DEPARTMENT OF ECONOMICS UNIVERSITY OF LUCKNOW, LUCKNOW



BA ECONOMICS under NEP

Name of Faculty	ARTS			
Department	ECONOMICS			
Programme Name	BA in ECONOMICS under NEP			
Effective from:	JULY- 2024			
Duration of Course	The duration of the course shall be eight semesters over four years			

BRIEF HISTORY OF DEPARTMENT

The Department of Economics started functioning with the formation of the University of Lucknow in 1921. Two other departments, Anthropology and Sociology, were created during mid fifties respectively, which earlier used to be a part of Economics Department. Prof. Radha Kamal Mukherjee was the first Head of the Department. He remained Head until 1955. For a period of over two years during mid-fifties, he also remained The Vice Chancellor of the Lucknow University. Subsequently, Department has had a good fortune of being shaped and developed under the Headship of academicians like Prof. D.P. Mukherjee (1955-57), Prof. Baljit Singh (1957-74), Prof. S.D.Mishra (1974-75), Prof. Prakash Chandra (1975-76), Prof. V.B. Singh (1976-78), Prof. N.N. Srivastava (1978-92) and Prof. Paritosh Banerjee (1992-96). Besides these academic luminaries the Department consisted of many great teachers and scholars like Prof. B.B. Mukherjee (also conferred the title of Rai Bahadur by the British Government), Prof. D.N. Majumdar, Prof. M.D. Joshi, Prof. Naseer Ahmad Khan, Prof. P.L. Rawat, Prof. K.C. Seth, Prof. H.G.P. Srivastava, Prof. P.D. Srimali, Prof. Shailendra Singh, Prof. S.P. Dixit, Prof. R.S. Mathur, Prof. A.K. Singh, Prof. V.P. Bharadwaj, Prof. T.S. Papola, Prof. B.P.S. Bhadauria, Prof. I. D. Gupta, Prof. A K Sengupta, Prof. Y. Taygi and Prof. Rakesh Kumar.

The Department supports undergraduate and postgraduate programmes (BA, M.A., and Ph.D.) in Economics, which draw a huge number of applicants from all over the country. These programmes have a strong theoretical and quantitative focus with an emphasis on empirical applications. Current Faculty members of the department are contributing in the areas of emerging areas of Economics in terms of teaching and research activities.

PROGRAMME UNDER NEW EDUCATION POLICY

The programme under NEP provides an opportunity for the students to choose courses from the prescribed courses comprising Major I, Major II, Minor, value addition courses (CC/VC). The courses can be evaluated following the grading system, which is considered to be better than the conventional marks system. Grading system provides uniformity in the evaluation and computation of the Cumulative Grade Point Average (CGPA) based on student's performance in examinations which enables the student to move across institutions of higher learning. The uniformity in the evaluation system also enables the potential employers to assess the performance of the candidates.

PROGRAMME OVERVIEW

This programme deals with the study and application of economic theory and economic decision making. Exposure to different sectors builds the analytical capacity of the students. The program aims at producing successful and competent economic analysts who are ethically and socially responsible professionals with an inter-disciplinary orientation.

PROGRAMME OUTCOMES/ OBJECTIVES (PO'S)

The programs offered by the Department of Economics, University of Lucknow, Lucknow are designed to provide a general understanding of the functioning of the economic system and the role of institutions within that system; and prepare the student for employment in industry, the professions, and government, or to pursue graduate work toward such advanced degrees Economics or related fields.

PROGRAMME SPECIFIC OUTCOMES (PSO's)

The learning output of this course is to ensure the development of an understanding of Micro and Macro Theory and their application to Economic sub-fields. On successful completion of this course, the student should be well versed in the concepts, tools and principles in the field of Economics and related fields.

Programme Duration and Credit Requirements

- The first degree programmes shall be spread over eight semesters (4 academic years). This shall include 2 Major subjects and a Minor subject. Of the two major subjects, one will be pursued over all 8 semesters. Second major will be pursued for 6 semesters and Minor subject will be pursued for 4 semesters. In addition, students will be required to complete 2 co-curricular and 2 vocational courses. They will also be required to pursue an internship/ term paper/ minor project and a major project/ dissertation in Major A. The exact combination of courses will depend on whether the student is pursuing a certificate, diploma, undergraduate degree or undergraduate honours degree with research. The students will also be required to pass a course on Rashtra Gaurav to obtain certificate, diploma, undergraduate degree or undergraduate honours degree with research.
- The maximum duration for completing the four year first-degree programme, shall be six consecutive academic years (N+2 as per UGC guidelines).
- The minimum number of lectures, tutorials, seminars and practicals which a student shall be required to attend for eligibility to appear in the examination shall be 75%. However, in exceptional cases, the Dean of the Faculty concerned may grant a relaxation in the minimum attendance requirement by not more than 15% on the basis of genuine reason.
- In all credit courses (other than Internship/ term paper, minor project, Dissertation/ major Project), there shall be continuous internal assessment of 25 marks and Semester-end Examinations of 75 marks as per the scheme of Examination. Odd semester examinations will be descriptive where students answer 5 out of 10 questions. Even semester examinations will have MCQ where students are supposed to answer 75 out of 100 questions. Any change in examination pattern will be decided by the Vice Chancellor in consultation with the Deans and Controller of Examinations.
- Major Research Project/ Dissertation will be evaluated in the eighth semester carrying twelve credits. The student is required to submit the major research project/ dissertation along with the requisite certification from the concerned supervisor. The supervisor allotment will be decided by the Head of Department. The panel for evaluation of dissertation (carrying 75 percent weightage) and, the presentation by the student and viva-voce (carrying 25 percent weightage) shall be from amongst the eligible teachers of the university and associated colleges.
- For the ease of computation, the assessment/ evaluation of each course will be out of 100 marks (25 for internal assessment and 75 for end of semester examination) irrespective of number of credits allotted to the course. The marks shall be converted to grades as per the table below. When students take audit courses, such as Rashtra Gaurav, they may be given pass (P) or fail (F) grade without any credits.

Letter Grade	Grade Point					
O (outstanding)	10					
A+ (Excellent)	9					
A (Very Good)	8					
B+ (Good)	7					
B (Above average)	6					
C (Average)	5					
P (Pass)	3.3					
F (Fail)	0					
(Absent)	0					

COMPUTATION OF SGPA AND CGPA

The Semester Grade Point Average (SGPA) and Cumulative Grade Point Average (CGPA) shall be computed as follows:

• The SGPA is the ratio of sum of the product of the number of credits with the grade points scored by a student in all the courses taken by a student and the sum of the number of credits of all the courses undergone by a student, i.e.

$$SGPA(S_i) = \Sigma(C_i \times G_i) / \Sigma C_i$$

where C_i is the number of credits of the ith course and G_i is the grade point scored by the student in the ith course.

