BA (Economics)
Under NEP 2020

Syllabus Revised on (06.09.2023) by

S.No.	Name	Designation	Department	College/University
1	Prof. Atvir Singh	Professor & Convener-I	Economics	C.C.S. University, Meerut
2	Prof. Dinesh Kumar	Professor	Economics	C.C.S. University, Meerut
3	Prof. R.K Sharma	Professor	Economics	C.C.S. University, Meerut
4	Dr. Sanjeev Kumar	Associate Professor	Economics	C.C.S. University, Meerut
5	Dr. Anju Garg	Convener-II	Economics	D.A.V. P.G. College BSR
6	Prof. Yudhvir Singh	Professor	Economics	Meerut College, Meerut
7	Dr. Rernu Bala	Professor	Economics	S.S.V. College Hapur
8	Prof. Vinod Singh	Professor	Economics	University of Lucknow
9	Prof. S S Mor	Professor	Economics	BPSM University, Haryana
10	Prof. Nidhi Sharma	Professor	Economics	B.H.U. Varanasi
11	Prof. Veer Virendra Singh	Professor	Economics	J S Hindi College Amroha
12	Prof. Shiv Kumar	Professor	Economics	I.C.A.R.-N.I.A.P. New Delhi
13	Prof. Amit Sharma	Convener Commerce	Commerce	I P College BSR

List of Papers in all Six semesters

Year	Sem.	Course Code	Paper Title	Theory/ Practical	Credits
1	I	A080101T	Principle of Micro Economics	Theory	6
1	II	A080201T	Principles of Macroeconomics	Theory	6
2	III	A080301T	History of Economic Thought	Theory	6
2	IV	A080401T	Money, Banking and Public Finance	Theory	6
3	V	A080501T	Economic Growth and Development	Theory	5
3	V	A080502T/ A080503T	**Optional Paper (Anyone)** Environmental Economics *or* International Economics	Theory	5
3	V	A080504R	Elementary Statistics-based Project	Practical	3
3	VI	A080601T	Indian Economy & Economy of Uttar Pradesh	Theory	5
3	VI	A080602T/A0 80603T	**Optional Paper (Anyone)** Agriculture Economics **or** Elementary Mathematics	Theory	5
3	VI	A080604R	Dissertation/Project on the Local Issues with Economic Focus plus Presentation on PPT of the Dissertation	Project	3
				Total Credit	**50**

Course Code: A080101T
Course Title: Principle of Micro Economics

Unit	Topics
I	**Basic Concepts**: What is economics and why is it important, microeconomics vs macroeconomics; scarcity, choice and opportunity cost; an overview of economic systems- traditional economy, command economy, market economy, mixed economy
II	**Demand and Supply**: Demand, supply, and equilibrium in markets for goods and services; Law of demand and supply; shifts in demand and supply for goods and services; elasticity of demand- price, income and cross elasticities of demand
III	**Theory of Consumer Behaviour:** Concept of utility- cardinal vs ordinal utility; marginal utility, law of diminishing marginal utility; budget constraint; indifference curves- meaning and properties; consumer equilibrium
IV	**Production and Costs:** Production function- long run and short run; law of variable proportions, isoquants- meaning and properties, returns to scale; production possibility frontier; cost- total cost, fixed costs, variable cost, marginal cost and average cost, types of factor payments, iso-cost lines, economies of scale, explicit and implicit costs
V	**Perfect Competition:** Characteristics, output decisions by perfectly competitive firms, entry and exit decisions in the long run
VI	**Imperfect Competition:** Monopoly- meaning and important characteristics; monopolistic competition- meaning and important characteristics
VII	**Distribution:** The concept of distribution, an elementary idea about the classical theories of rent, wages, profits, and interest
VIII	**Welfare Economics**: Concept of welfare economics, normative vs positive economics; concept of Pareto optimality

