Department of Economics

Curriculum of
BSc (Hons)/Integrated MSc Programme of Economics

[A Dual Degree programme with an option to leave after three years with BSc (Hons) Degree]

Effective from 2010 and modified periodically
Last modified in July 2022 in the context of National Educational Policy 2020

School of Social Sciences
Doon University
Dehradun-248001

Department of Economics

About the Programme

The programme offers BSc (Hons) with Research / MSc in Economics and two-year MA degree in Economics. The emphasis is on research-based teaching and learning activities in an interactive environment with a focus on 'quality' and 'relevance'. The programmes aims at imparting holistic knowledge by providing an exposure to critical understanding of contemporary socio-economic issues. The emphasis is on equipping students with analytical skills and their applications in different fields of economics with the help of quantitative methods and hands on practice on different statistical software, necessary for a proper understanding of the discipline. The programme enables students to understand proper policy responses to economic problems and trains them in data collection and analysis with the applications of statistical and econometric methods.

Students are encouraged to engage in a variety of extension activities both within and outside the University. The Department of Economics proactively encourages students' internships for honing their skills for real-world situations. It periodically organises brainstorming discussions and debates on contemporary social and economic issues through seminars, workshops and panel discussions with active participation of students and teachers. The programme of the Department trains students for a career in the corporate, academic, public policy or analytics sectors depending on their interest. The teaching and learning are encouraged in an interactive mode with extensive applications of econometric tools and techniques. For this, the Department has a dedicated computer lab to learn applied economics.

Programme Learning Outcomes

After completion of the programme, students are well equipped with:

- ✓ Broad understanding of various basic economic theories;
- ✓ Knowledge of the mathematical and statistical techniques necessary for a proper understanding of the discipline;
- ✓ Firsthand knowledge of the real world economic issues and problems facing the country and the world;
- ✓ Learn collection of information and applications of various statistical techniques and software for economic analysis;
- ✓ Become an enlightened citizen for understanding economic issues.

Course Structure

Semester System

The University follows a semester system. One academic year will have two semesters; the First Semester starts in July and the Second Semester in January. Each course is for the duration of one semester and it is assigned a specific number of credits in terms of contact hours. The number of credits to be assigned to a course is determined by the School. It is mandatory to complete a minimum number of credits for a particular programme.

Course Work

The Course Work, which includes Core courses, a range of Elective courses and Skill enhancing courses, is designed to give advanced knowledge in specialized areas relevant to the programmes. The emphasis will be on overall development of communication and research skills in students. To bring out the full potential of students, teaching is done through lectures, practical, field work, seminars, assignments, which are linked to a course having a number of credits with prescribed contact hours. Tutorials and group discussions will provide close interaction between student and teacher.

Types of Courses

The Department offers a wide range of courses, generally categorized under following broad types:

- *Discipline Specific Core Course (DSC):* A core course is a compulsory course. A student of Economics (Hons) has to take eighteen such Economics courses over six semesters
- *Elective Courses*: An elective course is a course that is to be chosen from a specified set of courses. These courses are of two types:
  - Discipline Specific Elective Course (DSE): These are elective courses that provide advanced undergraduate training in specialised areas of Economics.
  - Generic Elective Course (Other Department/Faculty) (GE): These courses, in disciplines other than Economics, are intended to broaden the training of a student in the Economics (Hons) programme.
- *Ability Enhancement/Co-curricular Course (AECC)*

- *Skill Enhancement/Vocational Course (SEC)*
- *Internship/Project Work/Community Outreach (IP)*
- *Value Addition Course (VAC) :* To be taken from a common pool of courses offered by different disciplines

Semester-wise Number of Courses by Their Types

Semester	Core	Discipline-specific Elective	Generic Elective	Ability Enhancement	Skill Enhancement/Vocational Course/ Internship/Project Work/Community Outreach
I	3	-	1	1	2
II	3	-	1	1	2
III	3	1*	1*	1	2
IV	3	1*	1*	1	2
V	3	1	1		1
VI	3	1	1		1
VII	1	2	1		1
VIII	1	2	1		1
Total	20	8	8	4	12

***Choose one from a pool of DSE OR one from pool of GE**

Semester-wise Details of Courses by Their Types

Semester-I

Sl. No.	Type of Discipline	Credits	Course Code	Course Title
1	DSC-1	4	SSEI 110	Foundations of Microeconomics-I
2	DSC-2	4	SSEI 111	Foundations of Macroeconomics-I
3	DSC-3	4	SSEI 112	Mathematics for Economics-I
4	GE-1	4	SSEI-GE-01	Foundations of Economics-I
5	AECC-1	2	SSEI-AE 01	English Language, Communication Skills
6	VAC-1	2		
7	SEC -2	2	SSEI-SE 01	Basics of Computer Applications
Total Credits in Semester I: 22				

Semester-II

Sl. No.	Type of Discipline	Credits	Course Code	Course Title
1	DSC-4	4	SSEI 120	Foundations of Microeconomics-II
2	DSC-5	4	SSEI 121	Foundations of Macroeconomics-II
3	DSC-6	4	SSEI 122	Mathematics for Economics-II
4	GE-2	4	SSEI-GE-02	Foundations of Economics-II
5	AECC-2	2	SSEI-AE 02	Environmental Science
6	VAC-2	2		
7	SEC-2	2	SSEI-SE 02	Applications of Basic Statistical Software (SPSS)
Total Credits in Semester II: 22			**Cumulative Credits : 44** (*Semester I +II*)	
Exit Option with Certificate in Foundations of Economics				

Semester-III

Sl. No.	Type of Discipline	Credits	Course Code	Course Title
1	DSC-7	4	SSEI 210	Development Economics-I
2	DSC-8	4	SSEI 211	Statistics-I
3	DSC-9	4	SSEI 212	Environmental Economics
4	DSE-1/GE-3*	4		
5	AECC-3	2	SSEI-AE 03	Foreign Language
6	VAC-3	2		Economics Lab
7	SEC-3	2	SSEI-SE 03	Applications of Basic Statistical Software (STATA)
Total Credits in Semester III: 22				

***Choose one from a pool of DSE-1 OR one from pool of GE-3**

Semester-IV

Sl. No.	Type of Discipline	Credits	Course Code	Course Title
1	DSC-10	4	SSEI 220	Development Economics-II
2	DSC-11	4	SSEI 221	Statistics-II
3	DSC-12	4	SSEI 222	Public Economics
4	DSE-2/GE-4*	4		
5	AECC	2	SSEI-AE 04	National Social Service
6	VAC-3	2		
6	SEC-4	2	SSEI-SE 04	Data Analysis
Total Credits in Semester IV: 22				**Cumulative Credits : 88** (*Semester I to IV)*
Diploma in Applied Economics				

***Choose one from a pool of DSE-2 OR one from pool of GE-4**

Semester-V

Sl. No.	Type of Discipline	Credits	Course Code	Course Title
1	DSC-13	4	SSEI 310	Econometrics-I
2	DSC-14	4	SSEI 311	Indian Economy
3	DSC-15	4	SSEI 312	International Economics-I
4	DSE-3*	4		
5	GE-5*	4		Contemporary Economic Issues in India
6	IP	2		Internship
Total Credits in Semester V: 22				

***Choose one from a pool of DSE-3 and one from pool of GE-5**

Semester-VI

Sl. No.	Type of Discipline	Credits	Course Code	Course Title
1	DSC-16	4	SSEI 320	Econometrics-II
2	DSC-17	4	SSEI 321	International Economics-II
3	DSC-18	4	SSEI 322	Mathematical Economics
4	DSE-4*	4		
5	GE-6*	4		Human Development
6	IP	2		Field Survey
Total Credits in Semester VI:22			**Cumulative Credits : 132** (Semester I to VI)	
Bachelor in Economics				

***Choose one from a pool of DSE-4 and one from pool of GE-6**

Semester-VII

Sl. No.	Type of Discipline	Credits	Course Code	Course Title
1	DSC-19	4	SSEI 410	Advanced Microeconomics
2	DSE/GE*	4	SSEI 411	Advanced Econometrics
3	DSE/GE*	4	SSEI 412	Advanced Statistics for Economics
4	DSE/GE*	4	SSEI 413	Research Methodology
5	VAC	6		Dissertation/Academic Project
6	AECC	Qualifying		Seminar
Total Credits credit in Semester VII: 22				

Note: Choose 3 DSE courses OR 2 DSE and 1 GE OR 1 DSE and 2 GE OR all 3 GE

Semester-VIII

Sl. No.	Type of Discipline	Credits	Course Code	Course Title
1	DSC-20	4	SSEI 420	Advanced Macroeconomics
2	DSE/GE*	4	SSEI 421	Operations Research
3	DSE/GE*	4		Financial Economics
4	DSE/GE*	4		
5	VAC	6		Dissertation/Academic Project
6	AECC	Qualifying		Seminar
Total Credits in Semester VIII: 22			**Cumulative Credits : 176** (*Semester I to VIII*)	
Bachelor (Honours with Research) in Economics				

Note: Choose 3 DSE courses OR 2 DSE and 1 GE OR 1 DSE and 2 GE OR all 3 GE

List of Electives

Semester -III **(Choose one elective course)**	**Semester -IV** **(Choose one elective course)**
1. History of Economic Thoughts 2. Regional Development in Uttarakhand 3. Banking and Monetary Economics	4. Gender Economics 5. Entrepreneurship Development 6. Health Economics
Semester -V **(Choose one elective course)**	**Semester -VI** **(Choose one elective course)**
7. Agricultural Economics 8. Globalisation and Development 9. Financial Economics	10. Network Economics 11. Basics of Economic Psychology 12. Labour Economics
Semester-VII **(Choose any two elective courses)**	**Semester-VIII (Choose any two elective courses)**
13. Public Policy- Theory and Practices 14. Demography 15. Game Theory 16. Sustainable Development	17. Regional Economy of Himalayan States 18. Economics of Inclusion 19. Behavioural Economics 20. Informal Sector and Economic Development

Credit Structure

The University follows a Credit System of Study, which allows a continuous evaluation of a student's performance and the flexibility to allow a student to select a number of Courses of his/her choice at a pace suited to his/her ability, subject to fulfilment of the minimum requirements for continuation in the Programme. Each Course in the Programme is designated by the Course Number having certain number of Credits, which describe its weightage and contact hours. ***Usually, for 15 hours of contact there is 1 Credit point.***

Class Attendance

The minimum class attendance required for appearing in the Semester examination shall be 75% of the total classes held in the course. The Vice Chancellor may condone the shortage of attendance to the extent of 5% on the recommendation of advisor and the Dean concerned under conditions prescribed by the Academic Council for the purpose. Student failing short of attendance in a Course shall fail in the course irrespective of the marks obtained at the end of the Semester.

Teaching Learning Process

- Lectures and tutorials
- Lectures and practical in case of practical papers

Conduct of Semester Examination

The students shall be continuously evaluated in the Courses through the following examinations:

(a) **MID-TERM EXAMINATION** with the weightage of **30 Marks (Theory).**

(b) **FINAL SEMESTER EXAMINATION** with a weightage of **50 Marks (Theory)** for courses without practical component. In courses with practical, the weightage shall be **30 Marks (Theory) + 20 Marks (Practical). 20 Marks will be distributed between 15 Marks laboratory work and 5 Marks viva.**

(c) **Internal Assessment of 20 Marks** will be distributed by the course teachers based on class performances, class assignments, class tests, quizzes and seminars.

Detailed Syllabus of Core Courses

First Semester

SSEI 110 Foundations of Microeconomics-I

Course Objective:
The course is designed to provide a sound training in microeconomic theory. Mathematical tools are used to facilitate understanding of the basic concepts. This course looks at the behaviour of the consumer and the producer and covers the behaviour of a competitive firm.

Course Learning Outcomes

After learning this course from the perspective of individual decision making as consumers and producers, students are equipped with the leaning of select basic principles of microeconomics, interactions of supply and demand, and characteristics of perfect and imperfect markets including factor markets.