• The CGPA is also calculated in the same manner taking into account all the courses undergone by a student over all the semesters of a programme, i.e.,

$$CGPA = \Sigma(C_i \times S_i) / \Sigma C_i$$

where, S_i is the SGPA of the ith semester and C_i is the total number of credits in that semester.

- The SGPA and CGPA shall be rounded off to 2 decimal points and reported in the grade cards and transcripts.
- Whenever a student is permitted to repeat a course, the better grade of the two will be taken for the computation of SGPA and CGPA.

GRADING

- A student obtaining grades 'P' to 'A+ (numeric grade 4 or higher) in any course shall be considered PASS in that course.
- For non-credit courses, P or F will indicate Pass or Fail.
- If a course of any subject (both theory and practical) is a credit course, then the passing percentage for each course is set at 33 percent. However, an aggregate passing percentage of 36 percent shall be required in a programme.
- There is no minimum passing percentage for internal evaluation. Even if a student scores zero marks
 in internal evaluation and meets the minimum passing criteria in external examinations they will be
 considered as pass.
- A student shall be eligible for a maximum of seven grace marks if he/ she is able to clear all courses in the semester with the help of grace marks.

PROMOTION AND REAPPEARING

- All students shall be promoted automatically from odd to even semesters.
- A student shall be promoted from any academic year to the next if he/ she has passed in at least fifty percent credit courses in previous two semesters combined.

- Those students who are NOT eligible for promotion shall have to reappear in the end semester examination of those courses in the semester(s) in which the student has failed, within the next regular examination only. The grades of internal assessment shall carry forward in such cases.
- Those students who are eligible for promotion and wish to improve their grades, may choose to reappear in the end of semester examination to improve their grades, within the next regular examination only. The grades of internal assessment shall carry forward in such cases.
- A student may be allowed to re-register for a semester, within the maximum stipulated time period allowed to complete the program, provided he/ she satisfies one of the following conditions. In such a case there shall be fresh assessment of internal evaluation:
 - > The student is declared fail.
 - The student did not appear in a semester-end examination or he/ she was not granted permission to appear in the examination.
 - The student had been detained by the University and subsequently has been permitted to take readmission.
 - > The student has own desire to abandon the performance of the semester and wishes to repeat/reappear.
- Those students who reappear in any course (s) in any semester or re-register for a semester, shall have to pay the prescribed fee.
- Cases of use of unfair means in the examination shall be dealt with as per the rules and regulations of the University.
- Challenge evaluation shall be permitted as per rules/ orders of the Chancellor.

AWARD OF DIVISION

• Division shall be awarded to the students as per the following table:

CGPA RANGE	Division				
7.50<=CGPA<=10.00	First Division with distinction				
6.00<=CGPA<=7.49	First Division				
4.50<=CGPA<=5.99	Second Division				
3.60<=CGPA<=4.99	Third Division				

There is no direct method of conversion of CGPA to percentage marks, however, the CGPA may be
multiplied by 10 to get the overall indicative percentage marks for comparison with conventional
marks system.

FRAMEWORK
Proposed structure of UG Programme in the Department of Economics, University of Lucknow

Year	Semester	Major-A (Subject 1)		Major-B (Subject 2) Minor (Subject 2)		Minor (Subjec				Total	Degree
				s Courses			Credits	Courses	Credits	Credits	
	Sem 1	P-1 Principles of Economics	4	P-1 Principles of Economics	4	Q-1 Principles of	2	CC-1 Financial Literacy and	2	20	
1		P-2 Indian Economy	4	P-2 Indian Economy	4	Economics		Banking			ate
	Sem 2	P-3 Economic Theory	4	P-3 Economic Theory	4	Q-2 Contemporary	2	VC-1 Basics of Financial	2		Certificate
		P-4 Contemporary Issues in	4	P-4 Contemporary Issues in	4	Issues in Indian		Market		20	i r i
		Indian Economy		Indian Economy		Economy					づ
	Sem 3	P-5 Macro Economics	4	P-5 Macro Economics	4	Q-3 Macro	2	CC-2 Issues in Environmental	2	20	
2		P-6 Environmental Economics	4	P-6 Environmental	4	Economics		Economics			13
				Economics							<u> on</u>
	Sem 4	P-7 Public Finance	4	P-7 Public Finance	4	Q-4 Public Finance	2	VC-2 Basics of Business	2	20	Diploma
		P-8 International Economics		P-8 International Economics	4			Analytics and Computer Applications			Q
3		P-9 Money and Banking		P-9 Money and Banking	4			inor Project in Major A (to be	4	20	
		P-10 Basics of Mathematics and	4	P-10 Basics of Mathematics	4	decided by student i	n Seme	ster 5)			
		Statistics for Economics		and Statistics for							42
				Economics							
	Sem 6	P-11 Economics of Growth and	4	P-11 Economics of Growth	4					20	Graduation Degree
		Development		and Development							l u
		P-12 History of Economic	4	P-12 History of Economic	4						tio
		Thought		Thought							lua
		*P-13A Economics of	4								raci
		Infrastructure									5
		P-13B Quantitative Methods									
		P-13C Industrial Economics									
	Sem 7	P-14 Advanced Micro	4							20	
4		Economics	_								Ч
		P-15 Advanced Macro	4								wit
		Economics									Graduation Honours with Research
		P-16 Basic Econometrics	4								n Honou Research
		P-17 Advances in Indian	4								Hor ea
		Economy									n F
		P-18A Financial Economics	4								tio F
		P-18B Agriculture Economics									na
		P-18C Labour Economics		_							_ad
		P-19 Research Methodology	4	Major Research Project or Dissertation 12					12	20	5
	P-20 (Term Paper) 4										
	Rashtra Gaurav (Compulsory Non-Credited)**									1	
Total Credit Note:									160		

Note.

^{*}Students will study courses P-13 to P-20 in the subject that they choose to continue in year 4.

^{**}All students will have to pass the Rashtra Gaurav for obtaining certificate, diploma, undergraduate degree or undergraduate honours degree with research, only one. CC: Co-curricular Course, VC: Vocational Course.

