

PG-FIRST YEAR-2019-20				PG-SECOND YEAR-2020-21			
Code	SEM-1	Code	SEM-II	Code	SEM-III	Code	SEM-IV
ECO-101	Microeconomics-I	ECO-201	Microeconomics-II	ECO-301	Public Economics-I	ECO-401	Public Economics-II
102	Macroeconomics-I	202	Macroeconomics-II	302	International Economics-I	402	International Economics-II
103	Eco. Of Social Infrastructure-I	203	Eco. Of Social Infrastructure-II	303	Environment & Resource Economics-I	403	Environment & Resource Economics-II
104	Quantitative Techniques & Computer Applications-I	204	Quantitative Techniques & Computer Applications-II	304	Advanced Econometrics-I	404	Advanced Econometrics-II
105	Development Economics-I	205	Development Economics-II	305	Behavioural Economics	405	Project/ Dissertation
		206-A	New Institutional Economics	306-A	Indian Economy		
		206-B	Mathematical Economics	306-B	Regional Economics		
		206-C	New Frontiers in Economics	306-C	Indian Financial System		
<i>Offer of Electives will be Subject to the availability of teachers.</i>							

SEM-1- 1/5

ECO-101:
MICROECONOMIC THEORY-I

UNIT	COURSE CONTENT
U-1	Theories of demand- utility, indifference curve (income and substitution effects: Slutsky theorem, compensated demand curve) and their applications: Revealed Preference Theory : Revision of demand theory by Hicks : Characteristics of goods approach : consumers choice involving risk.
U-2	Theory of Production and Costs: Production function- short period and long period; law of variable proportions and returns to scale, Isoquants Least Cost combination of inputs : Returns to factors ; Economies of scale ; Elasticity of substitution ; Euler’s Theorem ; Traditional and modern theories of Costs- Empirical evidence, Derivation of Cost functions from production functions.
U-3	: Price and Output Determination : Perfect competition- short run and long run equilibrium of the firm and industry, price and output determination, supply curve; Monopoly- short run and long run equilibrium, price determination, welfare aspects, monopoly control and regulation ,Price discrimination of first, second and third degree, Multiplant monopolist firm, Bilateral monopoly
U-4	Monopolistic competition- general and Chamberlin approaches to equilibrium, equilibrium of the firm and the group with product differentiation and selling costs, excess capacity under monopolistic and imperfect competition, criticism of monopolistic competition ; Oligopoly- Non –collusive (Cournot, Bertrand, Edgeworth, Chamberlin, Kinked demand curve and Stackelberg’s solution) and collusive (Cartels and mergers,Price leadership and basing point price system) models ; Price and output determination under monopsony and bilateral monopoly.

SEM-1- 2/5

**ECO-102:
MACROECONOMIC THEORY-I**

UNIT	COURSE CONTENT
U-1	National Income and Accounts- Circular Flow of Income with government and Open Economy, Three and Four sector economy ; different forms of national income accounting- social accounting, input output accounting, flow of funds accounting and balance of payments accounting. National Income and Welfare
U-2	Consumption function- Keynes's psychological law of consumption- implications of the law ; short run and long run consumption function, Empirical evidence on consumption function ; Income – consumption relationship- absolute income, relative income, life cycle and permanent income hypotheses.
U-3	Supply of Money- Financial intermediation- a mechanistic model of bank deposit determination ; A behavioral model of money supply determination, a demand determined money supply process; RBI approach to money supply ; High powered money and money multiplier ; budget deficits and money supply ; control of money supply.
U-4	Neo-Classical and Keynesian synthesis- Neo-classical and Keynesian views on interest ; The IS-LM model ; Extension of IS-LM model with Government sector ; Relative effectiveness of monetary and fiscal policies; Extension of IS- LM models with labour market and flexible prices.

ECO-103:

ECONOMICS OF SOCIAL INFRASTRUCTURE-I

SEM-1- 3/5

UNIT	COURSE CONTENT
U-1	Approaches to Social Infrastructure Human Resource Development and Human Development: Differences and Linkages, Measurement of Human Development – Special Characteristics of Education, Health, Nutrition and Environment – Externalities and Role of the State -Social Infrastructure and Economic Growth
U-2	Human Capital – Theory of Human Capital, Consumption and Investment Aspects – Education, Productivity and Employment-Rates of Return and their Measurement – Issues and Limitations – Endogenous Growth Theories: Romer and Lucas -Concept of Social Capital: Role and Policy Implications
U-3	Approaches to Nutrition- Concepts of under nutrition and malnutrition- Characterization and measurement of under nutrition-Linkages with Morbidity, Mortality, Implications for Human capital formation- Implications for Economic analysis and policy.
U-4	Social Sector Policies in India Policy Framework in Five-Year Plans – Economic Reforms and Social Sectors - Typology of Economic Growth and Human Development in Indian States – Trends and Disparities in Social Infrastructure Development – Role of Public and Private Sectors – Financing of Social Sectors - Pricing of Social Sectors – Social Attainment – Limitations of Policy – Social Security – Special Policy Issues.