Course Code: A080201T
Course Title: Macro Economics

Unit	Topics
I	**Basic Concepts**: Nature and scope of macroeconomics, macroeconomic variables: stock and flow concept
II	**Circular flow of income:** Circular flow of income in two-sector, three-sector and four-sector economy
III	**National Income:** Meaning, and concepts of national income; measurement of national income-expenditure approach, production (value-added) approach, and income approach, problems in the measurement of national income, the concept of per capita national income
IV	**Unemployment**- Meaning of unemployment; labour force participation rate and unemployment rate, types of unemployment- disguised, cyclical, frictional and structural unemployment; Natural rate of unemployment
V	**Inflation**- meaning and types of inflation, cost-push vs demand-pull inflation; headline vs core inflation; wholesale price index vs consumer price index, Phillips curve
VI	**Classical Doctrine and Keynesian Economics:** Tenets of classical economics, Say's Law of the market, criticisms of Say's law by Keynes, salient features of Keynesian economics, the principle of effective demand
VII	**Consumption and Investment:** Consumption function- average and marginal propensity to consume, determinants of consumption expenditure; investment-autonomous and induced investment, determinants of investment, marginal efficiency of capital
VIII	**Keynesian Theory of Income Determination:** Concept of aggregate demand and aggregate supply, investment multiplier; income determination in two-sector and three-sector model

Course Code: A080301T
Course Title: History of Economic Thought

Unit	Topics
I	**Ancient Economic Thought:** Plato, Aristotle, and Kautilya
II	**Mercantilism**: Salient features, factors responsible for the growth of mercantilism **Physiocracy:** Salient features, factors responsible for the rise of physiocracy
III	**Classical thought:** Adam Smith, David Ricardo, and Thomas Malthus
IV	**Marxian Economics-** Economic ideas of Karl Marx
V	**Neo-classical thought:** Marshall, Pigou, Walrus, Jevons and Menger
VI	**Cambridge and Chicago School of Thought:** Joan Robinson, Milton Friedman
VII	B.R. Ambedkar, M.K. Gandhi, J.L. Nehru, Chaudhary Charan Singh
VIII	Amartya Sen, J. Bhagwati, Abhijit Banerjee

Course Code: A080401T
Course Title: Money, Banking, and Public Finance

Unit	Topics
I	**Money:** Meaning, functions, and classification of money; demand for money- determinants of demand for money
II	**Supply of money**- Narrow and broad concept of supply of money, high-powered money, and money multiplier
III	**Commercial Banks**- Meaning, classification, and functions; liabilities and assets of a commercial bank; credit creation by commercial banks
IV	**Central Bank:** Meaning and functions of a central bank; monetary policy- meaning, instruments and objectives of monetary policy
V	**Public Finance**- Nature and scope of public finance; public finance vs private finance; role of government; functions of public finance, revenue account vs capital account
VI	**Public Revenue:** Major sources of public revenue; canons of taxation; impact and incidence of a tax; effects of taxation
VII	**Public Expenditure:** Meaning and types of public expenditure, causes of rise in public expenditure in India
VIII	**Public Debt and Fiscal Policy:** Meaning and classification of public debt, public debt management; Fiscal policy- meaning, instruments and objectives of fiscal policy

Course Code: A080501T
Course Title: Economic Growth and Development

Unit	Topics
I	**Economic Growth**: Meaning of economic growth, determinants of economic growth- physical capital, human capital and technology; factors contributing to a healthy economic climate; concept of inclusive growth
II	**Economic Development**- Meaning of economic development, economic development vs economic growth, concept of sustainable development, sustainable development goals
III	**Comparative Economic Development**: World Bank's income classification of countries; UNDP's Human Development Index, salient features of underdeveloped, developing and developed countries
IV	**Stages of Economic Growth:** Karl Marx's stages of economic growth, Rostow's stages of economic growth
V	**Theories of Economic Growth-I:** Classical theory of economic growth; Marxian theory of economic growth; Harrod-Domar models of economic growth
VI	**Theories of Economic Growth-II:** Nelson's low-level equilibrium trap, Arrow's learning by doing, models of economic growth by Meade and Robinson
VII	**Theories of Economic Development:** Balanced vs unbalanced growth, Lewis's theory of unlimited supply of labour, Rosenstein Rodan's theory of big push; Leibenstein's model of critical minimum effort
VIII	**Poverty and Inequality:** Concept of poverty, vicious circle of poverty, Lorenz curve, measurement of poverty- income poverty and multidimensional poverty index; concept of inequality, Kuznet's Inverted U-Hypothesis, measurement of inequality- Lorenz curve, Gini Coefficients and aggregate measures of inequality

BA 3rd Year, Sem. V Course II (Optional)(Theory)