SEMESTER-I, Paper-I (For Major 1 and Major 2 Courses)

Principles of Economics

Course Code: ECO-101

Credit: 4 (T)

Course Outcomes: On completion of this course, students will be able to understand the basic concepts of

microeconomics and learn how to consumer's and producer's equilibrium achieve through demand analysis

and production function.

Unit-I Basic Economic Concepts

Meaning and definition of economics, Problem of scarcity and choice, Opportunity cost and production

possibility frontier, Methods of Economic Study, Static and Dynamic Economics, Equilibrium and its types,

concept of function, maxima and minima.

Unit-II Demand Analysis and Consumer Behavior-I

Concept of Demand and Supply, Demand and Supply function, Shifts in Demand and Supply curves,

Demand and Supply together, Law of Demand, Elasticity of Demand- Types, Measurement and Factors

affecting demand elasticity. Utility Analysis- Cardinal Approach; Law of Diminishing Marginal Utility,

Diamond water paradox, law of Equi-Marginal utility, Consumer's Equilibrium

Unit- III Demand Analysis and Consumer Behavior-II

Utility Analysis- Ordinal Approach, Indifference curve analysis- Properties, Budget line and its slope,

Consumer's Equilibrium, Price effect, Income effect and Substitution Effect, Labor supply and savings

decision, Choice between leisure and consumption derivation of demand curve, Consumer's Surplus,

Producers surplus, Revealed Preference Theory.

Unit-IV Production

Concept of Production, factors of production, , production function, Isoquants, Short run theory of

production, Law of Variable proportions; Long run theory of production, Economic region of production and

ridge lines, Laws of Returns to scale, concept of Isocost line and Producer's Equilibrium, Expansion path

Text Books

Stonier and Hague: A text book of Economic theory

R.G. Lipsey: An Introduction to positive economics

P. A. Samuelson: Economics

Gould and Ferguson: Micro Economic Theory

Awasthi & Agnihotri: Arthik Siddhant

Suggested Readings

R.S. Pindyck and D.L Rubinfeld: Microeconomics

N. Mankiw: Economics-Principles and Applications

B. Bernheim, M. Whinstorn: Microeconomics

Web References

http://heecontent.upsdc.gov.in/

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 $\underline{https://swayam.gov.in/https://udrc.lkouniv.ac.in/Department/DepartmentDetail/StudyMaterial/dept=5}$

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SEMESTER-I, Paper-II (For Major 1 and Major 2Courses) Indian Economy

Course Code: ECO-102

Credit: 4

(T)

Course Outcomes: On completion of this course, students will be able to develop ideas on the basic characteristics of Indian economy and also understand the importance, causes and impact of population growth and its distribution and trend in External sector.

Unit I Nature and Growth of Indian Economy

National Income and its components, Characteristics of Indian Economy, growth and development under different policy regimes: goals, constraints, institutions and policy framework; Developed, developing and Emerging Market Economies, Structural change in Indian Economy.

Unit II Population and Human Development

Theory of Demographic transition, India's demographic Profile, Population growth and Population policy, Migration: causes and effects, Urbanization, Demographic dividend, Human development, health and education.

Unit III Growth and Distribution

Poverty: Meaning, Types and Poverty Alleviation Programmes, Unemployment: Concept, Types and Employment generation Programmes, Inclusive development policies, Social Security measures in India.

Unit IV External Sector

Change in composition and direction of exports and imports; foreign trade policies, Trends in BoP developments; Current account deficit and capital flow, Foreign exchange reserves and Exchange rate, FDI and Portfolio investment.

References:

Text Books

- 1. AN Agarwal/MK Agarwal- Indian Economy
- 2. RudraDutt and KPM Sundaram- Indian Economy
- 3. Uma Kapila- Indian Economy 4

Suggested Readings

- 1. Government of India- Economic Survey
- 2. Misra and Puri- Indian Economy

Web References

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SEMESTER-I, Paper-I (For Minor Course)

Principles of Economics

Course Code: ECO-101 M Credit: 2 (T)

Course Outcomes: On completion of this course, students will be able to understand the basic concepts of microeconomics and learn how to consumer's and producer's equilibrium achieve through demand analysis and production function.

Unit-I Basic Economic Concepts

Meaning and definition of economics, Problem of scarcity and choice, Opportunity cost and production possibility frontier, Methods of Economic Study, Static and Dynamic Economics, Equilibrium and its types, concept of function, maxima and minima.

Unit-II Demand Analysis and Consumer Behavior-I

Concept of Demand and Supply, Demand and Supply function, Shifts in Demand and Supply curves, Demand and Supply together, Law of Demand, Elasticity of Demand- Types, Measurement and Factors affecting demand elasticity. Utility Analysis- Cardinal Approach; Law of Diminishing Marginal Utility, Diamond water paradox, law of Equi-Marginal utility, Consumer's Equilibrium

Unit- III Demand Analysis and Consumer Behavior-II

Utility Analysis- Ordinal Approach, Indifference curve analysis- Properties, Budget line and its slope, Consumer's Equilibrium, Price effect, Income effect and Substitution Effect, Labor supply and savings decision, Choice between leisure and consumption derivation of demand curve, Consumer's Surplus, Producers surplus, Revealed Preference Theory.

Unit-IV Production

Concept of Production, factors of production, , production function, Isoquants, Short run theory of production, Law of Variable proportions; Long run theory of production, Economic region of production and ridge lines, Laws of Returns to scale, concept of Isocost line and Producer's Equilibrium, Expansion path.

Text Books

Stonier and Hague: A text book of Economic theory R.G. Lipsey: An Introduction to positive economics

P. A. Samuelson: Economics

Gould and Ferguson: Micro Economic Theory Awasthi & Agnihotri: Arthik Siddhant

Suggested Readings

R.S. Pindyck and D.L Rubinfeld: Microeconomics N. Mankiw: Economics- Principles and Applications B. Bernheim, M. Whinstorn: Microeconomics

Web References

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SEMESTER-II, Paper-III (For Major 1 and Major 2 Courses)

Economic Theory

Course Code: ECO-201 Credit: 4 (T)

Course Outcomes: on completion of this course students will be able to understand the price determination mechanism in different market structure and demonstrate marginal productivity theory of distribution, theory of wages, interest and profits. They will also develop understanding about market failure.

Unit- I: Costs and Revenue

Concept and Types, Total, Average and Marginal cost: short run and long run, Modern theory of cost curves, Inter relationship between cost curves. Concept of revenue, Total, Average and Marginal revenue and its interrelationship, shape of revenue curves. Break even analysis its uses.