ECO-104:

**QUANTITATIVE TECHNIQUES & COMPUTER
APPLICATIONS-I**

SEM-1- 4/5

UNIT	COURSE CONTENT
U-1	Mathematical methods-I : Calculus : Concepts of function, Limit, Continuity and derivative ; Rules of differentiation ; Rules of partial differentiation and interpretation of partial derivatives ; Problems of Maxima and minima in single and multivariable functions ; Concept of integration ; simple rules of integration. Application of derivatives and integration in Economics.
U-2	Mathematical methods-II : Matrix algebra : Determinants and their basic properties ; Solution of Simultaneous equations through Cramers rule , concept of Matrix- their types, simple operations on matrices, matrix inversion and rank of a matrix, Concept of vector- its properties ; Matrices and vectors, Concept of Quadratic forms- Eigen roots and Eigen vectors ;
U-3	Difference equations & Differential equations- Solution of first order and second order difference equations. Economic applications of Difference and Differential equations.
U-4	Computer Application in Economics : Basic applications of Microsoft Office- Excel, MS Word and Power Point, Application in Tabulation, Frequency Distribution, Correlation & Regression Analysis.

ECO-105:**DEVELOPMENT ECONOMICS-I****SEM-1- 5/5**

UNIT	COURSE CONTENT
U-1	Economic Growth-I : Economic growth and development- factors affecting economic growth, ; capital, labour and technology ; Growth models- Harrod and Domar, instability of equilibrium ; Neo-classical growth models- Solow Swan model, Cambridge criticism of Neo-classical analysis of growth, Kaldor's growth model.
U-2	: Economic Growth-II : Technological progress- embodied and disembodies technical progress, Hicks, Harrod, Exogenous and endogenous technical progress, Learning by doing, AK Model of growth
U-3	Social and Institutional Aspects of development- Development and underdevelopment- Perpetuation of underdevelopment, Measuring development and development gap- Per capita income, inequality of income, Human development index , Multi dimensional Poverty Index ; Human resource development ; Economic development and institutions- markets and market failure, state and state failure, issues of good governance.
U-4	Theories of development- Classical theory of development, Ricardo, Malthus, Karl Marx and development of capitalistic economy- theory of social change, surplus value and profit, Partial theories of growth and development- vicious circle of poverty, circular causation, unlimited supply of labour, big push, balanced growth, unbalanced growth, critical minimum effort thesis, low income equilibrium trap ; Dualism- technical, behavioural and social ; Ranis and Fei model.

ECO-201:**MICROECONOMIC THEORY-II****SEM-2- 1/9**

UNIT	COURSE CONTENT
U-1	Alternative Theories of the Firm : Critical evaluation of marginal analysis ;Baumol's sales revenue maximization model ; Williamson's model of management discretion. Marris model of managerial enterprises ; Full cost pricing rule ; Bain's limit pricing theory and its recent developments including Sylos-Labinis model, Behavioural model of the firm ; game theoretic models.
U-2	Distribution- Neo-classical approach- Marginal productivity theory ;Product exhaustion theorem ; Theory of distribution in imperfect product and factor markets ; determination of rent, wages, interest and profit ; macrotheories of distribution- Ricardian, Marxian, kalecki and kaldor's..
U-3	General Equilibrium - Partial and general equilibrium, Walrasian excess demand. The economics of information, Elementary Game Theory
U-4	Welfare Economics- Pigovian welfare economics ; Pareto optimal conditions, Value judgement ; Social welfare function ; Compensation principle; Inability to obtain optimum welfare- Imperfections, market failure, decreasing costs ; Theory of Second Best