Unit-I : Introduction: Scarcity and Choice; difference between microeconomics and macroeconomics,concept of firm and industry Economic models, The Basic Market Model

Unit-II : Demand and Supply: Demand and Supply analysis, Elasticity, classification of commodities: Normal, Inferior and Giffen goods, Consumer Surplus & producer Surplus Indifference curves Price- effect: substitution and income-effects and Revealed Preference Theory

Unit-III : Firm and Production Sector: Production and Cost function, Laws of production, Isoquants and diminishing rate of factor substitution, Elasticity of Substitution, Different concepts of Cost and Revenue, Economies and Diseconomies of Scale

Unit-IV: Market Structure and Factor Market: Perfect market structure and imperfect market structure, characteristics, conditions of equilibrium Factor pricing, Marginal productivity theory, Product Exhaustion Problem

Recommended books:

Text Books:

1. Koutsoyiannis. A, *Modern Micro Economics*, ELBS/ Macmillan
2. John P. Gould, Edward P. Lazear, Microeconomic Theory, AITBS Educational Books
3. Intermediate microeconomics, A Modern Approach, Hal R. Varian

Reference Books

1. Handerson and Quandt, Microeconomic Theory- A Mathematical Approach, Tata Mc Graw-Hill
2. G S Maddala and Ellen Miller, *Micro Economic Theory and Application*, TataMc Graw- Hill
3. Mankiw, N. -- *Economics: Principles and applications*, 4th ed. Cengage Learning

SSEI-111: Foundations of Macroeconomics-I

Course Objective:

The main aim of this course is to cover the main paradigms involved in the determination of real income, employment and unemployment, the price level and inflation in an open mixed economy, and the conduct of macroeconomic policy. Open economy will be dealt in Macroeconomics-II Course

Course Learning Outcomes:

This course enables students to understand and comment upon real economic issues like national income accounting, inflation, money supply, unemployment, GDP, determination of factor prices and their interlinkages. The learning will help them in critical thinking of various theoretical strands of macro-economic issues.

Unit- I : Introduction: What Macroeconomists Study, use of models in Macroeconomics, Prices: Flexible Versus Sticky, Microeconomic Thinking and Macroeconomic Models, Measuring the Value of Economic Activity: National Income Accounting, GDP and its nuances, CPI and other price deflators, working with macroeconomic data, The Open Economy

Unit-II : Classical Theory: The Economy in the Long Run, National Income: Where It Comes From and Where It Goes, The Factors of Production, The Production Function, The Supply of Goods and Services, How Is National Income Distributed to the Factors of Production?, Factor Prices, What Brings the Supply and Demand for Goods and Services Into Equilibrium?, Equilibrium in the Market for Goods and Services: The Supply and Demand for the Economy's Output, Equilibrium in the Financial Markets: The Supply and Demand for Loanable Funds, Changes in Saving: The Effects of Fiscal Policy

Unit-III : Money and Inflation: The Types of Money, Quantity Theory of Money, Money Demand Function and the Quantity Equation, Money, Prices and Inflation; Interest Rates: Real and Nominal, The Fisher Effect, Cost of inflation, Hyperinflation

Unit- IV : Unemployment: Job Loss, Job Finding, and the Natural Rate of Unemployment, Public Policy and Frictional Unemployment

Recommended books:

Text Books:

1. Mankiw, N.G. *Macroeconomics*. (Worth), 9th ed

Reference Books:

1. Blanchard, O. *Macroeconomics.* (Prentice Hall)
2. Dornbusch, R., S. Fischer and R. Startz, *Macroeconomics*. (McGraw-Hill)
3. Jones, C. . *Macroeconomics*, 4th ed. W. W. Norton

SSEI- 112: Mathematics for Economics-I

Course Objective:
This course is the first part of a two-course series. The objective of this course is to create a strong foundation of basic mathematical tools and techniques that are essential to understand economic theory at the undergraduate level specifically the courses on microeconomic theory, macroeconomic theory, statistics and econometrics set out in this syllabus.

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Course Learning Outcomes:
Together these two papers enable students to learn mathematical foundations necessary for further study of a variety of disciplines including economics, statistics, computer science, finance and data analytics. It also helps student to become more logical in making or refuting arguments.

Unit-I Number System and Set Theory:
Real numbers, Integers, Rational & Irrational Numbers, Sets and their Representation, Types of Sets, Subset, Venn diagram, Cartesian Product, Application of Sets, Mathematical logic

Unit-II Functions & Relations:
Meaning, Types of functions, Range and Domain, Explicit, Implicit, Inverse functions, Different types of graphs. Limit, Concept of slope, Graphs, Concept of Simultaneous equations

Unit-III Differentiation:
Definition, Derivative of a function, Rules of Differentiation, Differentiation with single variable, Second and Higher order derivatives, Properties

Unit IV: Partial and Total Differentiation
Concept, partial derivative, rules of partial differentiation, second order partial derivative, Differentials and total differentials, total derivative, Implicit function rule

Unit-V Integration
Meaning, Basic rules, Indefinite and Definite integrals, Geometric representation

Unit-VI Matrix Algebra
Types, Matrix operations Addition, Subtraction and Multiplication. Rank of Matrix. Determinants: Matrix inversion, Crammer's Rule. Vector Spaces: algebraic and geometric properties, scalar products, norms, orthogonality; linear transformations

Recommended books:
1. Chiang, Alpha C. (1984). Fundamental Method of Mathematical Economics, Third Edition, McGraw Hill
2. Rosser, Mike. (2003). Basic Mathematics for Economists, Second Edition, Routledge, Taylor & Francis Group
3. Handerson, Quandt. (1980). Microeconomic Theory, A Mathematical Approach, Third Edition, McGraw Hill

SSEI-AE 01 English Language, Communication Skills

Course Objective:

This course aims to provide the foundation in English Grammar, sentence structure, Phonetics or suitable pronunciation required for correct verbal and written communication. Activities such as Group Discussions, Mock Interviews and Power Point Presentations aimed at enhancing skill and confidence in verbal communication are regularly arrangedin class. Expertise at interaction based on active listening is developed. Students study poems, playsor short stories in English Literature to comprehend the subtle nuances of expression and use them in creative writing to enhance the beauty in verbal or written content.

Unit I: Foundation in Grammar and basic writing skills Sentence structure and Parts of Speech, paragraph and essay writing, Precis writing, Formal Letter.

Activity – Enacting or reading out a play with proper stress, pause, modulation and the required tone. Enhancing the finer nuances of verbal communication.

Unit II – Phonetics and Creative Writing Phonetic Transcription: learning correct pronunciation through sound symbols.

Literature – Study of short story, poetry and learning the art of expression through poetry, play and prose.

Recommended books:

Text Books

1. Sylvia Chalker and Edmund Weiner, Oxford Dictionary of English Grammar.
2. Abercrombie,D., Elements of General Phonetics, Edinburg University Press.
3. Austin J. L., How to Do Things with Words, Harvard University Press.

Reference Books

1. The Essential Guide to English Usage, Chancellor Press.
2. Abrams M.H., A Glossary of Literary Terms, Prism Books Pvt Ltd.

SSEI-SE 01 Basics of Computer Applications

Course Objective:
The course is designed to teach students the theoretical and practical approach of information technology with the application of economic theories. It is a two sequential course to be taught in the first and second semester(s) of MSc Integrated Economics.

Course Learning Outcomes:
Students get trained in applications of MS Office software such as MS word, Excel and Power Points. They learn to prepare texts, charts and presentations.

Unit I: Introduction to Computers and Peripherals Basic components of computer – CPU, Input-Output devices, Keyboard, Mouse and Scanner, Video Display, Printers and Plotters, data storage and retrieval, hard disk, floppy disk and CDROM. Type of computers and their applications; Computer networking and resource sharing, hardware, software and firmware.

Unit-2: Word processing concepts, Use of Templates, Working with word document: Editing text, Find and replace text, Formatting, spell check, Autocorrect, Autotext; Bullets and numbering, Tabs, Paragraph Formatting, Indent, Page Formatting, Header and footer, Tables: Inserting, filling and formatting a table; Inserting Pictures and Video; Mail Merge: including linking with Database; Printing documents Creating Business Documents using the above facilities, Basics of presentations: Slides, Fonts, Drawing, Editing; Inserting: Tables, Images, texts, Symbols, Media; Design; Transition; Animation; and Slideshow. Creating Business Presentations using above facilities, Spreadsheet concepts, Managing worksheets; Formatting, Entering data, Editing, and Printing a worksheet; Handling operators in formula, Project involving multiple spreadsheets, Organizing Charts and graphs generally used Spreadsheet functions: Mathematical, Statistical, Financial, Logical, Date and Time, Lookup and reference

Reference Books:

1. Sinha, P.K. , Computer Fundamental, BPB Publications, New Delhi.
2. Rajaraman, V. Fundamentals of Computers, Prentice Hall of India, New Delhi.
3. Parameswaranm R. Computer Applications in Business, S. Chand and Company,New Delhi.

Second Semester

SSEI-120: Foundations of Microeconomics-II

Course Objective:
This course is a sequel to Foundation of Microeconomics I. The emphasis will be on giving conceptual clarity to the student coupled with the use of mathematical tools and reasoning. It covers general equilibrium and welfare, imperfect markets and topics under firm behavior.

Course Learning Outcomes:
Students get conceptual clarity about basic elements of consumer theory, functioning of perfectly competitive market and learn the use of mathematical tools and reasoning for economic analyses.

Unit I: Consumer Theory

Recent Developments, Violation of the premises of Indifference Curve Approach: Satiation and Lexico-graphic ordering, Uncertainty and Risks

Unit II- Market Structure

Perfect Competition, Monopoly and its regulation, Price discrimination, Monopolistic Competition, Oligopoly Theories and Models

Unit III- Game Theory

Game theory: Payoff Matrix, Nash Equilibrium, Mixed Strategies, Mixed Strategies, Games of Coordination, Maximin and Minimax Strategies, Prisoners Dilemma and Oligopoly Theory, Instability of a Cartel, Tit-for-Tat Strategy

Unit IV: Managerial Theories of Firm

Firm and firm's objective- profit maximization, Sales maximization, Maris and Williamson's Model, Satisficing Model

Unit V: General Equilibrium and Economic Efficiency

Partial Equilibrium versus General Equilibrium Approach, Walrasian General Equilibrium System, Edgeworth box, Pareto Optimality, Social Welfare function, Welfare maximization,

Unit VI: Market Failure

Externalities and public goods, Provision of the Public Good, Asymmetric: Market for Lemons, Moral Hazards and Adverse selection

Recommended books:

Text Books:

1. Koutsoyiannis. A, *Modern Micro Economics*, ELBS/ Macmillan
2. John P. Gould, Edward P. Lazear, *Microeconomic Theory*, AITBS Educational Books
3. Hal R. Varian, *Intermediate Microeconomics, A Modern Approach,*

Reference Books:

1. Varian, H. (2000). *Microeconomic Analysis*, W.W. Norton, New York.
2. Handerson and Quandt, *Microeconomic Theory- A Mathematical Approach*, Tata Mc Graw-Hill
3. G S Maddala and Ellen Miller, *Micro Economic Theory and Application*, TataMc Graw- Hill

SSEI-121: Foundations of Macroeconomics-II

Course Objective:

This course is a sequel to Macroeconomics I. In this course, the students are introduced to the long run dynamic issues like growth, demand and supply models and technical progress. It also provides the micro foundations to the various aggregative concepts used in the previous course.

Course Learning Outcomes:

This course enables students to analyse the macroeconomic performance with the understanding of theories of growth and equilibrium. It also allows them to evaluate important macroeconomic policies and their implications

Unit-I Growth Theory: The Economy in the Very Long Run; Capital Accumulation and PopulationGrowth; Golden Rule Level of Capital; Steady State with Population Growth

Unit-II Economic Growth II: Technology, Empirics, and Policy, Technological Progress in theSolow Model; Balanced Growth; Convergence; Beyond the Solow Model: Endogenous Growth Theory; Solow Residual in the Short Run; The Economy in the Short Run with Economic Fluctuations

Unit-III The Model of Aggregate Supply and Aggregate Demand: IS curve, The Keynesian Cross,The Money Market and the LM Curve, the Theory of Liquidity Preference; Aggregate Demand II: Applying the IS–LM Model; The IS–LM Model in the Short Run and Long Run

Unit-IV The Open Economy Revisited: The Mundell–Fleming Model and the Exchange-RateRegime; The Mundell–Fleming Model; the Phillips Curve, Expected Inflation: Adaptive Expectations; The Taylor Rule; Macroeconomic Policy Debates

Recommended books:

Text Books

1. Mankiw, N.G. *Macroeconomics.* (Worth), 9th ed

Reference Books:

2. Blanchard, O. *Macroeconomics*. (Pearson Education)
3. Dornbusch, R., S. Fischer and R. Startz, *Macroeconomics*. (McGraw-Hill)

SSEI-122: Mathematics for Economics -II

Course Objective:
This course is the second part of a compulsory two-course series. This part covers the mathematical tools of optimization, dynamics and financial mathematics that enables the understanding of advanced level economic theories.

Course Learning Outcomes:
The learning of various analytical tools helps students in the advanced study of different disciplines of Economics and applications of these tools for economic forecasting and decision making.

