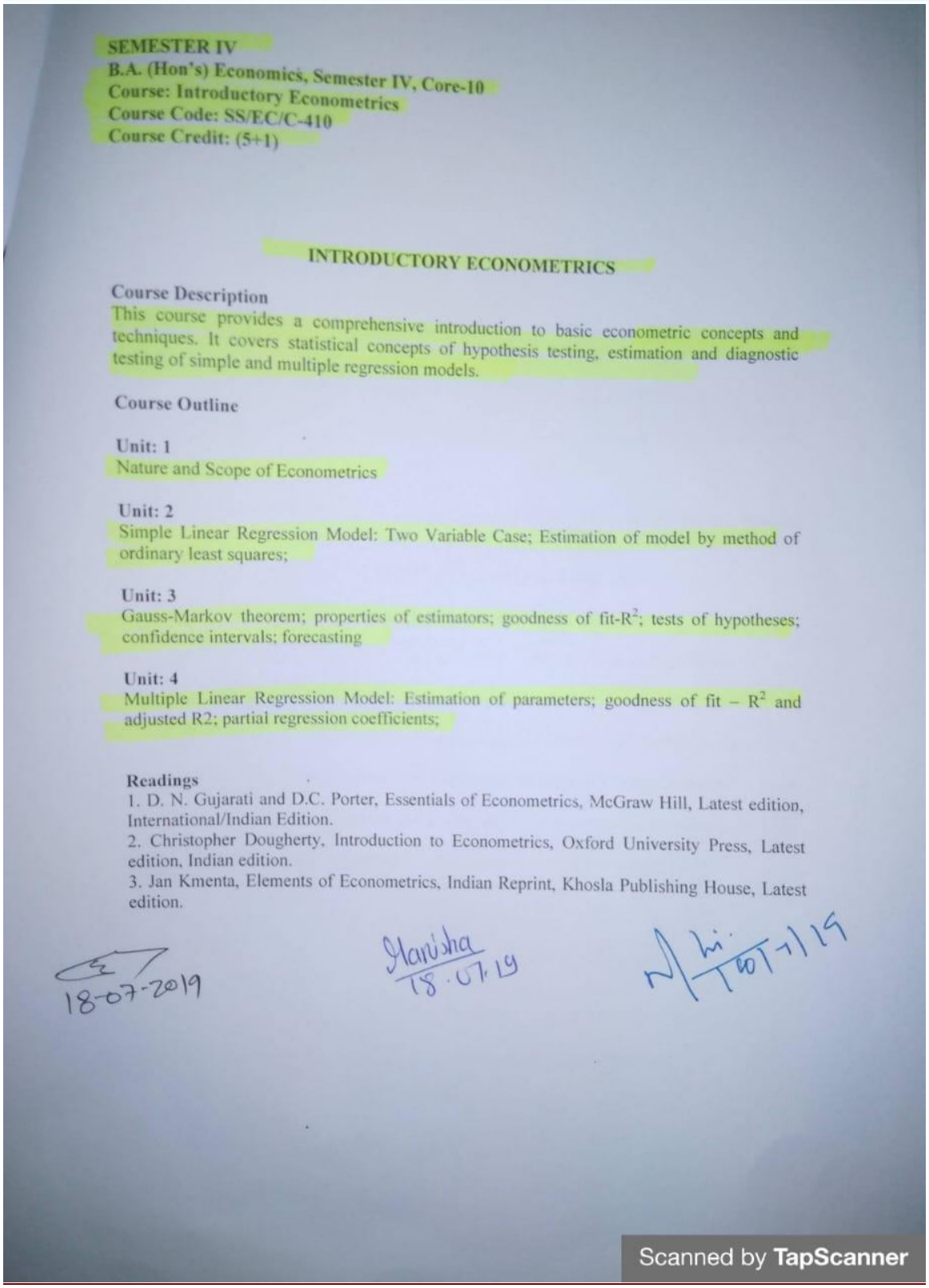

SEMESTER IV
B.A. (Hon's) Economics, Semester IV, Core-10
Course: Introductory Econometrics
Course Code: SS/EC/C-410
Course Credit: (5+1)

## INTRODUCTORY ECONOMETRICS

**Course Description**

This course provides a comprehensive introduction to basic econometric concepts and techniques. It covers statistical concepts of hypothesis testing, estimation and diagnostic testing of simple and multiple regression models.

**Course Outline**

**Unit: 1**
Nature and Scope of Econometrics

**Unit: 2**
Simple Linear Regression Model: Two Variable Case; Estimation of model by method of ordinary least squares;

**Unit: 3**
Gauss-Markov theorem; properties of estimators; goodness of fit-$R^2$; tests of hypotheses; confidence intervals; forecasting

**Unit: 4**
Multiple Linear Regression Model: Estimation of parameters; goodness of fit – $R^2$ and adjusted R2; partial regression coefficients;

**Readings**

1. D. N. Gujarati and D.C. Porter, Essentials of Econometrics, McGraw Hill, Latest edition, International/Indian Edition.
2. Christopher Dougherty, Introduction to Econometrics, Oxford University Press, Latest edition, Indian edition.
3. Jan Kmenta, Elements of Econometrics, Indian Reprint, Khosla Publishing House, Latest edition.

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Manisha
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