ECO-202:**MACROECONOMIC THEORY-II****SEM-2- 2/9**

UNIT	COURSE CONTENT
U-1	Post-Keynesian Demand for Money- Post Keynesian approaches to demand for money- Patinkin and the real Balance effect, Approaches of Baumol and Tobin ; Friedman and the Modern quantity theory ; Crisis in Keynesian economics and the revival of monetarism. Macroeconomics in an open economy- Income determination in an open economy. Foreign trade multiplier, Internal and external equilibrium- Mundell-Fleming model.
U-2	Theory of Inflation- Keynesian and Monetarist approaches to inflation ;Structuralist theory of inflation ; Phillips curve analysis- Short run and long run Phillips curve, Samuelson and Solow- the Natural rate of unemployment hypothesis, Tobin's modified Phillip's curve ; Adaptive expectations and rational expectations, Policies to control inflation.
U-3	Business Cycles- Theories of Schumpeter, Kaldor, Samuelson and Hicks. Goodwin's model ; Control of business cycles- relative efficiency of monetary and fiscal policies.
U-4	New Classical Macroeconomics- The New classical critique of microfoundations, the new classical approach, Policy implications of new classical approach- empirical evidence. New Keynesian Macro Economics, Efficiency wage Hypothesis, Gift Exchange Model, Insider Outsider Model, Menu Cost Theory, Labour Contract Model, Policy implications of the new Keynesian model.

ECO-203:

ECONOMICS OF SOCIAL INFRASTRUCTURE-II

SEM-2- 3/9

UNIT	COURSE CONTENT
U-1	Economics of Health Distinction between health and health care, Health as an economic commodity, Health Care -need and want. Demand and supply: Consumption of health & health care, investment in health care, Asymmetric information & supplier induced demand, Aggregate demand for health care, Healthcare output, Technical efficiency, Production frontier, Multi product firm- Returns to scale, additively, allocative efficiency. Returns to scale, Short run cost functions and economies of scope, Markets in health care: Perfect competition, Monopoly- market concentration, contestable markets. Monopolistically competitive market- product life cycle, long run equilibrium, Oligopoly. Goals other than profit maximization- growth maximization, behavioral theories- utility maximization of net income per physician, market failure & role of Government
U-2	Financing health care, delivery of health care Uncertainty & health insurance attitude to risk, demand & supply of health insurance, health insurance market & problems, Health care financial-options, Health care finance- approaches adopted by governments of different countries, Financial health care schemes, decentralization & the role of private public mix. Equity in healthcare Finance Health sector reforms in developing countries like India.
U-3	Economics of Education: Production function in Education- Concept of inputs & output. Valuing input, valuing output Valuing research, Measuring productivity, Education as screening device- benefits of screening, investment in screening or education, Signaling in the job market, informational output from educational institutions. Investment in education - a social choice approach.
U-4	Market Failure Education as a public good-The neo classical approach, Externality aspect of education, Categorization of higher education as a good. Primary education as a merit good, education as a global private good/ bad, Market & market failure in higher education, asymmetric information, adverse selection & moral hazard. Interaction between state & higher education. Indian education system - challenges and policy initiatives.

ECO-204:

**QUANTITATIVE TECHNIQUES & COMPUTER
APPLICATIONS-II**

SEM-2- 4/9

UNIT	COURSE CONTENT
U-1	Meaning, assumptions and limitations of simple correlation and regression analysis ; Spearman's rank correlation coefficients and their properties; Concept of the least squares and the lines of regression ; Standard error of estimate ; partial and multiple correlation and regression
U-2	Methods of estimation of non-linear equations – parabolic, exponential, geometric, modified exponential, Gompertz and Logistic relationships.
U-3	Various types of events- classical and empirical definitions of probability; Laws of addition and multiplication ; Conditional probability and concept of interdependence ; Bayes theorem and its implications ; Expectations, Properties of Binomial, Poisson and Normal distributions. Concept of an estimator and its sampling distribution ; desirable properties of an estimator ; Formulation of statistical hypotheses- Null and alternative ; Goodness of fit ; Confidence intervals and levels of significance ; Hypothesis testing based on Z, t, Chi-square
U-4	Basic concept of sampling- random and non-random sampling ; Simple random, stratified random and PPS sampling; Computer Applications: Use of statistical packages (S.P.S.S. & E View) in frequency distribution, correlation and regression analysis, ANOVA, TimeSeries Tests.