Unit-I Unconstrained Optimization and Constrained Optimization

Concept of Maxima and Minima, local and global optima, unconstrained optimization with single variable, unconstrained optimization with multiple variables, First order and second order condition for maxima and minima, Concept of Convexity and concavity, Quasi convexity and quasi concavity, Equality constraint, Constrained optimization with more than one variable, Constrained optimization with one constraint, Lagrange Multiplier Method, First order and second order condition, Envelope Theorem

Unit -II Linear Programming

General formation of linear programming, graphical method, Simplex method: finding the extreme points, optimal extreme points, duality problem

Unit-III Mathematical Modelling

Concept of a model, types of models, steps for constructing mathematical models, process, application with examples from economic theory

Unit-IV Differential equations

First-Order differential equations with constant term and constant coefficient definition and solution

Unit-V Difference Equation:

First-order difference equations with constant term and constant coefficient definition and solution

Unit- VI Financial Mathematics

Introduction, Simple interest and compound interest, interest rate, investment, time period, net present value, internal rate of return

Recommended books:

1. *Chiang, Alpha C. (1984). Fundamental Method of Mathematical Economics, Third Edition, McGraw Hill*
2. *Rosser, Mike. (2003). Basic Mathematics for Economists, Second Edition, Routledge, Taylor & Francis Group*
3. *Handerson, Quandt. (1980). Microeconomic Theory, A Mathematical Approach, Third Edition, McGraw Hill*

SSEI-AE 02 Environmental Science

Course Objective:
Environmental science is the systematic, scientific study of the environment in combination with living organisms. The emphasis of environmental studies is on a rational approach involving the application of scientific and technical information to understand, conserve and manage the environment and its resources.

Unit I: Introduction definition, Objectives, Scope and Importance of Environmental Studies Segments of Environment: Atmosphere, Hydrosphere, Lithosphere and Biosphere .Need for public awareness

Unit II: Natural Resources Renewable and Non-renewable resources, Forest resources, water resources, mineral resources, Food resources, Energy resources, land resources. Role of an individual in conservation of natural resources

Unit III: Ecology and Ecosystem Introduction and Definition, Structure / Components of Ecosystems, Types of Ecosystems, Functional attributes of an ecosystem Productivity, Food chain relationships, Food Web, Ecological pyramids, Energy flow and Material Cycling

Unit IV: Biodiversity and its Conservation: Introduction and Definition Types of biodiversity**,** Biogeographical classification of India**,** Value of biodiversity, Hot spots of biodiversity**,** Threats to biodiversity, IUCN classification of species**,** Conservation of biodiversity-In-situ and Ex-situ conservation **,** Biosphere Reserves ,National Parks, Wild life Sanctuaries, Zoological Gardens, Botanical GardBanks, Tissue Culture etc.

Unit V: Environmental Pollution: Pollutants ,Types of pollutants, Effects of pollution on the environment, Types of environmental pollution, Air Pollution, Water Pollution ,Soil Pollution, Noise Pollution, Thermal Pollution, Radioactive Pollution ,Solid waste management (Definition, causes
,effects and control of various pollution) Case studies Disaster management : flood, earthquake, cyclone, landslides

Unit VI: Social Issues and the Environment: Sustainable Development**,** Water Conservation and management, Rain water Harvesting, Climate change, Global warming, Acid Rain, Ozone layer depletion**,** Wastelands, wetland and their reclamation**,** Human population and the environment Environmental laws**,** Case studies

Recommended books:

Reference Books:

1. Dhameja ,S.K.(2005).Environmental Studies. Kataria and sons.
2. Kaushik A. & Kaushik C.P.(2010).Basics of Environment and Ecology. New Age InternationalPublishers.
3. Singh. P.(2010).Environment and Ecology . New Age International Publishers.
4. De. A.K.(2002).Environmental Chemistry. New Age International Publishers.

SSEI-SE 01 Applications of Basic Statistical Software (SPSS)

Course Objective:
The course is designed to teach the students theoretical and practical knowledge of software packages used in the field of Economics in order to do analysis of the data.

Course Learning Outcomes:

After completion of the course work, students will be able to do data mining and various types of research (like market research, academic research etc).

Unit I : Basic concepts – Data, data categorization in social sciences (based on its collection, continuity, number of variable , time, origin, characteristics, and measurement scale), methods of data collection, retrieval of secondary data, data base in social sciences, graphical presentation of the data and their usage

and Variable view, Data types, Creating variables in SPSS, export/ Import/ splitting of Data.

Unit II : Application of SPSS in Economic Analysis- Introduction to SPSS, data view/ variable view, export/import of data, creating variables, transforming variables, univariate analysis, bivariate/ multivariate analysis which will includes- cross tabulation, correlation, regression and their usage too, testing of hypothesis using means, Interpretation of SPSS output and Usage of SPSS in data Analysis.

Recommended books:-

1. William E. Wagner : Using IBM SPSS Statistics for Social Statistics and Research Methods, Sage Publication

2. Gaur,S.S & Gaur, A.S. : A guide to Data Analysis using SPSS, Sage Publication

3. G.Norris, F. Qureshi, D.Howitt, D. Cramer : Introduction to Statistics with SPSS for Social Science, Taylor & Francis Ltd

Third Semester

SSEI 210 Development Economics-I

Course Objective:
This is the first part of a two-part course on economic development. The course begins with a discussion of alternative conceptions of development and their justification. It then proceeds to aggregate models of growth and cross-national comparisons of the growth experience that can help evaluate these models.

Course Learning Outcomes:
This course enables students to learn the basics of development economics, and inculcates their in depth understanding of the concepts of development, growth, poverty, inequality, as well as the underlying political institutions.

UNIT I:
Development and Underdevelopment: Poverty and Inequality, Absolute and Relative Poverty, Measurement of Poverty, Functional Impact of Poverty, Inequalities of Income, Measurement of Inequalities of Income, Growth and Inequalities; Development Gap, Growth and Development – Modern View, Concept of Economic Development and Structural Change, Indicators of Economic Welfare. Principles in the measurement of income inequalities and Application of Lorentz curve in comparing income inequalities between nations. Effect of poverty and income inequalities on the growth and development (effect on GDP)

UNIT II:
Theories of Underdevelopment: Vicious Circles of Poverty, Methods to Break the Vicious Circle, The Big Push Theory, Theory of Critical Minimum Effort, The Low Level Equilibrium Trap Theory, Theory of Social Dualism, Theory of Technological Dualism, Lewis's Model, Ranis and Fei Model, Harris-Todaro Model

UNIT III:
Allocation of Resources and Growth Strategies in Developing Countries-Growth Strategy – The strategy of Balanced Growth, The strategy of Unbalanced Growth, Investment Criteria in Developing Countries, Application of Investment Criteria, Choice of Techniques, Private and Social Costs and Benefits, The Concept of Shadow Price, Discounting the Future, Distributional Concerns, Government Regulations, Nature and Scope of Planning - Planning in a Capitalist Economy, Planning in a Socialist Economy, Planning in a Mixed Economy; Democratic, Decentralized and Indicative Planning; Micro level Planning, Plan Models, Totalitarian planning, Planning by inducements

UNIT IV:
International Trade and Development: Trade and Development – Static Gains from Foreign Trade and Dynamic Gains from Foreign Trade, Causes of Deterioration in TOT; Trade Strategy: Export led Growth – Arguments for Inward looking Strategy, Arguments for Outward-looking Strategy, Balance of payment, Tariffs and Elective Protection; Post-GATT International Economic Order and WTO; Globalization and Developing Countries. Inwards led growth. Trade war between U.S and China and its effect on International Trade order and developing nations.

Text Books
Debraj Ray-*Development Economics*, Oxford University Press, Delhi, 1998

Reference Books:

Rodrik, D.- One Economics, Many Recipes: Globalization, Institutions and Economic Growth. Ch. 1: ``Fifty Years of Growth (and lack thereof): An Interpretation". Princeton University Press, 2009
Sen, A. *Development as Freedom*. Oxford University Press, 2000.

SSEI- 211: Statistics-I

Course Objective:
The course is spread over two-parts. The purpose of this course is to acquaint students with the statistical use in the field of Economics.The field of economics depends greatly on the likelihood that something is going to happen.

Course Learning Outcomes
At the end of the course, the student should understand the elementary knowledge of measures of central tendency, measures of dispersion and measures of association between variables. An important learning outcome of the course will be the capacity to analyse statistics in everyday life to distinguish systematic differences among populations from those that result from random sampling.

Unit-I : Introduction to Statistics: Meaning, Characteristics, Importance, Limitations of Statistics Collection of Data, Classification & Tabulation of Data, Diagrammatic & Graphic Presentation of Data.

Unit-II : Measures of Central Tendency: Types of Averages: Arithmetic Mean, Weighted ArithmeticMean, Median, Quartiles, Deciles, Percentiles, Mode, Interrelation between Mean, Median & Mode, Geometric Mean & Harmonic Mean

Unit-III : Measures of Dispersion: Range, Quartiles, Inter quartile Range, Mean Deviation, Standard Deviation, Coefficient of Variation & Lorenz Curve Moments, Skewness & Kurtosis

Unit-IV: Measure of Association between Variables: Correlation Analysis-Meaning & types ofCorrelation, Methods of Correlation- Scatter Diagram, Karl Pearson & Rank Correlation. Regression Analysis: Uses of Regression Analysis, Difference between Regression & Correlation Analysis**.**Regression Equations- X on Y & Y on X, Coefficients of Regression. Difference between Association & Correlation Notation & Terminologies, Consistency of Data, Methods of Association

Recommended books:

Text Books:

1. Gupta, S.P. (2014) Statistical Methods, *Sultan Chand Publishers*, forty fourth ed.
2. Gupta, S.C. & Kapoor V.K. (2011) Fundamentals of Applied statistics, *Sultan ChandPublishers*, fourth ed.

Reference Books:

1. Fundamentals of Mathematical statistics By S.C.Gupta& V.K Kapoor, Sultan ChandPublishers.
2. An Introduction to Mathematical Statistics and its applications- Larsen Richard J, PrenticeHall, 2012
3. Business Statistics by S.P.Gupta & M.P Gupta, by Sultan Chand Publishers.

SSEI 212 Environmental Economics

Course Objective:

This course focuses on theoretical and empirical economic analysis of environmental issues. In particular, economic principles are applied to environmental questions and their management through various economic institutions, economic incentives and other instruments and policies. Economic implications of environmental policy are also addressed as well as valuation of environmental quality, quantification of environmental damages, tools for evaluation of environmental projects such as cost-benefit analysis and environmental impact assessments. Selected topics on international environmental problems are also discussed.

Course Learning Outcomes

With the knowledge of economic concepts of environmental issues , students get equipped in analyzing causes, consequences and economic costs of environmental problems. They also get familiar with a comparative analysis of various countries in addressing the environmental concerns.

Unit-I Introduction: Fundamental concepts in Environmental Economics, The model of supply and demand, Economic criteria for efficiency, Welfare measures Circular flow model and Material Balance Model, Review of microeconomics and welfare economics, Environmental Performance Index

Unit-II Market Failure: Environmental problems- A Market failure, public good, externalities, relationship between public goods and externalities, property rights and the Coase Theorem, Pareto optimality and market failure in the presence of externality, Market instrument used in India

Unit-III Environmental Problems and Environmental Policy Economics of climate change, trade and environment, the market approach- types of market instruments, pollution charges, pigovian taxes, Measuring the benefit of environmental improvement (non – market values and measurement methods, risk assessment and perception

Unit-IV Environment and Sustainable Development: Sustainable development- a Global objective, SDGs in Indian scenario, Environmental Kuznets Curve, International trade and environmental protection, Sustainable development measurement

Recommended books:

Text Books:

1. Thomas and Callan, (2009). *Environmental Economics*, Cengage Learning, India Edition
2. Kolstad, C.D. (1999). *Environmental Economics*, Oxford University Press, New Delhi

Reference Books and Reports

1. Hanley N., J.F. Shogren and B. White (1997). *Environmental Economics in Theory and Practice*,Macmillan.
2. Shankar, U. (Ed.) (2001). *Environmental Economics*, Oxford University Press, New Delhi.

3 .World Bank (1993). *The World Development Report, 1993: Investing in Health*, O.U.P.,New York

SSEI-SE 03 Applications of Basic Statistical Software (STATA)

UNIT I: Stata basics: Documentation, command syntax, do files, log files, globals, locals, loops

UNIT II: Data management: types of data, inputting data, data management (viewing data, missing values, transforming data, saving data), manipulating datasets (ordering, merging, appending)

UNIT III: Graphics: various graph commands, box and whisker plot, histogram, kernel density plot, two way scatter

UNIT IV: Linear regression basics: data description, variable description, summary statistics, Ols regression, specification analysis, prediction, margins.

Readings

Compulsory Text: Cameron, A. C. and P. K. Trivedi (2009). Microeconometrics using stata. Stata press College Station, TX

Fourth Semester

SSEI 220 Development Economics-II

(To be updated)

Course Objective:

This is the second part of a two-part course on economic development. The course begins with a discussion of growth, inequality and poverty with the mixture of theoretical understanding and empirical analysis. It imparts knowledge about the role of institutions in economic development. The course also focuses on sectoral pattern of development in sectors such as agriculture, education and health.