Unit-II: Market Structure and Price Determination

Structure of markets, perfect competition- characteristics, Equilibrium of firm and Industry, price determination under perfect competition, Monopoly-Characteristics, equilibrium, price or output determination under monopoly. Price discrimination and its degrees, remedies for monopoly, role of government, antitrust laws, Nature of Monopolistic competition-Characteristics, equilibrium, price and non-price competition, Oligopoly.

Unit-III: Theory of Distribution

Concept of Factor income: Marginal Productivity theory, Concept of rent and Quasi rent, theories of rent: classical and modern, Concept of Wage and Wage Determination theories: Classical and Modern, Concept of Interest and its theories, Classical, Liquidity Preference and Modern, Concept and Theories of Profit.

Unit-IV: Market and Market Failure

Externalities, Public Goods, marginal cost pricing, efficiency of perfect competition, sources of market failure, Imperfect markets, imperfect information, adverse selection, moral hazard, social choice, government inefficiency.

Text Books

Stonier and Hague: A text book of Economic theory R.G. Lipsey: An Introduction to positive economics

P. A. Samuelson: Economics

Gould and Ferguson: Micro Economic Theory

Awasthi & Agnihotri: Arthik Siddhant

Suggested Readings

R.S. Pindyck and D.L Rubinfeld: Microeconomics
N. Mankiw: Economics- Principles and Applications
B. Bernheim, M. Whinstorn: Microeconomics

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SEMESTER-II, Paper-IV (For Major 1 and Major 2Courses)

Contemporary Issues in Indian Economy

Course Code: ECO-202 Credit: 4 (T)

Course Outcomes: On completion of this course, students will be able to understand the growth and structure of the three sectors of Indian economy, namely agriculture, industry and services. Also, understand the economic development profile of Uttar Pradesh economy.

Unit I Agriculture and Rural Development

Production, Productivity and Growth of agriculture, Land Reforms, Green revolution, Organic farming, Farm diversification, Agricultural Marketing, Agricultural Credit, Non-Farm Sector.

Unit II: Industry

Industrial Growth, Industrial Policy, Manufacturing sector, Micro, Small and Medium Enterprises, Sources of Industrial Finance, Industrial Labour and Social Security Measures.

Unit III: Services

Composition of service sector in India; trend of growth and contribution of service sector in GDP, share and growth of major services, Informal sector, policy issues for major services.

Unit IV: U.P. Economy

Demographic and Population features, Poverty and Unemployment. Growth and Pattern of Farm Sector, Development of Industrial Sector, Major Policy initiatives for Development.

Text Books

- 1. A.N. Agarwal/MK Agarwal- Indian Economy
- 2. Rudra Dutt and KPM Sundaram- Indian Economy
- 3. Uma Kapila- Indian Economy
- 4. Manoj Kumar Agarwal- Uttar Pradesh ka Arthik Vikas
- 5. Sanjeev Kumar-The State of Indian Agriculture, Sage Publications

Suggested Readings

- 1. Government of India- Economic Survey
- 2. Misra and Puri- Indian Economy

Web References

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SEMESTER-II, Paper-II (For Minor Course)

Contemporary Issues in Indian Economy

Course Code: ECO-202M Credit: 2 (T)

Course Outcomes: On completion of this course, students will be able to understand the growth and structure of the three sectors of Indian economy, namely agriculture, industry and services. Also, understand the economic development profile of Uttar Pradesh economy.

Unit I Agriculture and Rural Development

Production, Productivity and Growth of agriculture, Land Reforms, Green revolution, Organic farming, Farm diversification, Agricultural Marketing, Agricultural Credit, Non-Farm Sector.

Unit II: Industry

Industrial Growth, Industrial Policy, Manufacturing sector, Micro, Small and Medium Enterprises, Sources of Industrial Finance, Industrial Labour and Social Security Measures.

Unit III: Services

Composition of service sector in India; trend of growth and contribution of service sector in GDP, share and growth of major services, Informal sector, policy issues for major services.

Unit IV: U.P. Economy

Demographic and Population features, Poverty and Unemployment. Growth and Pattern of Farm Sector, Development of Industrial Sector, Major Policy initiatives for Development.

Text Books

- 1. A.N. Agarwal/MK Agarwal- Indian Economy
- 2. Rudra Dutt and KPM Sundaram- Indian Economy
- 3. Uma Kapila- Indian Economy
- 4. Manoj Kumar Agarwal- Uttar Pradesh ka Arthik Vikas
- 5. Sanjeev Kumar-The State of Indian Agriculture, Sage Publications

Suggested Readings

- 1. Government of India- Economic Survey
- 2. Misra and Puri- Indian Economy

Web References

http://heecontent.upsdc.gov.in/ https://epgp.inflibnet.ac.in/ https://swayam.gov.in/

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SEMESTER-III, Paper-V (For Major 1 and Major 2 Courses) Macroeconomics

Course Code: ECO-301 Credit: 4 (T)

Course Outcomes: This course aims to introduce the students to the basic concepts of Macroeconomics. Macroeconomics deals with the aggregate economy. This course discusses the preliminary concepts associated with the determination and measurement of aggregate macroeconomic variable like savings, investment, GDP, money and inflation.

Unit I: Introduction to Macroeconomics and Basic Concepts

Macro vs. Micro Economics, Macroeconomic issues, Limitations of Macroeconomics; Introduction to National Income, Concepts of GDP, GNP, NDP and NNP at market price and factor cost; Personal Income and Disposable Personal Income; Concept and Components of Saving and Capital Formation.

Unit II: Measurement of Macroeconomic Variables

Approaches to the Measurement of GDP: Income, expenditure, product or Value-added Methods, Difficulties of Estimating National Income, Circular Flow of Income and expenditure in two sector economies, IS- LM Functions. National Income and Economic Welfare; Green Accounting.

Unit III: Determination of Income and Employment

Basic Assumptions of Classical Theory - Classical Theory of Employment - Say's Law of Market - Wage - Price Flexibility (Pigou's Version) - Saving and Investment Equality Evaluation of the Classical Theory of Employment; The Great Depression of 1930s – failure of classical school and the Keynesian revolution; Keynesian Theory of Employment. Aggregate demand and aggregate supply; multiplier Analysis with AD curve and changes in price levels; aggregate supply in the SR and LR.

Unit IV: GDP: Its Components and Determinants

Actual and Potential GDP; Okun's Law, Components of GDP: Consumption Function- Keynes Psychological Law of Consumption (Absolute Income Hypothesis), Relative Income Hypothesis, Permanent Income Hypothesis and Life Cycle Income Hypothesis; Saving Function- APS and MPS, Investment Function; Concepts of Marginal productivity of capital, marginal efficiency of capital (MEC) and marginal efficiency of investment (MEI) Concept of Multiplier and Accelerator.