ECO-205:**DEVELOPMENT ECONOMICS-II****SEM-2- 5/8**

UNIT	COURSE CONTENT
U-1	Sectoral aspects of development- Role of agriculture in economic development; Efficiency and productivity in agriculture, New technology and sustainable agriculture ; Globalisation and agricultural growth, rationale and pattern of industrialization in developing countries ; The choice of techniques and appropriate technology and employment ; Efficiency of small-scale vs. large-scale production ; terms of trade between agriculture and industry ; Infrastructure and its importance ; Labour market and their functioning in developing countries
U-2	Trade and economic development- International trade as engine of growth ; Static and dynamic gains from trade, Prebisch, Singer and Myrdal thesis vs. Free trade ; Export-led growth ; Dual gap analysis ; balance of payments ; tariffs and effective protection ; Post-GATT international economic order ; WTO and developing countries
U-3	Macro-economic policies and Development- Role of monetary and fiscal policies in developing countries- price savings, inflation and growth- Empirical evidence ; external resources- FDI, aid vs. trade, technology inflow ; MNC activity in developing countries ; Borrowings- domestic and external ; Burden of borrowing- IMF and World bank policies in developing countries.
U-4	Allocation of resources- Need for investment criteria in developing countries present vs future, Alternative investment criteria ; Cost-benefit analysis; shadow prices, project evaluation and UNIDO guidelines. Planning and development- Need for planning- democratic, decentralized and indicative planning, micro-planning, review of Indian plan models and planning.

ECO-206-A:**NEW INSTITUTIONAL ECONOMICS****SEM-2- 6/8**

UNIT	COURSE CONTENT
U-1	<p>Preliminaries of the Old Institutional Economics</p> <p>The concept of Institutions in the old institutional economics; Adam Smith's "The Theory of the Moral Sentiments"; The pragmatic philosophy of William James, Charles Peirce, John Dewey and Clarence Ayers; formation of habits, the rule of thumb, development of customs traditions and mores as regulators of social conduct; development of legal institutions. TB Veblen: The Theory of the Leisure Class – informal institutions/habits and traditions, government as part of the established, institutional system (vested interests), proposal of a system of industrial planning by technical experts, Jungian Archetypes and social psychology; R Commons and JK Galbraith - formal (legalized) institutions, Scientific investigation methods; WC Mitchell- Establishment of Institutions, National Bureau of Economic Research (NBER), Statistical basis for study of institutions, New School for Social Research, origins of agent-based theory; G Myrdal –interdependence of social, political, economic and institutional phenomena, modernization ideals. Religion as an institution: Max Weber's The Protestant Ethic and the Spirit of Capitalism. Kenneth Boulding: Grants Economics; The three-fold taxonomy of social organization</p>
U-2	<p>Introduction to Institutional Analysis</p> <p>The concept of institution in the New Institutional Economics: Institutions and organizations. Functions of social and economic institutions; Interaction situations and the types of norms: prisoners' dilemma-type situation; co-ordination situation; inequality situation; Enforcement characteristics; Institutional structure of a society; Formal and informal institutions; Sanctions for disobeying norms (self-enforcing sanctions, guilt, shame, informational sanctions, bilateral costly sanctions, multilateral costly sanctions); Conditions of norms' effectiveness. Interaction of formal and informal institutions; The limits of imitations of institutions from best-performing countries; The problems of their enforceability; A Comparative view of the Old Institutional Economics and the New Institutional Economics and modern institutionalism.</p>
U-3	<p>Transaction Costs</p> <p>The concept of transaction; Market and intra-firm transactions; Transaction costs as friction in the economy; Transaction costs and transformation costs; Interdependency between transaction costs and transformation costs; Types of market transaction costs and means of transaction costs minimization (search and information costs; measurement costs; bargaining and decision costs; supervision and enforcement costs); Comparative advantages and shortcomings of the legal enforcement mechanism; Reputation as a contract enforcement device; Ideal model of "perfect reputation"; Shortcomings of the reputation as a contract enforcement mechanism. Reputation and the "free rider problem"; Reputations aided by institutions. Transaction costs, the main types of economic exchange and their institutional structure; Coexistence of the main types of economic exchange in the modern society; Transaction cost measurement.</p>

U-4	<p>Economic Theory of Property Rights</p> <p>The definition of property rights; Property rights in different Laws/traditions; The property rights approach: some basic concepts. Specification of property rights, the bundle of rights, partitioning of property rights, attenuation of property rights; Assigning of property rights: the internalization of externalities; The Coase Theorem; Critic of Coase (dynamic effects of alternative legal rules, wealth effect, distributional effects, strategic behavior and the problem of holding-out, endowment effect, sociological critic, unrealistic assumption about zero transaction costs); Alternative property rights regimes; Common property (open access) and the tragedy of the commons; Exclusive property rights and the conditions for their emergence; The first economic revolution. Communal property; Optimal group size; Private property; Moral and economic aspects of private property; Public property; The emergence of property rights; The optimistic theory of the emergence of property rights (naive model); The interest-group theory of property rights; The costs of collective action; The theory of rent-seeking; Interest-groups and rent-seeking behavior in an economy.</p>
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ECO-206-B:
MATHEMATICAL ECONOMICS