Programme/Class: Degree/BA		Year: Third	Semester: Fifth
Subject: Economics			
Course Code: A080502T	Course Title: Environmental Economics		
Credits:5		Core Compulsory	
Max.Marks:25+75		Min.PassingMarks:40	
Total No. of Lectures-Tutorials-Practical (in hours per week): L-4/w			
Unit	Topics		No. of Lectures
I	**Introduction:** Key environmental issues and problems, economic way of thinking about these problems, basic concepts from economics; Pareto optimality and market failure in the presence of externalities; property rights, and other approaches.		10
II	**The Design and Implementation of Environmental Policy:** Overview, Pigouvian taxes and effluent fees, tradable permits, implementation of environmental policies in India and international experience; transboundary environmental problems; economics of climate change, Kuznets Curve.		10
III	**Environmental Valuation Methods and Applications:** Valuation of non-market goods and services-theory and practice; measurement methods; cost-benefit analysis of environmental policies and regulations.		10
IV	**Sustainable Development:** Concepts; measurement; perspectives from the Indian experience.		7
V	**The Theory of Externality**: Positive & Negative Externality; Public Goods; Private Goods; Public Bads; Market Failure and Pigouvian Solution- Pigouvian Tax.; Coase's Theorem and Property Rights; Eco-Labelling; Eco-Efficiency.		8
VI	**Social Limits to Growth Model**: Green Accounting; Environmental Valuation-Meaning, Need for Environmental Valuation, Methods of Environmental Valuation; Difficulty in Measuring Environmental Values, Environmental Damages and Its Valuation.		10
VII	**Indian Constitution and the Environment:** Environmental Management and Concept, Objectives, and Goals, Obstacles; Environmental Impact Assessment; Environmental Education and Awareness-Dilemma of Environmental Ethics and Practical Problems, Environmental Education in India.		10
VIII	**Population and Environment**: Trade and Environment in the WTO Regime; Climate Change- Meaning and Concept, Ozone Depletion, Acid Rain, Global Warming and Greenhouse Effect; Indian Environmental Issues and Legislations; Role of Judiciary in Environmental Protection and Conservation; International Environmental Issues and Legislations, Carbon Trading.		10

BA 3rd Year, Semester V, Course II (Theory) Optional

Programme/Class: Degree/BA		Year: Third		Semester: Fifth
Subject: Economics				
Course Code: A080503T		**Course Title: International Economics**		
Credits:5			**Core Compulsory**	
Max.Marks:25+75			**Min.PassingMarks:40**	
Total No. of Lectures-Tutorials-Practical (in hours per week): L-4/w				
Unit	Topics			**No. of Lectures**

Unit	Topics	No. of Lectures
I	**Economic Globalization-** Meaning, benefits and opportunities, negative effects of globalization	8
II	**The Classical theories of international trade:** Adam Smith, David Ricardo, J.S. Mill, and Haberler	8
III	Heckscher-Ohlin theorem, Leontief Paradox- Leontief's test of the Heckscher-Ohlin theorem	8
IV	**Terms of Trade:** Meaning and concepts, factors affecting terms of trade **International Trade Policies:** Tariffs, quotas and subsidies; Non-tariff barriers	8
V	**Balance of Payments Accounting principles:** Debits and credits in the balance of payments, current account, capital account, official reserves, deficits, and surplus in current account and capital account	10
VI	**International Financial Institutions:** IMF, World Bank, WTO- TRIPS; **Economic Integration:** Custom Unions and Free Trade Areas	8
VII	**Foreign Exchange:** Meaning of foreign exchange, meaning and determination of exchange rate, exchange rate policies- fixed, flexible and mixed systems, purchasing power parity theory	10
VIII	**Key Issues in International Trade:** Import substitution versus export pessimism, UNCTAD and world trading system, foreign direct investment vs foreign portfolio investment	8

BA 3rd Year, Semester V Course III (Project)