Course Learning Outcomes

This course inculcates the understanding about applied dimensions of economics and economic problems such as poverty and inequality. The study of importance of institutions in economic decision making and determining development outcomes equip students to critically evaluate the role of such institutions.

UNIT I: Inequality, Poverty and Growth

Readings:
Ray: Chapter 7
Population and Economic Development
Janvry and Sadoulet -Chapter 11
Ray: Chapter 9

UNIT II: Poverty and Agriculture

Readings:
Datt, Gaurav and Martin Ravallion, (1998), "Farm Productivity and Rural Poverty in India", Journal of Development Studies, Vol.34, No.4, April, pp.62-85
Land
Readings:
Ray: Chapter 12
Rural Credit Markets and Micro Finance
Ray: Chapter 14 and Chapter 15
Armendariz and Morduch (2005), The Economics of Micro Finance, first Edition, Chapter 2 and Chapter 4

UNIT III: History and Institutions

Acemoglu, Daron., Simon Johnson, and James Robinson. (2001). "Colonial Origins of Comparative Development: An Empirical Investigation," American Economic Review, 91 (5), 1369-1401.
Acemoglu, Johnson, and Robinson, "Reversal of Fortunes: Geography and Institutions in the making of the modern world income distribution" QJE November, 2002

UNIT IV: Education and Health

Janvry and Sadoulet: Chapter 17 (Human Capital: Education and Health)
Conditional Cash Transfer (CCT) Programs and Schooling
Janvry and Sadoulet Chapter 14 (Social-assistance programs)

Suggested Books

1. Debraj Ray-Development Economics, Oxford University Press, Delhi, 1998
2. Alain de Janvry and Elisabeth Sadoulet (JS)-Development Economics: Theory and Practice, Routledge, London, 2016
3. Charles I. Jones, Introduction to Economic Growth, Second Edition, 2001
4. Basu, Kaushik- Analytical Development Economics, MIT Press, 1997
5. Pranab Bardhan and C.Udry -Development Micro Economics, Oxford University Press, 1999

SSEI-221: Statistics-II

Course Objective:

This course is the second part of a compulsory three-course sequence. This part is to be taught in Semester II following the first part in Semester I. The purpose of this course is to acquaint students with the statistical use in the field of Economics. The field of economics depends greatly on the likelihood that something is going to happen

Course Learning Outcomes

At the end of the course, the student should understand the elementary knowledge of probability, sampling, time series analysis and construction of index numbers. An important learning outcome of the course will be the capacity to analyse statistics in everyday life to distinguish systematic differences among populations from those that result from random sampling. It will enable students in their research work in subsequent semesters.

Unit-I Elementary Probability Theory & its Distribution: Meaning, Basic Terminologies, Approaches of Probability, Probability Rules & Laws, Baye's Theorem, Probability Distribution- Normal, Binomial& Poisson Distribution.

Unit II Sampling, Sampling Distribution & Statistical Inference: Principal Steps in a sample survey, Methods of Sampling, Properties of random samples. Standard Error & Sampling Distribution. Defining Hypothesis: Type I & Type II Errors, Power of Hypothesis Test. Estimation of population parameters; properties of estimators, confidence intervals for population parameters. Tests of Significance for Small Samples & Large Samples
(Student's T test, Z test, F Test, Chi- Square, ANOVA-One way & Two Way classification.)

Unit-III Time Series Analysis: Components, Measurement of Trends by Moving Average and the Least Square Method, Shifting the Trend Origin, Conversion of Trend Values.

Unit-IV Index Numbers: Meaning, Methods of Index number calculation: Laspeyres' Paasches' Dorbish&Bowley, Fisher's , Marshall Edge worth, Kelly Methods, Chain Index Number, Base Shifting, Consumer Price Index & Wholesale Price Index**.** Test for Perfection-Factor Reversal test, Time reversal test, and Circular test.

Recommended books:

Text Books:

1. Gupta, S.P. (2014) Statistical Methods, *Sultan Chand Publishers*, forty fourth ed.
2. Gupta, S.C. & Kapoor V.K. (2011) Fundamentals of Applied statistics, *Sultan ChandPublishers*, fourth ed.

Reference Books:

1. Fundamentals of Mathematical statistics By S.C.Gupta& V.K Kapoor, Sultan ChandPublishers.
2. An Introduction to Mathematical Statistics and its applications- Larsen Richard J, PrenticeHall, 2012
3. Business Statistics by S.P. Gupta & M.P Gupta, by Sultan Chand Publishers.

SSEI 222 Public Economics

Course Objective :

Public Economics is the study of government policy from the points of view of economic efficiency and equity. The course is designed to equip students in broad arenas of public finance and some other selected topics in public sector economics. An emphasis of the course is also on impact analysis of impact of public policies on resource allocation and distribution in the economy

Course Learning Outcomes

At the end of the course, the students should be able to demonstrate their understanding of the public economics. Student will be required to deal with simple algebra problems that will help them to better understand these concepts, use diagrammatic analysis to demonstrate and compare the economic welfare effects of various environmental policy options, demonstrate their understanding of the usefulness and problems related to taxation and government expenditure, and demonstrate their critical understanding of public policies

Unit-I The Economic Basis of Government Activity and Public Economics: Market Failure, information and the role of the Government, Fundamental Theorems of Welfare Economics, Pareto Optimality

Unit-II Markets: Exchange Economy, Edge worth Box, Competitive Equilibrium, Utility Functions, Marginal Rate of Substitution, Pareto Optimal Allocations and Competitive Equilibrium. Production Economy: Pareto Optimality, Competitive Equilibrium with examples, Production Efficiency

Unit-III Surplus & Externalities: Consumer and Producer Surplus, Welfare Cost of Intervention, Market Interactions, Externalities and Negotiation, Negotiated Compensation, Negotiation limits, Government Intervention

Unit-IV Permit Trading, Common Property Resources & Co-ordination Failures: Environmental Pollution and Abatement, Direct Emissions Controls; Renewable Common Property Resources, Static and Dynamic Common Property Problem, Extinction; Co-ordination Game, Co- ordination Game with Uncertainty

Recommended books:

Text Books:

1. John Leach , (2004) A Course in Public Economics , Cambridge University Press

Reference Books

1. Bowers, P.F. (1974): Private Choice and Public Welfare, Dryden Press, NY.
2. Buiter, W.H. (1990): Principles of Budget and Fiscal Policy, MIT Press.
3. Musgrave, Richard A. (1959): The Theory of Public Finance, Tata McGraw Hill, N.Y.
4. Mishra, B. (2006): Economics of Taxation: Theory and Application, AkanshaPublishing House, ND.
5. Prest, A.R. (1975): Public Finance in Theory and Practice, Weidenfeld and Nicholson,London.

Fifth Semester

SSEI 310 Econometrics I

Course Objective:
This course provides a comprehensive introduction to basic econometric concepts and techniques. Itcovers estimation and diagnostic testing of simple and multiple regression models, and prepares students for more advanced optional courses in econometrics.

Course Learning Outcomes
The course prepares students to apply linear models using ordinary least squares and make inferences about population parameters.

Unit-I Introduction: Nature, Meaning and Scope of Econometrics, Distinction between Economics and Econometrics, Statistics and Econometrics, Mathematics and Econometrics, Stages of Econometric Research

Unit-II Review of Statistics: Probability, Sampling and sampling distribution, Estimation of parameters, testing of hypotheses

Unit-III Classical Linear Regression Model: Two variable case: Concepts and assumptions, Two variable linear regression model: estimation through OLS, Properties of Least Square Estimation

Unit-IV Multiple Linear Regression Model: Concepts and assumptions, Multiple variable regression- Matrix Approach, Functional forms of regression models, concept of dummy variables, non-linear regression models

Recommended books:

Text Books:

1. Gujarati, D.N. (1995). *Basic Econometrics* (2ndEdn.). McGraw Hill, New Delhi.
2. Johnston, J. (1991). *Econometric Methods* (3rdEdn.). McGraw Hill, London.

Reference Books

1. Koutsoyiannis, A. (1977). *Theory of Econometrics* (2ndEdn.). The Macmillan Press Ltd.,London.
2. Pindyek, R.S. and D.L. Rubinfield (1976). *Econometric Models and Economic Forecasts*;McGraw

SSEI 311 Indian Economy I

Course Objective:
Using appropriate analytical frameworks, this course reviews major trends in economic indicators and policy debates in India in the post-Independence period, with particular emphasis on paradigm shifts and turning points.

Course Learning Outcomes

This course enriches the understanding of a student about the development paradigm adopted in India since independence and evaluate its impact on economic as well as social indicators of progress and wellbeing.

Unit-I Economic Development since Independence Major features of the Indian Economy at Independence; Growth and Development of Economy since Independence

Unit-II Population and Economic Development Demographic trends and issues, Education, Healthand Malnutrition

Unit-III Growth and Distribution Trends in poverty, inequality and unemployment

b. Policies for eradicating poverty and generating employment

Unit-IV Policies and Performance in Agriculture
Growth; productivity; agrarian structure and technology; capital formation; trade; Green revolution

Reference Book:

1. Dhingra, Ishwar C. (2005); *The Indian Economy: Environment and Policy*, Sultan Chand andSons, New Delhi
2. Datt, Ruddar and Sunderam, K.P.M. (2005); *Indian Economy*, S. Chand & Co., New Delhi
3. Mishra, S.K. & Puri, V.K.; *Indian Economy*, Himalaya Publishing House, Delhi (LatestVersion)

SSEI- 312 International Economics-I

Course Objective:

The course provides a broad understanding on the application of microeconomic and macroeconomic tools in the International Economic Theory. This course covers various theories which tend to govern the free flow of trade in goods, services and capital at global level.

Course Learning Outcomes

With the completion of this course, students would be able to:

- ✓ Understand how real world events lead to economic and financial crises in emerging markets.
- ✓ Analyse the gains from International trade and from restricting trade.
- ✓ Explain how various factors like reciprocal demand, factor endowment, technology, economic growth etc.affect nation's Terms of Trade.

Unit -I Introduction: Discussion on subject matter of International Economics, Current International Economics Problems, Looking at the Bigger Picture-How Important is Trade or Why should we care about International Trade?
Analytical Tools-Production Possibility Curve(PPC),Community Indifference Curve(CIC), Iso-Quant &Iso-Cost(IQ &IC) Curves, Offer Curve(OC)

Unit –II Basic Models of Trade: Explaining who sells to whom and why?Theory of absolute advantage Difference in Technique-The Ricardian Trade Model (Theory of comparative advantage and opportunity costs) Difference in Endowment- The Heckscher- Ohlin (H-O) Model, Empirical Testing of H-O Model-Leontief Paradox, Factor Intensity Reversal (FIR), Gains from Trade - Measurement of gains from trade.

Unit –III Concept of Terms of Trade and Factors affecting Terms of Trade, Hypothesis of Secular Deterioration of Terms of Trade, Trade as an Engine of Economic Growth

Unit –IV Meaning and Components of Balance of Payments, Equilibrium and disequilibrium in the Balance of Payments, Causes of disequilibrium in the Balance of Payments and Measures to correct adverse Balance of Payments.

Text Books:

1. Salvatore.D.: International Economics,8/e,Willey publication.
2. Kugman.P, Obstfeld M, Melitz,M : International Economics Theory and Practice, 10/e, Pearson.

Reference Books:

1. Chacoliadas: International Trade, Theory and Policy, Mc.Graw Hills
2. Deepak Nayyar: Trade and Industrialisation, Oxford University Press
3. Soderston, B.: International Economics, TheMcmillan Press Ltd. London
4. Cherunilam: International Economics, Tata McGraw Hill,5th edition

Sixth Semester

SSEI 320 Econometrics II

Course Objective:

This course covers the nature, consequences, tests and remedies for violations of classical assumptions and the consequence for misspecification of regression models. It also introduces simultaneous model building and some basic applications of least square method.

Course Learning Outcomes

The course prepares students understand theoretical basis and applications of linear models in empirical research using ordinary least squares in a wide range of problems and make analysis. It also prepares them to treat various sampling and non-sampling errors and selection biases of variables while applying OLS.

Unit-I Violations of Classical Assumptions and Remedies: Problems of heteroscedasticity, autocorrelation and multicollinearity: Nature, test, consequences and remedial measures

Unit-II Specification Analysis: Types of specification errors, consequences of model specification errors, tests and errors of measurement, incorrect specification of the stochastic error term, Model selection criteria

Unit-III Simultaneous Equation Models: Introduction- structural form, reduced form, recursive formand final form model. The simultaneous equation bias and inconsistency of OLS estimators, The identification problem- order and rank conditions of identification

Unit IV: Simple Application of Least Squares Recursive models and Ordinary Least Squares, ILS, 2SLS, 3SLS

Recommended books:

Text Books:

1. Gujarati, D.N. (1995). *Basic Econometrics* (2ndEdn.). McGraw Hill, New Delhi.
2. Johnston, J. (1991). *Econometric Methods* (3rdEdn.). McGraw Hill, London.