SEM-2- 7/8

UNIT	COURSE CONTENT
U-1	<p>Theory of Consumer Behaviour- Cardinal and ordinal utility maximization ; Slutsky equation, compensated demand functions, income, substitution and price effects ; Concept of elasticities-generalizations to n variable case; separate and additive utility functions; homogeneous and homothetic utility functions ; constant elasticity of substitution (CES) and transcendental logarithmic utility functions ; duality theorem ; consumers surplus ; Theory of revealed preference and index numbers ; Linear expenditure systems.</p>
U-2	<p>Theory of production- Production function- homogeneous and nonhomogeneous, Properties of production function ; CES, VEX and trans-log production function. Simple derivation of short run and long run cost functions ; Modern approach to theory of costs ; Cost function, constrained optimization of a producer ; Generalisation to n variable case ; Input demand functions ; Adding up theorem, Technical progress through production function.</p>
U-3	<p>Price determination in various markets- price determination in perfect competition, monopoly, monopolistic competition, duopoly, oligopoly, and monopsony ; Pricing of factors of production ; Bilateral monopoly Market equilibrium- Marshallian and walrasian equilibrium conditions</p>
U-4	<p>Game theory- Liner programming and Input-Output analysis : Concept of game- Two person zero-sum game, Payoff matrix, pure and mixed strategies. Maximin and Minmax solutions ; Saddle point solution ; Non- constant sum game ; Prisoners dilemma ;</p> <p>Linear programming- Primal and dual problem ; Simplex method ; transport and storage problems and other applications of linear programming in economics ; Input-output analysis- Open and closed systems ; Hawkins-Simon conditions ; Leontief's dynamic system ;</p>

ECO-206-C:

NEW FRONTIERS IN ECONOMICS

SEM-2- 8/8

UNIT	COURSE CONTENT
U-1	Theoretical Issues Post Keynesian and Behavioural Economic Theory 1. Post Keynesian critique of neoclassical economics –Distribution theory - Macrodynamics. Bounded rationality, framing and endowment effect,“ defaults for choice” –Prospect theory and heuristics – Behavioral Economics and the financial sector – Behavioral Economics and public finance. 2.Buchanan's Public Choice Approach- Stiglitz Private Use of Public Interest- Neo- Classical: Rational Expectations - Sen.'s Approach to Welfare. Development as expansion of capabilities
U-2	Development Policy Issues..... India in the Emerging World System - Changing Perceptions about the role of the Government - Growth and pattern of International Economic Relations: Aid Investment and Trade Financial sector and economic growth: financial globalization,“ optimum financialisation”.
U-3	Welfare and Gender Economics Utilitarianism – Rawlsian theory of welfare – Amartya Sen’s capability theory. Becker’s theory of family and gender discrimination – Feminist economic theory: methodology and basic principles – capability approach and gender: Nussbaum’s basic capabilities framework – Women empowerment and economic development.
U-4	Environmental Issues - Sustainable Development - Waste Management - Natural Disaster Management - Environmental Policies

ECO-301:**PUBLIC ECONOMICS-I****SEM-3- 1/8**

UNIT	COURSE CONTENT
U-1	Introduction- Role of Govt. in organized society; changing perspectives government in a mixed economy, public and private sector, co-operation or competition ; Govt. as an agent for economic planning and development ; Government as a tool for operationalising the planning process ; private goods, public goods, market failure- imperfections, decreasing costs, externalities, public goods.
U-2	Public choice- Private and public mechanism for allocating resources, problems for allocating resources, problems of preference revelation and aggregation of preferences, Voting systems, Arrow Impossibility theorem, An economic theory of democracy, Politico-eco-bureaucracy ; rent seeking and directly unproductive profit seeking (DUP) activities. Rationale for public policy : Allocation of resources, provision of public goods, voluntary exchange models, impossibility of decentralized provision of public goods (contributions of Samuelson and Musgrave).
U-3	Fiscal policy- full employment, anti-inflation, economic growth, redistribution of income and wealth, interdependence of fiscal and monetary policies, budgetary deficits and its implications, Fiscal policy for stabilization-automatic vs. discretionary stabilization ; Alternative measures of resource mobilization and their impact on growth, distribution and prices, balanced budget multiplier
U-4	Indian Public Finances- Indian tax system ; Revenues of the Union, States and local bodies ; Major taxes in India, base of taxes, direct and indirect taxes, taxation of agriculture, expenditure tax, reforms in direct and indirect taxes, taxes on services ; Non-tax revenue of centre, States and local bodies ; Analysis of central and state government budgets ; Lack of flexibility in central and state budgets, shrinking size of development finance through budgets ; Trends in public expenditure and public debt ; Fiscal crisis and fiscal sector reforms in India ; Reports of Finance commissions in India.