Text Books

- 1. Branson, W. A., Macroeconomics: Theory and Policy, 3rd ed. Harper and Harper and Row, NY.
- 2. N. Gregory Mankiw, Macroeconomics, 7th edition, Cengage Learning India Private Limited, NewDelhi
- 3. Shapiro, E., Macroeconomics: Analysis | Galgotia Publication, New Delhi.

Suggested Readings

- 1. Karl E. Case and Ray C. Fair, Principles of Economics, Pearson Education Inc., 8th Edition, 2007 3.
- 2. Lipsey R.G. and K.A. Christal, Principles of Economics 9th Ed., Oxford University Press.
- 3. SaumanSikdar, Principles of Macroeconomics, Oxford University Press.
- 4. Stiglitz J. E. and Carl E. Walsh Principles of Macroeconomics, W.W. Norton and Company, New York.

Web References

http://heecontent.upsdc.gov.in/

SEMESTER-III, Paper-VI (For Major 1 and Major 2 Courses)

Environmental Economics

Course Code: ECO-302

Credit: 4

(T)

Course Outcomes: On completion of this course students will understand the linkage between environment and economic production and understand the implications of environmental degradation on economic

growth.

Unit I: Basic Concepts

Environmental Economics: Meaning and Scope, Environment and Economy: Neo-classical and Ecological

Economics Perspectives, Interlinkages, Material Balance Model, Environment and Development Trade-off,

Functions of Environment.

Unit II: Cost of Pollution

Deviation from economic efficiency. Pollution as Externality, Environmental Quality as Public Good, Case

of Market failure, Social Optimum Level of Pollution and changes in it, Social Cost Benefit Analysis of

Public Projects, Resource extraction, Hotelling's Rule.

Unit III: Current Environmental Issues

Environmental Pollution (Air, Water, Soil, Thermal, and Noise), Air and Water Quality Standards, Solid

Waste Management, Environmental Regulation: Liability laws, Allocation of Property Rights, Poluution tax,

Transferable Pollution Permit, National Green Tribunal, Environmental legislation in India.

Unit IV: Sustainable Development and Climate

Sustainable Development: Concept, Rules, Approaches to Sustainability and Indicators, Common Property

Resources: Problem and Management, Issue of Climate Change and Global Warming, International

agreement, Biodiversity and Conservation Strategies.

Books Recommended:

Ehrlich, P, A. Ehrlich and J. Hilden, Economics, Population, Resources, Environment, W.H. Freeman, San Francisco.

Hemple, Lamont C., Environmental Economics: The Global Challenge, First East West Press, Edinburgh.

Ahmad, M. Hussen: Principle of Environmental Economics, Routledge, Taylor & Francis Group.

R.N. Bhattacharya: Environmental Economics, Air India Perspective, Oxford University Press.

Thomas & Callan: Environmental Economics, Cengage publication

Nick Hanley, F. Shogran& J. White: Environmental Economics Theory & Practice, Oxford University Press.

K.V. Pavitran: A Text Book of Environmental Economics, New Age India Publications.

Web References

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SEMESTER-III, Paper-III (For Minor Course)

Macroeconomics

Course Code: ECO-301M Credit: 2 (T)

Course Outcomes: This course aims to introduce the students to the basic concepts of Macroeconomics. Macroeconomics deals with the aggregate economy. This course discusses the preliminary concepts associated with the determination and measurement of aggregate macroeconomic variable like savings, investment, GDP, money and inflation.

Unit I: Introduction to Macroeconomics and Basic Concepts

Macro vs. Micro Economics, Macroeconomic issues, Limitations of Macroeconomics; Introduction to National Income, Concepts of GDP, GNP, NDP and NNP at market price and factor cost; Personal Income and Disposable Personal Income; Concept and Components of Saving and Capital Formation.

Unit II: Measurement of Macroeconomic Variables

Approaches to the Measurement of GDP: Income, expenditure, product or Value-added Methods, Difficulties of Estimating National Income, Circular Flow of Income and expenditure in two sector economies, IS- LM Functions. National Income and Economic Welfare; Green Accounting.

Unit III: Determination of Income and Employment

Basic Assumptions of Classical Theory - Classical Theory of Employment - Say's Law of Market - Wage - Price Flexibility (Pigou's Version) - Saving and Investment Equality Evaluation of the Classical Theory of Employment; The Great Depression of 1930s – failure of classical school and the Keynesian revolution; Keynesian Theory of Employment. Aggregate demand and aggregate supply; multiplier Analysis with AD curve and changes in price levels; aggregate supply in the SR and LR.

Unit IV: GDP: Its Components and Determinants

Actual and Potential GDP; Okun's Law, Components of GDP: Consumption Function- Keynes Psychological Law of Consumption (Absolute Income Hypothesis), Relative Income Hypothesis, Permanent Income Hypothesis and Life Cycle Income Hypothesis; Saving Function- APS and MPS, Investment Function; Concepts of Marginal productivity of capital, marginal efficiency of capital (MEC) and marginal efficiency of investment (MEI) Concept of Multiplier and Accelerator.

Text Books

- 1. Branson, W. A., Macroeconomics: Theory and Policy, 3rd ed. Harper and Harper and Row, NY.
- 2. N. Gregory Mankiw, Macroeconomics, 7th edition, Cengage Learning India Private Limited, NewDelhi
- 3. Shapiro, E., Macroeconomics: Analysis || Galgotia Publication, New Delhi.

Suggested Readings

- 1. Karl E. Case and Ray C. Fair, Principles of Economics, Pearson Education Inc., 8th Edition, 2007 3.
- 2. Lipsey R.G. and K.A. Christal, Principles of Economics 9th Ed., Oxford University Press.
- 3. SaumanSikdar, Principles of Macroeconomics, Oxford University Press.
- 4. Stiglitz J. E. and Carl E. Walsh Principles of Macroeconomics, W.W. Norton and Company, New York.

Web References

http://heecontent.upsdc.gov.in/

SEMESTER-IV, Paper-VII (For Major 1 and Major 2 Courses)

Public Finance

Course Code: ECO-401 Credit: 4 (T)

Course Outcomes: This course aims to introduce the students to the basic concepts of Public Finance. On completion of this course students will be able to understand the revenue and expenditure system of the federal country, India.