Reference Books

1. Koutsoyiannis, A. (1977). *Theory of Econometrics* (2ndEdn.). The Macmillan Press Ltd.,London.
2. Pindyek, R.S. and D.L. Rubinfield (1976). *Econometric Models and Economic Forecasts*;McGraw

SSEI-321: International Economics-II

Course Objective:

The course includes some of the concepts like Balance of Payments, Adjustment process, Commercial Policies and Restrictions, Exchange rate determination and Economic Integration etc. Using microeconomic and macroeconomic foundations, this course discusses the main tools of macroeconomic policy (monetary and fiscal policy) along with trade policy and their role in stabilizing the economy internally and externally.

Course Learning Outcomes

With the completion of this course, students would be able to:

- ✓ Understand international trade patterns and can examine trade policies in global conflict and stabilization.
- ✓ Objectively analyze the role of Economics on both national and international issues.
- ✓ Evaluate how larger Economic forces that shape production, trade flows, capital flows, interest rates, exchange rates etc, create global economic landscape.
- ✓ Apply their knowledge in wide variety of global issues ranging from International policy to Regional Economies and more.

UNIT-I Commercial Policies of Trade: Tariffs- Effects of tariffs under partial and general equilibrium perspective, Optimum tariffs - Tariffs retaliation - Tariff and welfare, Import Quotas - Dumping -Tariffs and non-tariff constrains- Free trade and protection

UNIT-II Economic Integration: Trade-Creating Customs Unions, Trade-Diverting Custom Unions Theory of the Second Best, Other Static and Dynamic Welfare Effects of Customs Unions

UNIT-III Foreign Exchange rate policy: Fixed Exchanges & Flexible Exchanges, Exchange rate determination -Mint Parity Theory, Purchasing Power Parity Theory-Absolute and Relative Version, Balance of payment Theory

UNIT-IV Balance of Payment and Macroeconomic Adjustment Mechanism: Theories of Balance of Payment- The Elasticity approach- The Marshall- Lerner Mechanism, The Absorption approach- The Monetary approach- Foreign trade multiplier, Adjustment theory-Exchange depreciation and devaluation - Internal and External balance through Expenditure Changing and Expenditure Switching policies, Swan Model.

Text Books:

1. Salvatore.D.: International Economics,8/e,Willey publication.
2. Kugman.P, Obstfeld M, Melitz,M : International Economics Theory and Practice, 10/e, Pearson.

Reference Books:

3. Chacoliadas: International Trade, Theory and Policy, Mc.Graw Hills
4. Deepak Nayyar: Trade and Industrialisation, Oxford University Press
5. Soderston, B.: International Economics, TheMcmillan Press Ltd. London
6. Cherunilam: International Economics, Tata McGraw Hill,5th edition

SSEI-322: Mathematical Economics

Course Objective:

This course will give the learner an overview of the different mathematical techniques that are used to solve economic problems. The course aims to impart scientific, logical and critical thinking and help learners in taking economic decisions.

Course Learning Outcomes

Students are trained in the applications of various mathematical formulations for explaining economic problems and decision making.

Unit-I Number System, Set Theory and Function: Number system, Set Theory, Linear and non- linear functions, convexity and concavity, building models, application in economic theory

Unit II Matrices: Operations and Applications: Elementary mathematical operation with matrices,Rank of the matrix, matrix inversion, Application of matrices to the Market Model and National Income Model, Input-Output Analysis

Unit-III Differentiation and Integration: Rules of Differentiation; Maxima and Minima - unconstrained and constrained, Linear Programming: Basic concept; Formulation of a LP problem; Nature of feasible, basic and optimal solutions; Solution of a LP problem through graphical method; Formulation of the Dual and Its interpretation; Rules of integration, Indefinite and Definite Integrals; Applications in Economic Theory.

Unit –IV Difference and Differential Equations: Differential Equations: Definitions and concepts; Solution of First order and Second order differential equations, Applications of differential equations in Economics. Difference Equations: Definitions and concepts; Solution of First order and Second order difference equations, Applications of difference equations in Economics.

Recommended Books:

Text Books:

1. Chiang, A.C. (1974). Fundamental Methods of Mathematical Economics, McGrawHill
2. Handerson and Quandt, Microeconomic Theory- A Mathematical Approach, Tata McGraw-Hill

Reference Books:

1. Bez, K. (1983). An Introduction to Input Output Techniques, N.B.T., Goel PublishingHouse, Meerut.
2. Handry, A.T. (1999). Operation Research, Prentice Hall of India, New Delhi.
3. Taha, H.A. (1997). Operation Research: An Introduction (6th Edn.). Prentice Hall of IndiaPvt.Ltd., New Delhi

Seventh Semester

SSEI-410 Advanced Microeconomics

Course Objective:
This course is designed to expose the students to the advanced principles of microeconomic theory. The main emphasis will be given on thinking like an economist and the course will elaborate how microeconomic concepts and theories can be applied to analyze real-life situations. The course provides a detail explanation of some of the more advanced topics like the notion of general equilibrium, efficiency and optimality from a society's point of view and a brief discussion of welfare approaches.

Course Learning Outcomes
With the completion of this course, students would be able to

- ✓ Determine the interrelationship between product price and factor price in different market situations.
- ✓ Understand the advanced managerial models based on the goals of sales maximisation, growth maximisation and other topics related to Efficiency and Optimality from a society's point of view.
- ✓ Evaluate general equilibrium analysis in analyzing the behaviour of multiple markets simultaneously, and how a change in one affects the other.
- ✓ Apply their knowledge in wide variety of microcosmic issues ranging from factor pricing to social welfare.

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UNIT-I Factor Pricing: Theories of Distribution: Neo–classical approach - marginal productivity theory; Some additional topics on factor pricing and Income distribution-The Adding-up problem: 'Product Exhaustion' Theorems-Euler's Theorem & Clark-Wicksteed-Walras Theorem

UNIT-II Managerial Theory of the Firm: Managerial Theory of the Firm-Boumol's theory of Sales Maximisation with and without Advertising Cost, Marris's Model of the Managerial Enterprise and Williamson's Model of Managerial Discretion

UNIT-III General Equilibrium and Welfare: The Walrasian System; Existence, Uniqueness and Stability of an Equilibrium

Welfare Economics. Pigouvian welfare, Pareto Optimality, Kaldor-Hicks Compensation Criterion, Scitovsky Double Criterion, Social Welfare Function and Maximisation of Social Welfare

UNIT-IV Market Failure: Monopoly power, Externalities in Production and Consumption, Public goods Vs Private goods, Free Rider Problem Coase Theorem, Asymmetric Information: The Market for Lemons and Adverse Selection

Reference Books:

1. Case, Karl E., Ray C. Fair and Sharon E. Oster (2013) ***Principles of Economics***, (11th Edition), Prentice Hall of India, New Delhi
2. Koutsoyiannis, A. (1990) ***Modern Microeconomics***, Macmillan Press Ltd., London
3. Salvatore, D ***Principles of Microeconomics*** (5th Edition) Oxford University Press, New Delhi
4. Layard, P.R.G. and A. W. Walters (1978) ***Microeconomic Theory***, McGraw Hill, New York
5. Lipsey, R.G. and K.A. Chrystal (2004) ***Principles of Economics***, (9th Edition), Oxford University Press, New Delhi
6. Perloff, Jeffrey M. (2001) ***Micro Economics***, Addison Wesley Longman Pvt. Ltd., New Delhi
7. Sen, A. (1999) ***Microeconomics Theory and Applications***, Oxford University Press, New Delhi
8. Stigler, G. (1996) ***Theory of Price***, (4th Edition), Prentice Hall of India, New Delhi

SSEI 411: Advanced Econometrics

Course Learning Outcomes

Students will learn the theoretical basis for techniques widely used in empirical research and consider their application in a wide range of problems

Unit-I Review of Elementary Econometrics: Two variable and multiple variable linear regression model, Generalized least square, Problems of heteroscedasticity, autocorrelation and multicollinearity,Estimation of non-linear equations

Unit-II Regression with Qualitative Variables and Other Techniques: Dummy variable, Regression with dummy dependent variables, LPM, Logit, Probit and Tobit models

Unit-III Dynamic Econometric Model: Autoregressive and distributed lag models, Koyck's approach, partial adjustment and adaptive expectations model, instrumental variables, Error correlation mechanism

Unit-IV Applications of Single Equation Models: Application of single equation technique in demand analysis, Estimation of demand functions under different conditions, Estimation of consumption function, Cross section and time series, Estimation of Production functions: Cobb Douglas & C.E.S.

Recommended Books:
Text Books:

1. Gujarati, D.N. (1995). *Basic Econometrics* (2nd Edn.). McGraw Hill, New Delhi.
2. Johnston, J. (1991). *Econometric Methods* (3rd Edn.). McGraw Hill, London.

Reference Books

1. Koutsoyiannis, A. (1977). *Theory of Econometrics* (2nd Edn.). The Macmillan Press Ltd.,London.
2. Pindyek, R.S. and D.L. Rubinfield (1976). *Econometric Models and Economic Forecasts*;McGraw

SSEI 412: Advanced Statistics for Economics (To be updated)

Course Outcome:

SSEI-413: Research Methodology

Course Objective:

This course enables the students in developing the appropriate methodology for their research studies;and also makes them familiar with the art of using different research methods and techniques.

Course Learning Outcomes

After the completion of the course, students learn undertaking scientific research in the field of economics

Unit-I Research: Meaning, Objectives, Importance; Research Methods and Methodology Research Problem, Research Process; Research Design: Meaning, Importance and Types; Steps in Research Design; Features of a Good Research Design

Unit-II Sampling: Meaning, Methods, Merits & limitations; Census and Sample method, Characteristics of a good sample; Sample size, its determination, and Sampling and Non Sampling errors; Steps involved in Developing Sampling design.

Unit-III Measurement and Scaling: Measurement in Research, Measurement scales, Source of errorin measurement scales; Hypothesis: Meaning Procedure of Hypothesis testing; Tests of significance for small & large samples t, f, z test; Chi square: Meaning, Steps involved and its uses; Analysis of variance: meaning & Techniques of Analysis of variances

Unit-IV Report Writing: Significance, types, steps involved, Outline of a research report; Mechanics of a Report writing and precautions to be taken in Report writing; Different Referencing Style

Recommended Books:

Text Book:

1. Research Methodology in Applied Econometrics: Don Ethridge, 2/e

Reference Books:

1. Research Methodology: Methods and Techniques, C.R. Kothari, New Age International, NewDelhi
2. Business Research Methods, Donald R Cooper, McGraw Hill, New Delhi
3. Statistical Methods, Dr. S.P.Gupta, Sultan Chand & sons, New Delhi
4. Research Methodology, Cauvery. R Sudhanayak U.K, Girija.M and Meenakshi. R.S. Chand& Company ltd., New Delhi
5. Statistics for Management, Levin and Rubin, Asian Publishing House, New Delhi

Eighth Semester

SSEI-420: Advanced Macroeconomics

Course Objective:

The purpose of teaching Macroeconomics is to acquaint students with the broad paradigms of Macroeconomic Theory with a focus on contemporary models and provide an exposure to international perspectives.

Unit-I Aggregate Demand and Aggregate Supply: Introduction to aggregate demand and Aggregate supply , Wages price and unemployment & Phillips curve analysis .Equilibrium output, consumption function and multiplier .

Unit-II Equilibrium in the Economy: IS-LM model- money interest and income, Open economy, Balance of payment, Mundell- Fleming model (Exchange rate, types, determinationunder fixed and flexible exchange rate)

Unit-III Economic Growth Theories: Neo- classical growth theory model [exogenous growth theory] Endogenous growth theory model –[investment in Human capital] and policy implications ofNew growth theory.

Unit-IV Policy Issue: Economic policies -- Monetary and Fiscal and their effect on the equilibrium output—Expectations and reactions .

Recommended Books:

Text Books:

1. Rudiger Dornbusch, Stanley Fischer and Richard Startz; “Macroeconomics”, Tata McGraw-Hill, Ninth Edition
2. H.L.Ahuja; “ MACROECONOMICS [Theory and Policy] S.Chand & COMPANYPVT.LTD. Latest Edition
3. Mankiw, N.G. Macroeconomics (Worth) most recent edition

Reference Books:

1. Carl E. Walsh, Monetary Theory and Policy (3nd ed., MIT Press, 2010).
2. David Romer, Advanced Macroeconomics (3rd ed.)
3. Dejong, D. N. and C. Dave, Structural macroeconometrics, Princeton Univ. Press 2007

SSEI-421 Operation Research

Course Outcome:
This course is designed to elaborate the topics related to application of economics and industrial field to build the capability of solving quantitative real life problem to obtain the right and optimum solution.