Program/Class: Degree/BA		Year: Third	Semester: Fifth
Subject: Economics			
Course Code: A080603R		**Course Title: Elementary Statistics-based Project**	
Credits:3	**Core Compulsory**		
Max.Marks:25+75	**Min. Passing Marks: 40**		
Total No. of Lectures-Tutorials-Practical (in hours per week): L-4/w			
Unit	**Topics**		**No. of Lectures**
I	Introduction to Basic Concepts in Statistics: Population, Sample, Parameter, Data-Meaning & types. Questionnaire, Schedule & Interview Schedule (meaning, concept & types), Frequency Distribution, Cumulative frequency; Graphic and Diagrammatic representation of data.		**45 (Classroom teaching and practical)**
II	Measures of Central Tendency - Mean, Median, Mode, Geometric mean, and Harmonic mean. (Meaning, concept, properties & methods of measurement- in brief). Measure of Dispersion: Range, Mean Deviation, Standard deviation, Coefficient of Variation, Quartile deviation, Skewness and Kurtosis (Meaning, concept, properties & methods of measurement- in brief)		
III	Correlation: Meaning, Concept, Types & Properties. Methods of Regression: Meaning and Concept. Least squares method, Interpretation of Regression Coefficients. Meaning, concept & types of Sampling. Meaning & concept of Hypothesis & hypothesis testing.		
IV	Time Series: Concept, Meaning & Components - Determination of Regular, Trend and Seasonal Indices. Index Number: Concept, Classification of Index Numbers- price relative, quantity relative, value relative & special purpose (in brief). Consumer Price Index (CPI), Whole Sale Price Index (WPI), Methods of Construction of Index Numbers-i) Unweighted & ii) Weighted indices (in brief). Test of Adequacy of Index Number Formulae (in brief).		

Program/Class: Degree /BA		Year: Third	Semester: Sixth
Subject: Economics			
Course Code: A080601T	Course Title: Indian Economy & Economy of Uttar Pradesh		

Course Outcome:
- Students should be familiar with the basic characteristics of the Indian economy,
- Students should be familiar with the potential of natural resources of the Indian economy and the economy of Uttar Pradesh.
- Students can understand the importance, causes, and impact of population growth and its distribution, translate and relate them with economic development.
- Students can develop an understanding of Uttar Pradesh, its demographic features, natural resources, and factors that can stimulate its economic growth and development.
- Students should be familiar with the rural development of Uttar Pradesh over some time.
- Students should be familiar with the industrial development in India and Uttar Pradesh.

Credits: 5	Core Compulsory
Max. Marks: 25+75	Min. Passing Marks: 40

Total No. of Lectures-Tutorials-Practical (in hours per week): L- 4/w

Unit	Topics	No. of Lectures
Part I		
I	**Structure and Features of Indian Economy:** Indian Economy as a Developing Economy. Comparative Development of Indian States.	8
II	**Agricultural Sector:** Institutional Reforms, Technological Change in Agriculture, Terms of Trade between Agriculture and Industry; Agricultural Policy, Policies for Sustainable Agriculture. Agrarian Crisis and Agricultural Labour.	10
III	**Industrial Sector:** Industrial Policy; Public Sector Enterprises and their Performance, Privatization, and Disinvestment debate, Small, Medium and Large-scale Sector, Industrial Labour,	10
IV	**Planning in India**: Objectives and Strategy of Planning; Success Story of Indian Plans; Strategy of Inclusive Growth	10
Part II		
V	Nature, Features, Demographic Profile, Status of Natural Resources, Major Factors affecting growth and development in Uttar Pradesh.	10
VI	Sectoral growth pattern in Uttar Pradesh; Economic growth in Uttar Pradesh and Indian economy: A comparison; Infrastructural development of Uttar Pradesh.	7
VII	Pattern of land-holding and irrigation; production and productivity in agriculture, Farm mechanization, Crop diversification, agricultural credit, Agricultural policy and strategies in Uttar Pradesh, Rural Development in Uttar Pradesh.	10
VIII	Pattern of Industrial Development in Uttar Pradesh, Industrial Policy in Uttar Pradesh, Growth pattern of Services sector and Its linkages of other sectors of UP Economy. Micro, Small, Medium Enterprises (MSMEs) in Uttar Pradesh. One Product One District (OPOD).	10

Suggested Readings:
1. Agarwal,,M K (2009): Uttar Pradesh ka Arthik Vikas. New Royal Book Company
2. Annual Financial Statement (Budget) of the Government of Uttar Pradesh published in different years & the latest.
3. Annual Financial Statement (Budget) of the Government of Uttar Pradesh published in different years & the latest.
4. Annual Financial Statement (Budget)various years & Latest published by the Government of India.