ECO-302:

INTERNATIOANL ECONOMICS-I

SEM-3- 2/8

UNIT	COURSE CONTENT
U-1	Theory of International trade- Theories of absolute advantage of Adam Smith, comparative advantage of David Ricardo, Law of reciprocal demand, Marshal Edgeworth Offer curve analysis, Heberler opportunity cost, modern theory of international trade- Heckscher-Ohlin theorem, factor intensity reversal argument, Leontief paradox, the factor price equalization theorem, Kravis and Linder theory of trade.
U-2	Measurement and gains from trade – Terms of trade; net and gross barter terms of trade, single and double factorial terms of trade, income terms of trade, Hypothesis of secular deterioration of terms of trade, its empirical relevance and policy implications for less developed countries, hypothesis of secular deterioration of terms of trade, ; Trade as an engine of economic growth, immiserising growth
U-3	Monetary theory of international trade- Balance of payment: meaning and components, autonomous and accommodating transaction, equilibrium Bop, balance of payment adjustment mechanism under flexible prices, interest rates, and income level with fixed exchange rates and flexible exchange rates.
U-4	Absorption approach and monetary approach, internal and external balance: adjustment of BOP through policy instruments- expenditure changing, expenditure switching and exchange control methods Trevor Swan model

ECO-303:**ENVIRONMENT & RESOURCE ECONOMICS-I****SEM-3- 3/8**

UNIT	COURSE CONTENT
U-1	Fundamentals : Environment economy interaction, The circular Economy, Environmental quality as a public good, Public goods and bads, natural resources, trade-off between environmental quality and economic goods,growth and environment-environmental Kuznets curve
U-2	: Market failure, The nature of market failure and problems of externalities associated with environmental problems, Pollution as Externality, Optimal Externality, Property rights, the theory of externalities and Coase theorem, Coase theorem and its implications in environmental regulations,
U-3	Cost-benefit analysis and the valuation of environmental resources, Economic limits of growth-population, resource use and environmental degradation, affluence, technology and environmental degradation, environmental issues in developing countries
U-4	Theories of Optimal use of renewable resources: Growth curves, MSY, Costs and revenue, profit maximization, open access and common property solutions, preservation value, discount rate and price change effects, Theories of optimal use of exhaustible resources, Resource price and backstop technology, Environmental and development trade off and the concept of sustainable development; Integrated environmental and economic accounting and the measurement of environmentally corrected GDP

ECO-304:

ADVANCED ECONOMETRICS-I

SEM-3- 4/8

UNIT	COURSE CONTENT
U-1	Basic Econometrics- Nature, meaning and scope of econometrics: Simple and general linear regression model- Assumptions, Estimation (through OLS approach) and properties of estimators, Gauss Markov theorem ; Concepts and derivation of R ² and Adjusted R ² ;
U-2	Concept of analysis of variance approach and its application in regression analysis ; Generalised Least Squares (GLS) Estimation of non-linear equations- parabolic, exponential, geometric, hyperbolic, modified exponential, Gompertz and logistic functions.
U-3	Problems of regression analysis – Nature, test, consequences and remedial steps of problems of heteroscedasticity ; Multicollinearity and autocorrelation ; Problems of specification error, Errors of measurement (Errors in variables)
U-4	Regressions with Qualitative Independent variables- Dummy variable technique- Testing structural stability of regression models comparing to regressions, interaction effects, seasonal analysis, piece-wise linear regression, use of dummy variables, regression with dummy dependent variables ; The LPM, Logit, Probit models- Applications, estimation under Linear restrictions (Restricted Least Squares).

ECO-305:**BEHAVIOURAL ECONOMICS****SEM-3- 5/8**

UNIT	COURSE CONTENT
U-1	INTRODUCTION: History and Evolution of Behavioral Economics, Objectives and Scope, Relationship with other Disciplines, Structure of the subject Matter, Methodology of the Study- Theories, Evidence,, consilience, Case Studies- Money Illusion, Altruism and the Brain
U-2	Foundations: The neo classical Model, Axioms, assumptions, Evolutionary Biology of Utility, The Neuroscientific basis of Utility, Types of Utility, Broadening Rationality, policy Implications, Neoclassical Model- Probability Estimation, Self- evaluation Bias, Magical Beliefs, Causes of Irrationality, Application- Celebrity contagion and imitative magic
U-3	Decision – making under Risk and Uncertainty: Conventional Approaches to modifying Expected Utility theory, Prospect Theory, reference Points, Loss Aversion, Shape of Utility Function, Decision- weighting, Criticism of Prospect theory, Brief introduction to Recent Theories, Application- The Endowment Effect, Mental Accounting, Framing and Editing, Choice Bracketing and dynamics, Application- why you can't find a cab on a rainy day
U-4	Inter Temporal Choice: The Discounted Utility Model- Origin, Features, Methods & Anomalies, Alternative Inter-temporal Choice Models- Time Preference, time Consistent Preferences, Hyperbolic Discounting, Modifying the Instantaneous utility Function, Case Studies- The Saving problem, The Desire for rising consumer profiles