Unit-I Introduction

Definition, role of operation research in decision-making, application in industry, Concept on O.R. model building-Types & Methods

Unit-II Linear Programming and Advanced Topic of LP

Overview of Linear programming-solution-Graphical and Simplex methods, BIG-M methods computational problems, duality, primal-dual relations-its solution, non-linear programming, Kuhn- Tucker conditions

Unit-III Deterministic Model

Transportation problem- balanced & unbalanced, North-West Corner method, Vogel's Approximationmethod, Least-cost Method, Assignment problem

Unit-IV Queuing Theory and Project Management

Introduction to queuing theory, features of queuing system, Introduction to project management, Network diagram, activity, PERT & CPM, float in network, Introduction to decision theory, decisionmaking with utilities, problems.

Recommended Books:
Text Books:

1. Operation Research-TAHA, PHI, New Delhi.
2. Principles of Operation Research- Ackoff, Churchaman, arnoff, Oxford IBH, Delhi.

Reference Books:

1. Operation Research-Gupta & Sharma, National publishers, New Delhi.
2. Quantitative Techniques- Vohra,TMH, New Delhi.
3. Principles of Operation Research (With Applications to Managerial Decisions)- H.M.Wagher, Prentice Hall of India, New Delhi.
4. Operation Research-Sharma & Gupta, Wiley Eastern, New Delhi.
5. Operation Research-Phillips, Revindran, Solgeberg, Wiley ISE

Detailed Syllabus of Elective Courses

Third Semester
(Choose one elective course)

SSEI DSE-01 History of Economic Thought

Course Outcome:
The course is designed to familiarize the students about the gradual encroachment of economic ideas and theories since the 16th century. It provides an understanding of how the economic theories evolved in their historical context and how they influenced the modern economic theories in later years.

Unit-I Mercantilists and Physiocrats: Historical forces that led to the birth of these schools of thought, their salient features and policies, their influence on economics in subsequent time period

Unit-II Adam Smith and Birth of Economics: Chief contributions; Division of labor and capital; Free Trade; Theory of value: unit cost; Wages; Profits; Rent, The Invisible Hand, Malthus's theory of population; Chief contributions of Ricardo.

Unit-III Karl Marx and Socialism: Characteristics of Marxism, Dialectical Materialism, Theory of Capitalism, Class Struggle, Labour theory of value, Exploitation

Unit-IV John Maynard Keynes and Milton Friedman: Keynes vs Classicals, Consumption function, Effective Demand; The Multiplier, The Demand for Money, Milton Friedman chief contributions

Recommended books:

Reference Books:

1. Blaug, M. (1988); Economic Theory in Retrospect, Cambridge University Press, Cambridge
2. Eakelund, R.B. and R. Rebert (1983); A History of Economic Theory and Method, McGrawHill, New York

SSEI-DSE-02 Regional Development and Regional Economics with Special Emphasis on Uttarakhand

Course Objective :

This course provides a framework within which the spatial dimension of economic issues pertaining to the development of Uttarakhand State may be understood.

Course Learning Outcomes

After completion of this course, students will be able to:

- ✓ Understand the behavior of economy at regional level.
- ✓ Analyze the disparity in Economic Development at the sub-national level.
- ✓ Comprehend, assess and analyze the issues and problems of a region in an economic context.
- ✓ Develop the logic that determines the localization of productive activities.

UNIT-I Regional Planning and Development: Meaning and importance of regional planning, Small state and regional planning
Uttarakhand Economy and Regional Planning: .Resources in Uttarakhand- Water and land resources, Energy, Hydro-potential in Uttarakhand, Natural and Geographical features which affect regional economy and planning of Uttarakhand, Planning Process and Problems in Uttarakhand: An evaluation, Other relevant issues such as Migration and Environment in Uttarakhand,

UNIT-II Demographic Features of Uttarakhand State: Population size and growth, Sex ratio, Population density, Urbanization, Literacy, Mortality and life Expectancy, Fertility, Age structure, Religious Composition, Current debate on Demographic Dividend in India and population structure in Uttarakhand,
Poverty, Inequality and Employment in Uttarakhand: Trends and Structure of GDP of Uttarakhand, Budgetary allocation to different sectors and thrust areas of the budget, Changing structure of income in Uttarakhand, Trends and patterns of poverty in Uttarakhand, Rural poverty, Urban poverty, Policy implications, Worker population ratio, Growth and Structure of Employment

UNIT-III Agricultural Growth, Productivity Trends and Crop Patterns: Agriculture sector in Uttarakhand, Share and growth rate of agriculture sector in Uttarakhand, Trends in the Area, Production and Yield of the major crops, Land use and Cropping pattern in Uttarakhand, Factors affecting agricultural performance in Uttarakhand, Irrigation, Role of Women in Uttarakhand economy
Agriculture and Agriculture based Economic Activities : Commercial crops, Dairy Farming, Agro based Cottage Industry and Small Scale industry, Food processing and Agro Industries in Uttarakhand.

UNIT-IV Industrial Sector in Uttarakhand: The industrial scene at the time of creation of the state, Extent and pattern of industrialization in Uttarakhand, Productivity trends in the manufacturing sector, Recent policy initiatives, Micro and small enterprises (MSEs), Public Sector Enterprises (PSUs), Challenges and Outlook
Tourism in Uttarakhand -Role of Tourism in Uttarakhand economy, Tourism policies in Uttarakhand, Tourism based Small Scale industry in Uttarakhand, Employment potential of Tourism in Uttarakhand,

References Books:

1. Vision 2030 Document published by DES, GoUK
2. Uttarakhand Human Development Report , published by DES, GoUK
3. Uttarakhand Development Report, published by Academic Foundation under arrangement with Planning Commission, GoI, New Delhi, Paper Back Book (8½" x 11") : Pages : 516, 2009 Edition:ISBN - 978-81-7188-776-7
4. GIZ and Doon University, Uttarakhand: Diagnostic Study of Building a Mountain Stat, published in 2000-2010.

SSEI DSE-03 Banking and Monetary Economics

Course Objective:

This course mainly covers the monetary part in good detail which includes modern theories of money, banking and recent developments in the analysis of monetary policy.

Course Learning Outcomes

After completion of this course, students will be able to

- ✓ explore theory and functioning of the monetary and financial sectors of the economy
- ✓ look at some key issues of financial markets, monetary policy and banking
- ✓ Analyze and evaluate the effect of their interaction in the real world.

UNIT-I Introduction: Evolution & Functions of Money, Circular Flow of money, Role of Money in Capitalistic, Socialistic & Mixed Economy**, Classical Theory of Money:** Say's Law and Walras' Law; Classical dichotomy and the neutrality of money

UNIT-II Demand for Money: Theories of Demand for Money – Fisher and Cambridge versions, Approaches of Keynesian, Friedman, Patinkin, Baumol, Tobin.,Pigou Effect and Real Balance Effect.

UNIT-III Components of Money Supply: Supply of Money, Determinants of money supply, High – powered money, Money multiplier**, Role, constituents and functions of money and capital markets:** RBI – recent monetary and credit policies, Commercial banks and Co–Operative Banks, Specialized financial and investment institutions, Non–Bank Financial Institutions and Regional Rural Banks.

UNIT-IV Monetary Policy: Goals, targets, indicators and the transmission mechanism; instruments of monetary policy, **Monetary Management in An Open Economy:** International capital markets, portfolio diversification; the International Monetary System; Monetary Policy in India' s Open Economy; Financial Sector Reforms in India. The Narasimham Committee Report.

Reference Books:

1. Carl Walsh, "Monetary theory & Policy", 4/e, The MIT Press
2. M.K. Lewis & Paul Mizen, " Monetary Economics", Oxford University Press.
3. T.N Hajela Money Banking & Public finance, 8/e, Ane Books India, 2009
4. S. Frederic Mishkin, "Monetary Policy Strategy", MIT Press..
5. M.R. Baye, D.W. Jansen (1996), Money Banking and Financial Markets, AITBS, (Indian Edition) R.B.I. Bulletin, Annual Report; Report on Currency and Finance
6. Y.V. Reddy (2000), "Monetary and Financial Sector Reforms in India" , UBSPD, New Delhi
7. Various latest issues of R.B.I. Bulletins, Annual Reports, Reports on Currency and Finance and Reports of the Working Group, IMF Staff Papers.

Fourth Semester
(Choose one elective course)

SSEI DSE-04 Gender Economics- Women and The Economy

Course Objective:

Gender biases in societal practices and development policies have resulted in persistent gender inequalities. It is increasingly being realized that mitigating such inequalities and enhancing women's capabilities and entitlements are crucial to the overall development of the country. This course would provide students an understanding of the nature of the economic role of women and their contribution to the national economy.

Course Learning Outcomes

After completion of this course, students will be able to

- ✓ Understand the key issues related to women's welfare, development and empowerment at the theoretical level and also with regard to specificity of issues prevailing in the Indian context.
- ✓ Analyze gender specific inclusive economic growth through equal endowments and economic participation for women.
- ✓ Explore alternative gender specific economic theories and apply these theories in the real world.

UNIT-I Economics and Gender Bias: Feminist criticism of development indices (Gary Becker); Theories of Gender inequality: Biological and Structural; Theories of Gender inequality: Feminist; Feminist reading of Economic Laws: Marginal Productivity Theory and Laws of Maximization.

UNIT-II Women: Demographic Aspect: Demography of female population: Age structure, Mortality rates and Sex ratio; Causes of declining sex ratios and fertility rates in LDCs with special reference to India; Theories and measurement of fertility and its control; Gender and population control policy with special reference to India.

UNIT-III Women and Labour Markets: Factors affecting female entry in labour market**;** Female work participation in agriculture and non-agricultural activities (with reference to India)**;** Wage differentials in female activities**;** Determinants of wage differentials: gender, education, skill, productivity, efficiency.

UNIT-IV Gender Planning, Development Policies and Governance: Mainstreaming gender into development policies; Gender Planning techniques and gender sensitive governance; Paradigm shifts from women's well-being to women's empowerment; Democratic decentralization and women's empowerment in India.

Reference Books and Research Papers:

1. Amsden, A.H. (ed.). (1980). *The Economics of Women and Work*, Penguin, Harmondswosrth.
2. Boserup, E. (1970). *Women's Role in Economic Development*, George Allen and Unwin, London.
3. Carr, M.C. Matha and R. Jhabvala (eds.) (1997).*Speaking Out: Women's Economic Empowerment in South Asia*, Vistaar Publications, New Delhi.
4. Kalpagam, U. (1994). *Labour and Gender: Survival in Urban India*, Sage Publications, New Delhi.
5. Krishnaraj, M., R.M. Sudarshan and A. Shariff (1999).*Gender, Population and Development*, Oxford University Press, New Delhi.
6. Mitra, A. (1979). *Implications of Declining Sex Ratio in India's Population*, Allied, New Delhi.
7. Papola, T.S. and A.N. Sharma (eds.) (1999).*Gender and Employment in India*, Vikas Publishing House, New Delhi.

8. Seth, M. (2000).*Women and Development: The Indian Experience*, Sage Publications, New Delhi.
9. Government of India (1974).*Towards Equality - Report of the Committee on the Status of Women in India*, Department of Social Welfare, Ministry of Education and Social Welfare, New Delhi.
10. ILO (1978).*Women's Participation in the Economic Activity of Asian Countries*, ILO, Geneva.
11. MHRD, Government of India, (1987). *Shram Shakti: Report of the National Commission on Self-Employed Women and Women Workers in the Informal Sector*, Ministry of Human Resource Development, New Delhi.
12. Narasimhan, S. (1999).*Empowering Women: An Alternative Strategy from Rural India*, Sage Publications, New Delhi.
13. Papola, T.S. and A.N. Sharma (eds.) (1999).*Gender and Employment in India*, Vikas, New Delhi.

SSEI DSE-05 Entrepreneurship Development

To be updated

SSEI DSE-06 Economics of Education and Health

Course Outcome:

The importance of education and health in improving well- being is reflected in their inclusion among the Millennium Development Goals and later in Sustainable Development Goals adopted by the United Nations member states , which include among other goals , achieving universal primary education , reducing child mortality , improving maternal health and combating diseases. This course provides a microeconomic framework to analyze, among other things, individual choice in the demand for health and education, government intervention and aspects of inequity and discrimination in both sectors. It also gives an overview of health and education in India.

Unit 1

State and Scope of Health Economics. Normative economics and health. Role of Health and Education in Human Development (Importance in poverty alleviation, health and education outcomes and their relationship with macroeconomics performance).

Unit 2

Microeconomic Foundations of Health Economics (Demand for health, uncertainty and health insurance market, alternative insurance mechanisms, market failure and rationale for public intervention,equity and inequality). Evaluation of Health Programs (Costing cost effectiveness and cost- benefit analysis, burden of disease).

Unit 3

Health Sector in India: An Overview (Health outcomes, health systems, health financing).