Unit-I: Introduction to Public Finance

Public Finance: Meaning, Nature, Scope and Importance; difference between Private and Public Finance; Principle of Maximum Social Advantage; Role of State in Public Finance. Classification of Goods: Private, Public, Social, Merit and Mixed Goods

Unit-II: Sources of revenue

Internal and External source of revenue, Taxes, loans, grants and aid – meaning and types, canons/ principles of taxation, problem of justice in taxes, incidence of taxation, Impact of taxation & tax evasion, taxable capacity; characteristics of Indian tax system, defects & steps of reform.

Unit-III: Public Expenditure and Debt

Principle of Public Expenditure; Theories of Public Expenditure – Maximum Social Advantage, Wiseman-Peacock Hypothesis and Wagner's hypothesis. Effects of Public Expenditure on Production, Sources of Public Debt, Burden of public debt – theories, effects of public debt, methods of debt redemption, Public Debt Management in India.

Unit-IV: Public finance in India

Sources of Revenue of Central; State Government and Local Bodies; Concept and Types of Budget, Fiscal Deficit, Deficit Financing and Deficit Budget, Financial relation between Central and State; Finance commission; functional finance approach, Fiscal Policy; fiscal policy for inflation, full employment and economic growth.

References:

Text Books

- 1. Bhatia, H. L., Public Finance, Recent Edition, Vikas Publication, New Delhi.
- 2. Musgrave, R. A. and P. B. Musgrave, 1980, Public Finance in Theory and Practice, McGraw Hill, Kogakusha, Tokyo.
- 3. Musgrave, Richard A. (1959), Theory of Public Finance, McGraw Hill, Kognakhusa, Tokyo.
- 4. Tyagi, B.P., Public Finance, Latest edition, Jain Praksash Nath & Company, Meerut.

Suggested Readings

- 1. Andley and Sundaram, Public Finance, Latest edition, Ratan Prakashan, Agra.
- 2. Dalton, Huge, Principles of Public Finance, 1971, Rontledge and Hegan Paul Limited, London.
- 3. Ganguly S., Public Finance, 1999, The World Press Private Ltd. Calcutta.
- 4. Mithani, D. M.; (1998), Modern Public Finance, Himalaya Publishing House, Mumbai.

Web References

http://heecontent.upsdc.gov.in/

SEMESTER-IV, Paper-VIII (For Major 1 and Major 2 Courses)

International Economics

Course Code: ECO-402 Credit: 4 (T)

Course Outcomes: This course introduces students to the various international trade theories and students will learn how international trade has helped countries to acquire goods at cheaper cost. Also, understand the concept of balance of payments and exchange rate determination in foreign exchange market.

Unit 1: Theories of International Trade

Need and Importance of International Trade, Free trade and protection, Intra Industry trade Mercantilism, Absolute Cost Advantage theory, Comparative Cost Advantage theory, Theory of Reciprocal demand, Theorem of factor price equalization, Leontieff's paradox, Hecksher- Ohlin Theorem, Terms of trade-Meaning, Types and Determination of firms in the global economy — outsourcing and multinational enterprises.

Unit 2: The Balance of Payments

Concept and components of balance of trade and balance of payments. Disequilibrium and measures to correct balance of payments. The basic analysis of Tariffs, Quotas, Protection and Imperfect Competition, Optimum tariff. Customs unions, trade barriers, Arguments for and against a Tariff. Adjustment Mechanism in the Balance of Payments – Direct and Indirect mechanisms; Mundell- Fleming model, Marshall- Lerner condition, Depreciation and Devaluation, J curve, foreign trade of India and foreign trade policy of India.

Unit 3: Foreign Exchange and Exchange Rate

Meaning of foreign exchange rate and types- fixed, pegged, flexible, hybrid. Foreign exchange rate under gold standard, Purchasing power parity theory and modern theory of exchange rate, NEER, REER., methods of controlling exchange rate- Unilateral and bilateral. Foreign exchange risks; hedging and market, interest arbitrage and efficiency of foreign exchange markets;

Unit 4: Financial Institutions

International monetary system: Bretton woods system and IMF, Objectives, Working Quota System, SDR, The World bank group- IBRD, IDA, IFC, MIGA, ICSID, ADB- Objectives, working and functions. International lending and world debt crisis, Foreign Direct Investment.

Text Books

- 1. Bo Soderston, International Economics, Palgrave Macmillan.
- 2. Dominick Salvatore, International Economics: Trade and Finance, John Wiley International.
- 3. H.G. Mannur, International Economics, Vikas Publishing House.

Suggested Readings

1. Paul Krugman, Maurice Obstfeld and Marc Melitz, International Economics: Theory and Policy, Addison-Wesley (Pearson Education India Edition).

Web References

http://heecontent.upsdc.gov.in/

SEMESTER-IV, Paper-IV (For Minor Course)

Public Finance

Course Code: ECO-401M Credit: 2 (T)

Course Outcomes: This course aims to introduce the students to the basic concepts of Public Finance. On completion of this course students will be able to understand the revenue and expenditure system of the federal country, India.

Unit-I: Introduction to Public Finance

Public Finance: Meaning, Nature, Scope and Importance; difference between Private and Public Finance; Principle of Maximum Social Advantage; Role of State in Public Finance. Classification of Goods: Private, Public, Social, Merit and Mixed Goods

Unit-II: Sources of revenue

Internal and External source of revenue, Taxes, loans, grants and aid – meaning and types, canons/ principles of taxation, problem of justice in taxes, incidence of taxation, Impact of taxation & tax evasion, taxable capacity; characteristics of Indian tax system, defects & steps of reform.

Unit-III: Public Expenditure and Debt

Principle of Public Expenditure; Theories of Public Expenditure – Maximum Social Advantage, Wiseman-Peacock Hypothesis and Wagner's hypothesis. Effects of Public Expenditure on Production, Sources of Public Debt, Burden of public debt – theories, effects of public debt, methods of debt redemption, Public Debt Management in India.

Unit-IV: Public finance in India

Sources of Revenue of Central; State Government and Local Bodies; Concept and Types of Budget, Fiscal Deficit, Deficit Financing and Deficit Budget, Financial relation between Central and State; Finance commission; functional finance approach, Fiscal Policy; fiscal policy for inflation, full employment and economic growth.

References:

Text Books

- 1. Bhatia, H. L., Public Finance, Recent Edition, Vikas Publication, New Delhi.
- 2. Musgrave, R. A. and P. B. Musgrave, 1980, Public Finance in Theory and Practice, McGraw Hill, Kogakusha, Tokyo.
- 3. Musgrave, Richard A. (1959), Theory of Public Finance, McGraw Hill, Kognakhusa, Tokyo.
- 4. Tyagi, B.P., Public Finance, Latest edition, Jain Praksash Nath & Company, Meerut.