SEM-3- 6/8

ECO-306-A:
INDIAN ECONOMY

UNIT	COURSE CONTENT
U-1	Indian Economy- Basic features and issues relating to population growth, planning, mobilization of resources, growth, development and employment, Poverty, inequality and Inclusive growth, Sustainable development, Government Budgeting.
U-2	Agriculture- Major crops, cropping patterns in various parts of the country, different types of irrigation and irrigation systems, storage, transport and marketing of agricultural produce and issues and related constraints; technology in the aid of farmers. Issues related to direct and indirect farm subsidies and minimum support prices; Public Distribution System - objectives, functioning, limitations, revamping; issues of buffer stocks and food security; Technology missions; economics of animal-rearing. Food processing and related industries in India- scope and significance, location, upstream and downstream requirements, supply chain management, Land reforms in India.
U-3	Social and Economic Infrastructure: Education, Health, Housing, Energy, Ports, Roads, Airports, Railways etc. Effects of liberalization on the economy, Changes in industrial policy and their effects on industrial growth, Indian stock market and SEBI, Issues relating to India's foreign trade, role of foreign capital, FDI, external borrowings, non-resident deposits.
U-4	Odishan Economy- Basic features and issues relating to population growth, planning, mobilization of resources, growth, development and employment, Poverty, inequality and Inclusive growth, Sustainable development, Government Budgeting.

ECO-306-B:**REGIONAL ECONOMICS****SEM-3- 7/8**

UNIT	COURSE CONTENT
U-1	Basics of Regional Economics: Need for study of Regional Economics, Definition of a region, Different types of regions, Differences between region and a nation Objectives and scope of regional economic analysis - Regional economic problems – Causes - Economics of Geography – Krugman – Endogenous growth (Lucas and Romer).; Indicators of regional development, Social, Economic and Political factors in regional growth.
U-2	Regional Economic Theories – I Theories of Regional Economic Development – Cumulative Causation (Perroux, Myrdal, Hirschman) - Export base theory, Central place theory (Christaller), Sector theory (Colin Kuznets), Stages theory (Rostow).
U-3	Regional Economic Theories – II Theories of Location – Weber's and Florence - Migration and Regional Development – Todaro Model - Three dimensions of Regional Development – Density, Distance and Economic Divisions.
U-4	Regional Development in India: Socio-Economic Regional imbalance in India; Regional planning; Rural urban inequality; Role of Planning commission and finance commission in regional development, Trends in Regional Disparities in Income & Consumption, Sectoral Income and Employment Pattern across regions, Spatial Concentration of Industries in Liberalised Regime, Trends in regional agro production and productivity, Regional Distribution of Infrastructure, Trends in regional disparities in Infrastructure. Key issues in regional development of Odisha with special reference to Western Odisha and the KBK.

ECO-306-C:

INDIAN FINANCIAL SYSTEM

SEM-3- 8/8

UNIT	COURSE CONTENT
U-1	Introduction to Indian Financial System Significance and definition, purpose and organization, Liberalization of the financial system, Factors determining savings, Composition of savings, financial liabilities, saving rate trend in India, Financial Intermediation
U-2	Mutual Funds Objectives of Mutual funds, Resource Mobilization, Benefit of Mutual funds, Mutual funds in India, Types of Mutual Funds, Return from Mutual Funds, Mutual Fund holder's Account, SEBI directives for Mutual Funds, Private Mutual Funds, Asset Management Company, Unit Trust of India, Mutual Funds abroad, Evaluation of Performance of Mutual Funds, Money market Mutual Funds, Collective Investment schemes
U-3	Non - Banking Finance Companies Definition, Mutual Benefit Finance Companies, Financial sectors reform, Liberalization measures for NBFCS, Regulations for NBFCS accepting Public Deposits, Limits on acceptance of Deposits, Size of Non-Banking companies, deposits, distribution of deposits, Comparison of Net Owned Funds (NOF) and deposits, Capital issues by Finance Companies
U-4	Development Banking Nature of development banking, Financial appraisal, Liquidity Ratios, BEP, Technical Appraisal, Economical Appraisal and Social Cost – Benefit Analysis ,Promoter's Contribution, Appraising term Loans, Choice of Financial Institutions