Unit 4

Education: Investment in Human Capital (Rate of return to education: private and social, quality of education, signalling or human capital, theories of discrimination, gender and caste discrimination in India).Education Sector in India: An Overview (Literacy rates, school participation, school quality measures)

Readings:

1. William, Jack, Principles of Health Economics for Developing Countries, World Bank Institute Development Studies, 1999.

2. World Development Report, Investing in Health, The World Bank, 1993.

3. Ronald G,Ehrenberg and Robert S, Smith, Modem Labour Economics : Theory and public policy, Addison Wesley, 2005.

4. Health Economics by Bhattacharya, Hyde, Tu (2012)

Fifth Semester

(Choose one elective course)

SSEI-DSE-07 Agricultural Economics

Course Outcome:

The course aims at to equip students with the basic knowledge of various principles of economics that are applied to agriculture, particularly in relation to demand, supply, production, costs, markets and profits. in competitive and non-competitive and the role of agriculture in India. Other topics include a survey of the world food situation; natural, human and capital resources; commodity product marketing; and agricultural problems and policies.

Course Learning Outcomes

The course enables students to demonstrate a basic knowledge of the principles of economics and their application to understand issues pertaining to agricultural development.

Unit-I Economics and Economic Growth: Characteristics of Agriculture, Definition of Agriculture ,Agricultural Economics as a Social Science, Structure of Agriculture Sectors , Inputs Used and Products of Agriculture

Unit-II Principles of Economics: Production Principles , Production Costs, Supply and Revenue , Principles of Profit Maximization and Loss Minimization, Principles of Consumption and Demand, Price Elasticity Concepts , Principles of Market Price Determination, Competitive vs. Non- Competitive Market Models , Global Issues

Unit-III Population Growth, World Food Production Trends , Trade in Agricultural Products , The Role of Agriculture in Economic Growth , Marketing Food and Agricultural Products , Functional and Institutional Approaches to Marketing , Costs of Marketing Food and Agricultural Products , Operation of the Futures Markets , Agricultural Problems and Policy Analysis , Goals and Policies and Programs , Price and Income , Resource Use (May Include: Natural Resources, Land Economics, Locally Grown Foods, etc.)

Unit-IV Agricultural Sector based measuring the National Economy: The Circular Flow of Income , Measuring Inflation, Unemployment , Nominal vs. Real Income, Macroeconomic Policies, Fiscal Policies , Monetary Policies , International Trade , Absolute vs. Comparative Advantage, Exchange Rates , . Balance of Trade, Balance of Payments, Trade Policies (All Agriculture Related)

Recommended Books:

Text Books:

1. Cramer, Jensen, and Southgate, John Wiley, “Agricultural Economics and Agribusiness”
2. Drummond and Goodwin , “Agricultural Economics”, Prentice Hall

Reference Books:

1. Penson, Capps, and Rosson , “Introduction to Agricultural Economics” , Prentice Hall
2. Seitz, Nelson, Halcrow , “Economics of Resources, Agriculture and Food”

SSEI-DSE-08 Globalization and Development

To be updated

SSEI-DSE-09 Financial Economics

Course Outcome:
This course introduces students to the economics of finance. Some of the basic models used to benchmark valuation of assets and derivatives are studied in detail; these include the CAPM, and the Binomial Option Pricing models. The course ends with a brief introduction to corporate finance.

Unit 1

1. Investment Theory and Portfolio Analysis

a. Deterministic cash –flow streams: Basic theory of interest; discounting and present value; internal rate of return; evaluation criteria; fixed income securities; bond prices and yields; interest rate sensitivity and duration; immunisation; the term structure of interest rates; yield curves; spot rates and forward rates.

b. Single- period random cash flows: Random asset returns; portfolios of assets ; portfolio mean and variance ; feasible combinations of mean and variance ; mean - variance portfolio analysis; the Markowitz model and the two-fund theorem ; risk free assets and the one- fund theorem.

c. CAPM: The capital market line ; the capital asset pricing model ;the beta of an asset and of a portfolio; security market line; use of the CAPM model in investment analysis and as a pricing formula.

Unit 2

Options and Derivatives**:** Introduction to derivatives and options ; forward and futures contracts ; options ; other derivatives ; forward and future prices; stock index futures ; interest rate futures ; the use of futures for hedging ; duration based hedging strategies ; option markets; call and put options; factors affecting option prices; put- call parity; option trading strategies ; spreads ; straddles strips and straps ; strangles ; the principle of arbitrage ; discrete processes and the binomial tree model; risk – neutral valuation.

Unit 3

Corporate Finance**:** Patterns of corporate financing ; common stock ; debt ; preferences ; convertibles , Capital structure and the cost of capital ; corporate debt and dividend policy ; the Modigliani-Miller theorem.

Readings:

1. David G. Luenberger , Investment Science , Oxford University Press, USA,1997.

2. Hull, John C, Options, Futures and other Derivatives , Pearson Education , 6th edition , 2005.

3. Thomas E Copeland , J . Fred Weston and Kuldeep shastri , Financial Theory and corporate policy , Prentice Hall , 4th edition , 2003.

4. Richard A. Brealey and Stewart C. Mysers , Principles of Corporate Finance , McGraw- Hill, 7th edition , 2002.

5. Stephen A. Ross, Randolph W. Westerfield and Bradford D. Jordan , fundamentals of corporate finance . McGraw- Hill, 7th edition ,2005.

6. Burton G Malkiel , A Random Walk Down Wall street , W.W Norton $ company, 2003.

7. William Sharpe , Gordon Alexander and Jeffery Bailey, Investments , Prentice Hall of India , 6th edition, 2003.

Sixth Semester

(Choose one elective course)

SSEI-DSE-10 Network Economics

Course Outcome:

This course introduces and develops the concept of network economics as a powerful tool for decision-making today. It provides the foundations of networks both as an intuitive tool and graphical medium as well as a rigorous methodological one for the formulation, qualitative analysis, and computation of solutions to economic equilibrium problems. Hence, it considers both physical networks such as transportation networks, whose structure maps into nodes, links, and flows, and abstract networks, whose network mapping is not intuitively obvious.

The course traces the history of networks in the global economy and demonstrates how a variety of economic problems are concerned with flows over space and time where the flows may be of commodities, humans, money, and/or informational. It provides the basic theory of networks and overviews the fundamental theory of mathematical programming, specifically, optimization theory and variational inequality theory, to enable the formulation and solution of the network problems. The course also surveys effective computational algorithms which take advantage of the underlying network structure of the problems.

Unit-1:

1. Introduction: Overview of Network Economics, its History, and its Importance in Economics Today, Mathematical Background: Basics of Nonlinear Programming Theory Basics of Network Theory, The Variational Inequality Problem: Basic Qualitative Theory Relationship to Optimization Problems and Other Classical, Mathematical Programming Problems, Sensitivity Analysis

Unit-2:

Algorithms for the Solution of Variational Inequality Problems: The General Iterative Scheme - Projection and Relaxation Methods, The Modified Projection Method Decomposition Methods - Serial and Parallel,. Basic Models of Traffic Assignment and Solution Procedures: Introduction and History, The Standard Model, The Extended Model Multimodal Models, The Elastic Demand Model

Unit-3:

Environmental Networks: Overview of Environmental Issues and Policies,Spatial Oligopoly with Permits, Qualitative Properties, Knowledge Networks: Conceptualization and History, Basic Models Migration Networks: The Costless Model, Model with Migration Costs, Model with Class Transformations, Financial Networks: Portfolio Optimization as a Network Flow Problem, Multi-Sector, Multi-Instrument Financial Equilibrium, Policy Interventions

Unit- 4

Multi-criteria Network Equilibrium Modeling for the Information Age: Multi-criteria Decision-Making on Networks, Equilibrium Concepts, application to Teleshopping and Telecommuting Decision-Making, Space-Time Networks: Extension of Multi-criteria Decision-Making to Decision-Making Over Space and Over Time, Application to Telecommuting versus Commuting Decision-Making

Supply Chain Networks with Electronic Commerce, Introduction to Supply Chains and Network

Agents, Electronic Commerce: B2B and B2C,Network Equilibrium, Applications and Extensions

Readings

1. (Required) Newman, Mark. Networks: An Introduction. Oxford University Press, 2010. ISBN: 9780199206650.

2. (Recommended) Easley, David and Jon Kleinberg. Networks, Crowds, and Markets: Reasoning about a Highly Connected World. Cambridge University Press, 2010. ISBN: 9780521195331.

3. (Recommended) Jackson, Matthew. Social and Economic Networks. Princeton University Press, 2010. ISBN: 9780691148205.

4. (Recommended) Osborne, Martin. Introduction to Game Theory. Oxford University Press, 2003. ISBN: 9780195128956.

SSEI-DSE-11 Basics of Economic Psychology

Course Objective:

This course is intended for students interested in research. This course integrates psychological insights into economic models of behavior. The purpose of this course is to develop an understanding of the main economic phenomena in everyday life from psychological point of view.

Course Learning Outcome

After completing this course, students will understand why people do not always act rationally. They will be able to analyze economic phenomena from a wider perspective.

Unit I: Introduction to Economic Psychology

Meaning of Economic behavior, and Economic psychology, history, fields of study, methods of study, and future of the science, Intersection of Economics and Psychology, introduction to Behavioural Economics and Neuroeconomics

Unit II: Psychology of money:

Why we need money and Experiments with money, Psychoanalysis and the symbolism of money,
psychological understanding of poverty, Causes of poverty, Attitudes toward the poor, Behavior of the poor, psychological meaning of employment and unemployment. Unemployment and health

Unit III: Necessities, luxuries and wealth

Distinction between necessities and luxuries, Psychoanalysis and wealth, wealth and happiness Psychological and economic motivation of entrepreneurs

Unit IV: Psychology and motivation

Meaning of Entrepreneur, Psychological and economic motivation of entrepreneurs. Charity or taxation? Reducing tax evasion, Psychological Games

Reference books:

1. Inefficient Capital Markets: An Introduction to Behavioral Finance. Shleifer, Andrei. Oxford UP, 2000.
2. The Winner's Curse: Paradoxes and Anomalies of Economic Life. Thaler, Richard. Princeton, N. J.: Princeton University Press, 1994.

SSEI-DSE-12 Labour Economics

Course Outcome:

This course provides a general introduction to the field of labour economics and as such is an application of basic microeconomic principles. Our approach to studying labour economics will be both theoretical and empirical. That is, not only will we discuss models of how labour markets function, we will also discuss the evidence on how well the real world matches the predictions of suchmodels.

Unit-I Introduction: Meaning- Concept, Significance and Pecularities of Labour. Nature, Scope and Importance of Labour Economics. Actors of Labour, Economics, Characteristics of Indian Labour Market.

Unit-II Labour Supply: Measuring the labour force: employment and unemployment rate, labour force participation rate, workers preferences, differences in preferences across workers, effect of non-labour income on working hours, effect of wage rate change on working hours, income, reservation wage, labour supply curve, labour supply elasticity.

Unit-III Labour Demand: Employment decision in short run and long run labour demand curve for a firm and industry, firm output decision,, impact of wage change on output and employment, Labour demand elasticity, employment effects of minimum wages, minimum wage as antipoverty program.

Unit-IV Labour Market Equilibrium: Meaning, concept, competitive equilibrium across labour markets, impact of immigration on labour market in short run and long run economic benefits of immigration, immigration surplus.

Recommended Books:

Text Book:

1. George. J. Borjas, Labour Economics (McGraw. Hill International edition) 6th ed.

Reference Books

1. Stephen Smith, Labour Economics (Routledge) 2nd edition
2. Lloyd. G. Reynolds Labour Economics and labor relations (Prentice Hall) 6th edition

Seventh Semester

(Choose any two elective courses)

SSEI DSE-13 Public Policy- Theory and Practices

Course Outcome:

Unit-I Public Policy and Institutionalism: Introduction to Public Policy; Public Policy as Multidisciplinary Governance Tool; Social Engineering and Social Construction in the political and institutional environment; Sector Application of Public Policy; Policy impacts; collective action, Public opinion, Market and Rational Problem solving; Democratic Society and Public Policy; Developing critical thinking.

Unit-II Models of Public Policy: Creation and Implementation: Political institutions and processesinvolved in creation and implementation of Public Policy; Models of Public Policy; Politics of program and Policy Evaluation. Tools of Policy Analysis; understanding long term policy trends and reconsiderations and validation; Social Policy Making- Case Study Approach(Medical insurance policy, Security and Financial market policy, Foreign policy, Demographic policy and Poverty

Unit-III Comparative Public Policy: Introduction to comparative Public Policy: Case Studies from UK, China and India in Health, Education and relevant sector; Public Policy and Gender, Inequality, Race; Understanding International Indexes-PQLI, HDI.