5. Economic Surveys, Government of India (Hindi/English)
6. Indian Economy by Mishra & Puri. Himalaya Publishing House (Hindi /English)
7. Indian Economy by Uma Kapila, Academic Foundation
8. Indian Economy. Rudra Dutt & Sunderam. S. Chand & Company (Hindi /English)
9. Mishra, Arvind Narayan & Atul Chandra (2018): The Economy of Uttar Pradesh. Gutenberg Publication ISBN: 9789386240224, 9789386240224
10. Mishra, Arvind Narayan & Atul Chandra (2018): The Economy of Uttar Pradesh. Gutenberg Publication ISBN: 9789386240224, 9789386240224
11. Publications of the Government of Uttar Pradesh.
12. Publications of the Government of Uttar Pradesh.
13. Uttar Pradesh Human Development Report, UNDP, 2008.
14. Uttar Pradesh Human Development Report, UNDP, 2008.
15. Uttar Pradesh State Development Report, Volume I & II, State Plan Division, Planning Commission Government of India, 2014.
16. Uttar Pradesh State Development Report, Volume I & II, State Plan Division, Planning Commission, Government of India, 2014.

Suggested Continuous Evaluation Methods: Assignment / test / Quiz(MCQ) / Seminar/ Presentations/ Research orientation of students

Suggested equivalent online: Swayam

Program/Class: Degree /BA	Year: Third		Semester: Sixth
Subject: Economics			
Course Code: A080602T	Course Title: Agriculture Economics		

Course Outcome

- Students should be able to comprehend and explain the approaches to economic development concerning dualistic development.
- Students should be able to understand and explain the basics of agriculture economics.
- Students should be familiar with labour issues in the agriculture sector.
- Students should be able to explain the significance of agriculture in the economic growth and economic development of an economy and in the case of the Indian Economy.
- Students should be familiar with the institutional initiates to strengthen rural and agricultural development to achieve self-sufficiency.
- Students should be able to comprehend the role of credit in the development of agriculture in a country like India and the significance of institutional mechanisms in this regard.

Credits: 5	Core Compulsory
Max. Marks: 25+75	Min. Passing Marks:40

Total No. of Lectures-Tutorials-Practical (in hours per week): L- 4/w

Unit	Topics	No. of Lectures
Part I		
I	Models of Agricultural Development: Physiocrats approach, W. A. Lewis model, Fei & Ranis Model, Schultz Theory of Agricultural Development, Jorgenson's Dual Economy Model	10
II	Agricultural Production Function, Supply Response, Farm Size, Returns to Scale and Productivity. Cobweb Theorems. Farm Size and Productivity Debate; Theoretical and Empirical Findings. Agricultural Price Policy in India.	10
III	Labour in Agriculture- Interlocking of Factor Markets, Labour and Work Force in Rural Farm and Non-Farm Sectors. Agricultural Labour- Problem and Policy. Concept and Measurement of Rural Poverty & Employment, Poverty Alleviation Programmes	10
IV	Current Issues in Indian Agriculture: Agro-Subsidies in India, Subsidy *vs* Public Investment. Export a n d Imports of Agricultural Commodities, Terms of Trade in Indian Agriculture, WTO and Indian Agriculture-Bali Negotiations	10
Part-II		
V	Role of Agriculture in Economic Growth and Development in India. Backward, Forward Linkage between Agriculture and Industry, Approaches towards Agriculture and Allocation of Resources under Different Plans in India. Employment Elasticity in Indian Agriculture, Challenges & Issues Regarding Agricultural Area Expansion,	10
VI	Land Reforms in India & Its Contemporary Relevance, Green Revolution and the Need for Second Generation, Green Revolution, Role of Infrastructural Support-Irrigation, Power, Seeds, Fertilizers,	10
VII	Role of Credit in Agricultural Development, Institutional & Non-Institutional Sources of Credit in India, Role of Schedule Commercial Banks, Lead Banks, Regional Rural Banks and NARBAD to Promote Agricultural Development.	8
VIII	Structure of Agricultural Markets in India, Issues and Challenges in the Marketing of Agricultural Products in India (With Focus on The Post Reform Period-Post 1991). Agricultural and crop Diversification Farm Incomes and Employment in Indian Agriculture.	7

Suggested Readings:

- Bardhan, P. (1984) Land, Labour and Poverty; Essays in Economic Development, OUP, New Delhi**.**
- Bhaduri, A. (1984), The Economic Structure of Backward Agriculture; Macmillan, Delhi.
- Bhalla, G.S., (2007) Indian Agriculture since Independence, National Book Trust, India
- Bharadwaj, K. (1974), Production Condition in India Agriculture; OUP, Cambridge.
- Black, J.D, (1953) Introduction to Economics for Agriculture, Macmillan.
- Dantawala, M.L. et al. (1991): Indian Agricultural Development since Independence, Oxford & IBH, New Delhi.
- Dash, Mrutyunjay (2013): Agricultural Economics, Anmol Publications.
- Ghatak, Sand K. Ingerscant(1984),Agriculture and Economic Development; Select Books, New Delhi.
- Griffin, K.(1973): Political Economy of Agrarian Change.
- Gupta,P.K (2012) : Agricultural Economics, Vrinda Publications, Delhi.
- Gupta,P.K (2012) : Krishi Arthsastra, Vrinda Publications, Delhi.
- Khusro, A.M. (1973), The Economics of Land Reforms and Farm Size in India, MacMillan.
- Kumar, N.S.Ravi (2010) : Agricultural Economics, Neha Publishers.
- Lekhi,R.K(2013) : Agricultural Economics, Kalyani Publishers.
- Lekhi,R.K(2013) : Krishi Arthsastra, Kalyani Publishers.
- Mahajan, Ashwani (2010): Agricultural Economics, Centrum Press.
- Mellor, J.W., The Economics of Agricultural Development, Vora and Co., Bombay, 1964.
- Raghavan and L. Sarkar (Eds.) (1996): Poverty and Employment: New Delhi.
- Raj, K.N. et.al. (1988): Essays in the Commercialization of Indian Agriculture; OUP, New Delhi.
- Rao, CHH (1993): Agricultural Growth, Rural Poverty and Environmental Degradation in India, OUP, New Delhi.
- Rao, CHH, (1975): Technological Change and Distribution of Gains in Indian Agriculture, MacMillan.
- Rudra, A. (1982): India Agriculture Economics; Myths and Reality: Allied Publishers, New, Delhi.
- Sarap Kailash (1991): Interlinked Agrarian Markets in Rural India, Sage Publication, New Delhi.
- Schultz, T.W. (1964): Transforming Traditional Agriculture, Yale University Press.
- Soni, R.N (2011): Krishi Arthshastra Ke Mukhya Vishay, Vishal Publishing Company, Jalandhar (New Delhi)
- Soni, R.N (2011): Leading Issues in Agricultural Economics, Vishal Publishing Company, Jalandhar (New Delhi)
- Sunder, I (2010): Principles of Agricultural Economics, Neha Publishers.
- Talathi, J.M (2008): Introduction to Agricultural Economics and Agribusiness Management, Ane Books.
- Taylor, H.C., (1949), Outlines of Agricultural Economics, MacMillan.
- Verma, N.M.P. (1990), Irrigation Change and Agricultural Development, Uppal, New Delhi.

Program/Class: Degree /BA		Year: Third	Semester: Sixth
		Subject: Economics	
Course Code: A080603T		Course Title: Elementary Mathematics	

Course Outcome
- Students should be familiar with the basic concepts of mathematics and their application in economics.
- Students can comprehend & explain the concepts of straight lines slope etc of mathematics and its application in economics.
- Students should be able to understand the basics of differential & its application in economics.
- Students should be able to understand and work with matrices and determine if a given square matrix is invertible.
- Learn about and work with vector spaces and subspaces.
- Students can understand and work with the concepts of linear programming & graphic methods.

Credits: 5	Core Compulsory
Max. Marks: 25+75	Min. Passing Marks:40
Total No. of Lectures-Tutorials-Practical (in hours per week): L- 4/w	

Unit	Topics	No. of Lectures
Part I		
I	Basic Concepts: Variables, Sets, Functions, Equations, Identities, Systems of Equations	9
II	Application of Straight-Line System, Slope of the Line, Homogeneous Function.	9
III	Role of Mathematical Techniques in Economic Analysis, Theory of Numbers, Indices and Factorization.	9
IV	Progression, Growth Rate, Equilibrium.	9
Part II		
V	Basics of Calculus: Rules of Differentiation of a Function; Maxima and Minima,	9
VI	Elasticities; Interrelationships among Total, Marginal, and Average Cost and Revenues; Constrained Optimisation Problem; Integration of a Function, Consumer's and Producer's Surplus	10
VII	Matrix and Determinants: Various types of Matrices, Determinants, Inverse of a Matrix, Crammer's Rule.	10
VIII	Concept of Linear Programming — Graphic Methods.	10