ECO-401:**PUBLIC ECONOMICS-II****SEM-4- 1/5**

UNIT	COURSE CONTENT
U-1	Public expenditure- Wagner's law of increasing state activities ; Wiseman- Peacock hypothesis ; Pure theory of public expenditure ; Structure and growth of public expenditure ; Criteria of public investment ; Social costbenefit analysis- Project evaluation, Estimation of costs, discount rate ; Reforms in expenditure budgeting : Programme budgeting and zero base Budgeting.
U-2	Taxation- Theory of incidence ; Alternative concepts of incidence- Allocative and equity aspects of individual taxes ; benefit and ability to pay approaches ; Theory of optimal taxation ; Excess burden of taxes ; Tradeoff between equity and efficiency ; Theory of measurement of dead weight losses ; The problem of double taxation.
U-3	Public debt- Classical view of public debt ; Compensatory aspect of debt policy ; Burden of public debt ; Sources of public debt ; Debt through created money ; Public borrowings and price level ; Crowding out of private investment and activity ; Principles of debt management and repayment. Fiscal federalism- Principles of multi-unit finance
U-4	Fiscal federalism in India ; Vertical and horizontal imbalances ; Assignment of function and sources of revenue ; Constitutional provisions ; Finance commission and Planning commission ; Devolution of resources and grants ; Theory of grants ; Resource transfer from union to states- Criteria for transfer of resources ; Centre- state financial relations in India ; Problems state's resources and indebtedness ; Transfer of resources from Union and States to local bodies.

ECO-402:**INTERNATIONAL ECONOMICS-II****SEM-4- 2/5**

UNIT	COURSE CONTENT
U-1	Foreign trade multiplier with and without foreign repercussions and determination of national income and output, Demand and supply of export and import, Foreign exchange market, determination of foreign exchange rates, purchasing power parity, spot exchange rates, forward exchange rates, arbitrage and speculation
U-2	Free trade vs protection, Tariff: meaning and types, partial and general equilibrium and its welfare effects, theory of optimum tariff, effective rate of tariff, customs union- meaning and different types of economic integrations, partial and general equilibrium and its welfare effects
U-3	International Monetary System (past, present and future) gold standard, Brettonwoods system- its evolution and operation. Problems of international liquidity and role of IMF, conditional clauses of IMF, SDRs and developing countries
U-4	International debt and developing countries ; International Financial institutions – UNCTAD, World bank, Asian Development bank, WTO- their functions and objectives

ECO-403:**ENVIRONMENT & RESOURCE****SEM-4- 3/5**

UNIT	COURSE CONTENT
U-1	The economic process and assimilative capacity of the environment, Failure of the market to allocate environmental resources optimally, common property resources and the economic problem, The tragedy of the commons, The macro economic effects of environmental regulation,
U-2	The economics of environmental regulation- pollution taxes, Transferrable emission permits, Measuring Environmental damage: Total economic value, Valuation methodologies- WTA, WTP, Hedonic price approach, Contingent valuation, Travel cost approach
U-3	Population and environmental quality, Poverty and its interaction with population and environment, Social and economic equity and environmental sustainability, urbanization and its impact on environment, Trade and environment, Pollution Haven and race to the bottom
U-4	India's environmental policy issues- Environmental regulations in India, People's participation in the management of common and forest lands- the institution of Joint Forest Management, and Joint Protected area Management, Social Forestry- rationale and benefits, Climate change and its economics

ECO-404:
ADVANCED ECONOMETRICS-II

SEM-4- 4/5

UNIT	COURSE CONTENT
U-1	Simultaneous Equation models- Introduction and examples; The simultaneous equation bias and inconsistency of OLS estimators ; The identification problem ; Rules of identification- order and rank conditions ; methods of estimating simultaneous equation system ; Recursive methods and OLS ; Indirect least squares (ILS), 2SLS, 3SLS and ML methods- Applications.
U-2	Time series Analysis- Deterministic time series models and stochastic time series model, forecasting techniques, Forecasting with a single equation regression model, forecasting with ARIMA modeling; Box-Jenkins methodology
U-3	Multivariate analysis- principal component analysis (PCA) & Discriminant Analysis, Factor Analysis, Cluster Analysis
U-4	Dynamic econometric model- Autoregressive and distributed lag models- Koyck model, partial adjustment model, adaptive expectations ; Instrumental variables ; Almon approach to distributed lag models, Compound Geometric Lag model.

SEM-4- 5/5

ECO-405:
DISSERTATION/ PROJECT