Suggested Readings

- 1. Andley and Sundaram, Public Finance, Latest edition, Ratan Prakashan, Agra.
- 2. Dalton, Huge, Principles of Public Finance, 1971, Rontledge and Hegan Paul Limited, London.
- 3. Ganguly S., Public Finance, 1999, The World Press Private Ltd. Calcutta.
- 4. Mithani, D. M.; (1998), Modern Public Finance, Himalaya Publishing House, Mumbai.

Web References

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SEMESTER-V, Paper-IX (For Major 1 and Major 2 Courses)

Money and Banking

Course Code: ECO-501 Credit: 4 (T)

Course Outcomes: This course introduces students to the conceptual and practical operations of the Money, banking, financial markets and institutions. The course is intended to provide an in-depth understanding of the operational issues of capital and money market network along with its regulatory framework.

Unit I: Money and Value of Money

Money: Kinds, Functions, Significance and history, Monetary Standards, Value of money, Measurement of changes in the value of money, cash Transaction Approach, Cash Balance Approach and Keynes view of value of Money.

Unit II: Demand and Supply of Money

Demand for Money: Classical, Keynesian- Liquidity preference theory, Baumol's, Tobin's and Friedman's Approaches, Supply of Money: Determinants of Money Supply—High Powered Money and Money Multiplier—Indian Currency system, Brief history of Indian Rupee and Digital currency, Money Market

Unit III: Commercial Banking

Meaning, functions and Structure of Commercial Banking in India, nationalization and reforms, Balance sheet and portfolio management; Process of credit creation and limitations, liabilities and assets of banks; ATM - Internet Banking - Core banking- UPI payment, Demat account. NPAs of Commercial Bank - NPA Resolution mechanism, one time settlement policy and hiving off; Pre-requisites of a sound commercial banking system; Role of commercial banks in a developing economy, Role of private banking in India; Microfinance: Concept and progress in India.

Unit IV: Central Banking

Meaning and functions of Central bank; Objectives and methods of credit control- Quantitative and qualitative methods; Role and functions of Reserve Bank of India; Demonetization, Monetary Policy: Objectives, Targets and indicators, role and structure of monetary policy committee; Indian money market: components and limitations; Non-Banking Financial Intermediaries: meaning and role in economic development.

Text Books

Gupta, S.B. (1995), Monetary Economics: Institutions, Theory and Policy, S. Chand & Co., New Delhi.

Hajela, T.N., (2009) Money and Banking, Ane Books Pvt Ltd., New Delhi

RR Paul, Monetary Economics, Kalyani Publishers

Suggested Readings

Chandler L.V., and S.M. Goldfeld (1977), The Economics of Money and Banking, Harper&Row, New York.

Ghosh and Ghosh, Fundamentals of Monetary Economics, Himalaya Publishing House

Sundharam KPM, Banking: Theory, Law and Practice, Sultan Chand and Sons, New Delhi

Web References

http://heecontent.upsdc.gov.in/

SEMESTER-V, Paper-X (For Major 1 and Major 2 Courses)

Basics of Mathematics and Statistics for Economics

Course Code: ECO-502 Credit: 4 (T)

Course Outcomes: The objective of this sequence is to transmit the body of basic statistics that enables the study of economic theory at the undergraduate level. In this course, particular economic models are not the ends, but the means for illustrating the method of applying statistics tolls to economic theory in general.

Unit I: Set Theory & Functions

Sets and Set operations; Relations; Functions and their properties; Types of Functions- Constant, Polynomial, Rational, Exponential, Logarithmic; Graphs of Functions; First Order Derivative and its Application in Economics; Slope and Elasticity of Demand, Determination of Marginal Revenue, Marginal Cost and Marginal Product; Second Order derivative and its Application in Economics

Unit II: Matrices & Determinants

Matrices: Concept, Types, Matrix Algebra, Transpose of a Matrix, Inverse of a matrix, Rank of a Matrix; Matrix Inversion Method and its Economic Applications, Determinants: Concept, Properties, Solving Problems using Properties of Determinants

Unit III: Diagrammatic Illustrations & and Measures of Central Tendency

Bar Diagrams - One Dimensional and Two-Dimensional Diagrams, Pictograms and Cartograms, Frequency Distribution - Univariate and Bivariate Frequency Distributions, Histogram, Frequency Curve, Ogive Curves, Measures of Central Tendency - Mean, Median and Mode - their Merits and Demerits, Geometric Mean, Harmonic Mean.

Unit IV: Measures of Dispersion & Correlation

Measures of Dispersion - Range, Mean deviation, Quartile Deviation, Standard Deviation, Correlation- Karl Pearsons, Spearman's Rank Correlation

Readings

Dowling, E. T.: Schaum's Outlines-Introduction to Mathematical Economics. (3rd ed.). New York: McGraw Hill.

Allen, R.G.D (2006): Mathematical Analysis For Economists, Macmillan And Company Limited

A.C. Chiang and K. Wainwright (2005): Fundamental Methods of Mathematical Economics, McGraw Hill International Edition.

T. Yamane (2012): Mathematics for Economists, Prentice-Hall of India

K. Sydsaeter and P. J. Hammond (2002): Mathematics for Economic Analysis, Pearson Educational Asia Mehta and Madnani: Mathematics for Economists, New Delhi: Sultan Chand Company

S.C. Gupta: Fundamentals of Statistics, Himalaya Publishing House, New Delhi

Murray R. Speigel: Theory & Problems of Statistics, Schaum's publishing Series

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https://swayam.gov.in/

SEMESTER-VI, Paper: XI (For Major 1 and Major 2 Courses)

Economic Growth and Development

Course Code: ECO-601 Credit: 4 (T)

Course Outcome: The objective of this course is to aware the students about the concepts and basic model of economic growth and development. On completion of this course, students will be able to understand the concepts of development indicators, measurement of poverty line and inequality.

Unit I: Economic Growth and Development

Conception of Development Economic Growth and Development-Definition, Distinction and Measurement, Traditional Economic Measures- GNP, GDP, income per capita, Characteristics of developing nations, Economic and Non-Economic factors in economic development.

Unit II: Major Concerns of Development

Poverty and Inequality- Concept of Vicious Circle of Poverty, Measuring Absolute Poverty, Poverty Line, Poverty Gap, FGT poverty measure and HPI Concept of Inequality, Unemployment, Concept of Human Development and Its Indices; HDI, PQLI, HPI and GDI.