Unit-IV India, Indian Economy and Public Policy: Indian Public Policy and poicy making institution; History of Indian Public Policy; The Institutions; Public Policy making in the primary sectors- Agriculture and Industry; Indian Economy and Indian Institutions; Change and Development of Indian Public Policy during planning period.

Recommended Books:

1. Anderson, James E. Public Policy Making, Cengage Learning, 2014
2. Kraft, Michael E., and Scott R. Furlong. Public Policy, analysis and alternatives, CQ Press,2012
3. Birkland, Thomas A. An Introduction to the Policy Process: Theories, concepts and models ofPublic Policy making. Gremese Editore, 2005
4. Bardhan, P. K. (1999). “Political Economy of Development in India: Expanded edition withan epilogue on the political economy of reform in India.”, Oxford University Press, New Delhi.
5. Fischer, Frank and Gerald J. Miller, eds. Handbook of Public Policy Analysis: Theory,Politics and methods. CRC Press, 2006
6. Centre for Public Policy Papers (IIM Bangalore)
7. The Hindu Centre for Politics and Public Policy
8. Economic Survey of India-2012-13, Finance Ministry of India, GoI
9. Bardhan, Pranab K. “Understanding underdevelopment: Challenges for institutional economics from the point of view of poor countries.” Journal of Institutional and TheoreticalEconomics(JITE)/ Zeitschrift fur diegesamte Staatswissenchaft(2000): 216-235.

SSEI DSE-14 Demography

To be updated

SSEI DSE-15 Game Theory

Course Outcome:

This course is a survey of the main ideas and techniques of game-theoretic analysis related to bargaining, conflict, and negotiation. As such, the course emphasizes the identification and analysis of archetypal strategic situations frequently occurring in bargaining situations. The goals of the courseare to provide students with a foundation to apply game-theoretic analysis, both formally and intuitively. Moreover it develops capability to negotiation and bargaining situations and Recognizeand assesses archetypal strategic situations in complicated negotiation settings.

Unit-I Introduction: What is Game Theory? 1.3. The Theory of Rational Choice, Coming Attractions: Interacting Decision-Makers **Nash Equilibrium:** Theory **,** Strategic Games, Example: The Prisoner's Dilemma, Examples.

Unit-II: Games with Perfect Information: Nash Equilibrium, Studying Nash Equilibrium Experimentally, Examples of Nash Equilibrium, Experimental Evidence on the Prisoner's Dilemma,

,Focal Points, Best Response Functions, Dominated Actions, Equilibrium in a Single Population: Symmetric Games and Symmetric Equilibria.

Unit-III Mixed Strategy Equilibrium : Introduction, Some Evidence on Expected Payoff Functions, Strategic Games in Which Players May Randomize, Mixed Strategy Nash Equilibrium, Dominated Actions, Pure Equilibria When Randomization is Allowed, Illustration: Expert Diagnosis, Equilibriumin a Single Population, Illustration: Reporting a Crime.

Unit-IV Extensive Games with Perfect Information: Theory, Extensive Games with Perfect Information, Strategies and Outcomes, Nash Equilibrium, Subgame Perfect Equilibrium, Finding Subgame Perfect Equilibria of Finite Horizon Games: Backward Induction, **Games with Imperfect Information:** Motivational Examples, General Definitions, Two Examples Concerning Information, Illustration: Cournot's Duopoly Game with Imperfect Information.

Recommended Books:

Text Books:

- Martin J. Osborne (2012),an introduction to Game Theory, oxford, ISBN- 978086109
- Barron E N (2009), Game Theory an introduction, Willy student Edition,ISBN-10:9788126523191

SSEI DSE-16 Sustainable Development

To be updated

Eighth Semester

(Choose any two elective courses)

SSEI DSE-17 Regional Economy of Himalayan States

Course Objective:

Himalayan region is unique in terms of its geography and niches over other regions. The course aims at to enhance students understanding about regional issues of economic development in Himalayan states of India such as structural transformation, livelihoods, migration, poverty and quest for sustainable development. The course offers empirical analysis of regional economy of Himalayan states with the applications of appropriate economic theories and statistical tools of analysis.

Course Learning Outcome:

Students get exposure to the regional dimensions of development challenges in Himalayan states. They are equipped to undertake state-specific economic analysis relevant to policy planning.

Unit 1: Mountain Economies and their Development

Introduction- Regional economic development; Concepts and theories; Characteristics of mountain economies; Structural transformation and comparison with the Indian economy; Regional inequalities in select indicators of development; Multidimension poverty in Himalayan states; Development strategies for Himalayan region

Unit 2: Livelihoods, Employment and Migration

Livelihoods: Meaning, quality and diversification—land and other assets, education; Characteristics of labour force and workforce; Structural changes in employment and recent trends; Unemployment and underemployment; Characteristics of migration and migrant workers; Impact of outmigration on income and household economy; Covid-19 and reverse migration; Climate change and impact on livelihoods

Unit 3: Sectoral Aspects of Himalayan Economy

Agriculture: features and challenges; Industry: growth, composition and challenges Services sector; Trends, growth and challenges; Rural economy, Diversification of rural employment; Tourism and its impact on income; Micro, small and medium enterprises; Infrastructure and regional economic development

Unit 4: Sustainable Development

Context and the concept; Difference between economic growth, development and sustainable development; Form MDGs to SDGs; Sustainable Development Goals—targets, achievements and regional disparities; Public policy for promoting SDGs

Reading list

Brunner Hans-Peter (Ed.) (2010). North East India Local Economic Development and Global Markets, Sage Publications

Dikshit, K. R and J K Dikshit (Eds.) (2014): North East India Land People and Economy, Springer Publication

Nayak. P. (Ed.) (2010). Growth and Human Development in North- East India, Oxford University Press.

Bhattarcharjee, G. (2014). The Reality of Special Category States, Economic and Political Weekly, 29 (40)

Panda, B. (2010). "Economic Growth, Exclusion and Human Development in North Eastern Region of India" in P. Nayak (ed.) Growth and Human Development in North East India, Oxford University Press, New Delhi.

Kumar N, Rani R. (2019). "Regional Disparities in Social Development: Evidence from States and Union Territories of India". *South Asian Survey*, Vol. 26(1):pp. 1-27

Bhattacharya, Rakhee (ed) (2015). Regional Development and Public Policy Challenges in India, Springer

Dawkins, Casey J. (2003). "Regional Development Theory: Conceptual Foundations, Classic Works, and Recent Developments", *Journal of Planning Literature*,Vol.18 (2), Sage Publications

NITI Aayog (2021). Multidimensional poverty index, National Institution for Transforming India, New Delhi.

Newsham, Andrew; Rigg, Jonathan and Suhardiman, Diana (2022). "A Sustainable Livelihoods Framework for the 21st Century", *World Development*, Vol. 155, July.

Sengupta, R. P. (…). *Ecological Limits and Economic Development*, Oxford University Press.

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Panagariya, Arvind and Megha Mukim (2014). "A Comprehensive Analysis of Poverty in India*", Asian Development Review*, vol. 31, no. 1, pp. 1–52

United Nations (2021). *Sustainable Development Goals Report 2021,* United Nations, New York.

Pike , Andy; Rodríguez-Pose, Andrés and Tomaney, John (2006). *Local and Regional Development,* Routledge. (Chapter 1 and 3)

Mamgain, Rajendra P. and Reddy, D N (2016). Outmigration from Hill Region of Uttarakhand: Magnitude, Challenges and Policy Options, National Institute of Rural Development and Panchayat Raj, Hyderabad.

SSEI DSE-18 Economics of Inclusion

To be updated

SSEI DSE-19 Behavioural Economics

Course Outcome:

This course will introduce the fast-evolving field of behavioural economics. This area has evolved
through an interaction between experimental results and the development of theory. After completing this course, students would have learned the leading examples of departures in behaviour from that explained by earlier economic theory and the main models formulated to explain these departures

Unit I: Introduction

Behavioural economics and consumer behavior, new findings from evolutionary neuroscience, intuition, broadening psychology's reach, integrating emotions into economic theory, economic decision making- a behavioural perspective

Unit II: Behavioural Microeconomics

Heuristic and biases, Risk and Uncertainty, Inter-temporal decision making, bounded rationality,
prospect theory, Behavioural game theory, Nudges, Policy, and Happiness

Unit III: Behavioural Macroeconomics

Neo-Keynesian Rational Expectation model, serial correlation in behavioural macroeconomic model- the sources of autocorrelation and the long lag in behavioural macroeconomic model Animal Spirits and economic decisions, Introduction to behavioral finance

Unit IV: Economic Expectations, Emotions and Well being

Economic expectation, buying intention, consumer confidence, relation between attitude and behaviour, Emotions and utility functions, emotion and consumer choice- subjective wellbeing and income- poverty, unemployment and consumer satisfaction.

Text Books:

1. An Introduction to Behavioural Economics by Nick Wilkinson and Matthew Klaes.

Other References:

1. Bernheim, B.D., DellaVigna, S., Laibson, D.: Handbook of Behavioral Economics, Vol. 1, North-Holland (2018)
2. Dhami, S.: The Foundations of Behavioural Economic Analysis, Oxford University Press (2016)

SSEI DSE-20 Informal Sector and Economic Development

To be updated

Detailed Syllabus of Generic Elective Course (Other Department/Faculty)

SSEI GE-01 Foundations of Economics-I

Course Outcome

This course covers some basic facets of Economics, namely, Microeconomics and teaches the fundamentals of microeconomics. It is designed to provide a foundation for economic analysis and a broad understanding of the economic issues at micro level.

After completion of this course, students will be able to

- ✓ Acquire basic knowledge and develop an understanding of the concepts and relationships of microeconomics.
- ✓ Comprehend, assess and analyze the microeconomic issues and problems of an economy.

UNIT-I Introduction

Problem of scarcity and choice: scarcity, choice and opportunity cost; production possibility frontier; economic systems.

Demand and Supply: law of Demand, Determinants of demand, shifts of demand versus movements along a demand curve, market demand, law of Supply, determinants of Supply, Shifts of Supply Vs Movements along a Supply curve, Market equilibrium.

Elasticity: price elasticity of demand, calculating elasticity, determinants of price elasticity, other elasticities.

UNIT-II Theory of Consumer Behavior

Concept of Utility, Diminishing Marginal Utility, Equi-marginal utility; Indifference curves, Budget constraint,Consumer's Equilibrium condition under Cardinal and Ordinal Approach.

UNIT-III Theory of Producer Behavior

Production function, law of Variable Proportions, Isoquant and Isocost lines, Producer's Equilibrium condition; Cost Analysis- costs in the short run, costs in the long run, Revenue Analysis- Concepts and Relationships.

UNIT-IV Market Mechanism

Perfect Competition, Monopoly and Monopolistic Competition- definitions, features and Price and Output determination under different market conditions.

Reference Book:

1. Salvatore, D ***Principles of Microeconomics*** (5th Edition) Oxford University Press, New Delhi
2. Koutsoyiannis, A. (1990) ***Modern Microeconomics***, Macmillan Press Ltd., London
3. Sen, A. (1999) ***Microeconomics Theory and Applications***, Oxford University Press, New Delhi
4. Varian, H. (2000) ***Microeconomic Analysis***, W. W. Norton, New York

SSEI GE-02 Foundations of Economics-II

Course Objective

This course introduces some basic facets of Economics, namely, Macroeconomics. It also covers the main concepts and theories which explain the aggregate behaviour of the economy.

Course Learning Outcome: After completion of this course, students will be able to

- ✓ Acquire basic knowledge and develop an understanding of the concepts and relationships of macroeconomics.
- ✓ Comprehend, assess and analyze the macoeconomic issues and problems of an economy.

UNIT-I Introduction

What is Macroeconomics? Macroeconomic issues in an economy, National Income- Circular flow of Income and Concepts of GDP and GNP

UNIT-II National Income Accounting

Measurement of National income and related aggregates- Income; Value Added Method and Expenditure Method, Nominal and Real income, Aggregate Demand and Aggregate Supply

UNIT-III Determination of GDP

Consumption function- concepts of MPC, APC, Saving function- concepts of MPS, APS, and Investment Functions and Investment Multiplier, Determination of Equilibrium Income and Output- The Concept of Full Employment and unemployment
National Income Determination in an Open Economy with Government
Fiscal Policy: impact of changes in Government Expenditure and Taxes; Net exports function; Net exports and equilibrium national income.

UNIT-IV Money in a Modern Economy

Concept of Money in a modern economy; Demand for money; Quantity theory of money; liquidity preference and rate of interest; Money supply and Monetary policy. Inflation- Demand pull and Cost push inflation, Measures to control inflation.

Reference Books :

1. Mankiw, N.G. Macroeconomics (Worth) most recent edition
2. Ljungqvist and Sargent, Recursuve Macroeconomic Theory, (2nd ed. MIT Press 2004)
3. Carl E. Walsh, Monetary Theory and Policy (3nd ed., MIT Press, 2010).