Suggested Readings:

1. Agarwal, D.R. (2009): Mathematics for Economics, Vrinda Publications, Delhi. Livernois, John., Rees, Ray., & Hoy, Michael (2012): Mathematics for Economics, PHI Learning.
2. Agarwal, D.R. "Prarambhik Ganitiya Arthshastra (Hindi), Vrinda Publications, Delhi.
3. Allen, R.G.D (2008): Mathematical Analysis for Economics, AITBS.
4. Bhardwaj, R.S (2006): Mathematics for Economics and Business, Excel Books.
5. Chiang, A. C & Wainwright, Kevin (2013): Fundamental Methods of Mathematical Economics" Mc Graw Hill Publication.
6. Dowling, Edward.T (2005): Schaum's Easy Outline of Introduction to Mathematical Economics, Tata Mc graw Hill Education.
7. Madnani, G M K : Mathematics for Economics. Sultan Chand & Sons
8. Mishra, J.P. "Ganiteeya Arthshastra", Pratiyogita Sahitya.

9. Rosser, Mike (2003): Basic Mathematics for Economists, Routledge.
10. Seth, M.L., "Arthshastra mei Prarambhik Ganit", Laxmi Narayan Publications, Agra.
11. Sharma, J.K(2007): Business Mathematics, Ane Books Pvt. Ltd.
    Yamane, Taro (2007) : Mathematics For Economists: An Elementary Survey, PHI Learning

Suggested Continuous Evaluation Methods: Assignment/test / Quiz (MCQ) / Seminar/ Presentation/ Research orientation of students

Suggested equivalent online: Swayam

B A 3rd Year, Sem. VI
Course IV
(Project/Dissertation)

Program/Class: Degree/BA		Year: Third	Semester: Sixth	
Subject: Economics				
Course Code: A080604R		Course Title: **Project/Dissertation**		

Course outcomes:
- The objective of introducing a Dissertation/Project at the graduation level is to familiarise, acquaint, and experience the local issues of economic implication or focus on the economic well-being and behaviour of consumers/citizens.
- It aims at enabling the students to use and apply the learned economic principles vis-a-vis local economic issues.
- To enable them to learn the preparation of the questionnaire/interview schedule.
- The Template/Format of the Dissertation/Project shall be developed by the respective Department.
- The idea behind this is to develop economic thinking in the students through direct experience with real life.

Credits: 3	Core Compulsory
Max. Marks: 25+75	Min. Passing Marks:40

Total No. of Lectures-Tutorials-Practical (in hours per week): P-2/w		
Unit	**Topics**	**No. of Lectures**
I	Dissertation Topic on the Local/Current Issues with Economic Focus plus Presentation using PPT Dissertation Report will be prepared using Statistical/Research Techniques. Surveys, Questionnaire/interview schedule. The questionnaire/Interview Schedule must be attached to the report as an annexure.	45

Suggested Readings:
- Choubey, Varanya (2018): Research Writing: The Structural Challenge of Communicating Knowledge + A Method to Meet it. ISBN-13: 978-1974673162 & ISBN-10: 1974673162
- Greenlaw, Steven A (2005): Doing Economics: A Guide to Understanding and Carrying Out Economic Research, Houghton Mifflin Harcourt (HMH).
- Kothari, C R (2013): Research Methodology. New Age International Publishers.
- Paliwal, Neha & Surendra Khatri (2018): Sodh Pravidhi. National Publishing House. ISBN: 9788180181726, 8180181723
- Pandey Arun & Ganesh Pandey (2009): Sodh Pravidhi. Radha Publication. ISBN-10: 8174873805
- Sharma, Vinay Mohan (2018): Sodh Pravidhi. Mayur Books.
- Thomson, Williams (2011): A Guide for the Young Economists. MIT Press

This course can be opted as an elective by the students of following subjects: Open for all

Suggested Continuous Evaluation Methods:
Fieldwork, Seminar, Presentations, VIVA, Dissertation.

Suggested equivalent online: Swayam