Unit III: Theories of Economic Growth and Development

Lewis model of labour surplus economy, Rosentein Rodan's theory of Big Push, Nelson's Level equilibrium trap, balanced vs Un-balanced growth, Rostow's stages of growth, Harrod & Domar and Solow Growth models.

Unit IV: Development and International Issues

International aspects of economic development; International trade, FDI, FII, Regional cooperation (SAPTA, NAFTA, SAARC, BRICS etc.), WTO and developing countries.

Text Books:

A.P Thirlwal, Economics of Development, Palgrave macmillan, Ninth Edition, 2014 Gerald M. Meier, Leading Issues in Economic Development, OUP, Eighth edition, 2010. Todaro and Smith, Economic Development, Pearson Education Ltd., Eighth Edition, 2009.

Suggested Readings:

Charles I. Jones Introduction to Economic Growth, Viva-Norton Student Edition, second edition, 2013.

Web References

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https://udrc.lkouniv.ac.in/Department/DepartmentDetail/StudyMaterial?dept=5

SEMESTER-VI, Paper: XII (For Major 1 and Major 2 Courses)

History of Economic Thought

Course Code: ECO-602 Credit: 4 (T) Course

Course Outcomes: This course introduces the students with different school of economic thoughts such as mercantilism, Classical- New Classical economic thought, Malthusian school of economic thought and ideas of Indian economic thinkers such as Mahatma Gandhi, B.R. Ambedakar, J.K. Mehta etc.

Unit I: Classical Economic Thought

Mercantilism, Physiocracy, Economic Ideas of Adam Smith, David Ricardo, Thomas Robert Malthus.

Unit II: Neo Malthusian Economic Thought

J B Say, J S Mill, J.M. Keynes, Karl Marx and his contribution.

Unit III: Debate on Methods of Economic Analysis

New theory of value of distribution: Menger, Walras, Jevons, Wieser, Bohm- Bawerk, Schumpeter and Marshall.

Unit IV: Indian Economic Thought

Kautilya, Valluvar, Dada Bhai Naoroji, BR Ambedkar, Gandhian Economics, JK Mehta, P.C. Mahalanobis.

Text Books

Dobb, Maurice-Theories of Value and Distribution since Adam Smith

Gide and Rist-History of Economic Doctrines

Obrien- Classical theory of Value and Distribution

Schumpeter, J A- History of Economic Analysis

Stigler, G J- Essay in the History of Economics

Ajit, K, Dasgupta, A history of Indian economic thought, Routledge 11 New fetter lane, London

Bhatiya, H.L., A history of Indian economic thought, S.Chand Publication. New Delhi

Ghos & Ghos, Concise History of Economic thought Himalaya publication House Pvt. Ltd.

Suggested Readings

Clair, St. Oswald- A Key to Ricardo

Meek, RL- Physiocracy 3. Meek, RL- The Labour theory of Value

Shiva Chandra, A history of Indian economic thought, Firma KLM, The University of Michigan

T, N, Hajela, A history of economic thought, Ane Books Pvt. New Delhi

Web References

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https://swayam.gov.in/

SEMESTER-VI, Paper-XIII A (For Major 1 Courses)

Economics of Infrastructure

Course Code: ECO-603A Credit: 4 (T)

Course outcomes: Lack of adequate infrastructure has been held as a major obstacle to growth. The contents of this paper expose the student wholly to issues involved in development of infrastructure in a developing country like India.

Unit I: Role of Infrastructure in Economic Development Infrastructure

Development Linkages; Infrastructure as Public Good – Issues in non-excludability and non-rivalrous consumption; Physical and Social Infrastructure; Nature of Public Utilities; The Peak-Load, Off-Load Problem; Issues in Privatisation of Infrastructure.

Unit II: Governance and Regulation of Infrastructure

Infrastructure Policy and Regulation; Infrastructure Finance; Public-Private Partnership (PPP); Models and Examples in PPP

Unit III: Physical Infrastructure

Transportation: Railways, Roadways, Airways and Waterways: Progress, Pricing; Technological Advancement and Challenges. New policies/programmes related to each mode of transportation Communication: Tele-density, Mobile and Internet, Social Media; Growth of IT- Information Technology Enabled Services (ITES).

Unit IV: Energy, Electricity and Special Economic/Investment Zones:

Power Generation, Distribution and Pricing; Privatisation of Electricity; Coverage; Alternative (Renewable and Unconventional) Sources of Energy, including Nuclear, Solar and Wind Energy; Energy Conservation; Problems and Potential of SEZs, Export Processing Zones (EPZs) and Special Investment Region (SIR).

Suggested Readings

Government of India (2023), The India Infrastructure Report, IDFC Foundation, iDeCK and National Institute of Urban Affairs

Crew, M.A. and P.R. Kleindorfer (1979), Public Utility Economics, Macmillan, London.

Government of India (2022), Economic Survey, New Delhi.

Indian Council of Social Sciences Research (ICSSR) (1976), Economics of Infrastructure Vol. VI, New Delhi.

Parikh, K.S. (Ed.). India Development Reports. Oxford University Press, New Delhi

SEMESTER-VI, Paper-XIII B (For Major 1 Courses)

Quantitative Methods

Course Code: ECO-603B Credit: 4 (T)

Course Outcome: The objective of this sequence is to transmit the body of basic statistics that enables the studyof economic theory at the undergraduate level. In this course, particular economic models are not the ends, but the means for illustrating the method of applying statistics tolls to economic theory in general.

Unit I: Matrices & Determinants

Matrices and Determinants; Algebra of Matrices, Multiplication, Rank of a Matrix, Characteristic Roots and Vector, Matrix Expression of a System of Linear Equations, Solution of Simultaneous Equations, Cramer's Rule, Jacobian Determinant

Unit II: Coordinate Geometry & Trigonometry

Introduction of Algebraic Series, Basic Trigonometry Identities, Linear Equations, An Introduction to Straight Line, Parabola, Hyperbola

Unit III: Function and Derivatives

Optimization- Maxima and Minima, Concavity and Convexity, Multiple Variable Optimization Problems-Constrained and Unconstrained, Lagrange Multiplier, Hessian Determinant.

Unit IV: Integration

Integration of Functions, Integration by substitution, Parts and Partial Fraction; Definite Integral: Area under or between Curves and Improper Integrals; Applications of Definite Integrals in Economics: From a Marginal function to a Total function, Consumers' and Producers' Surplus

Readings

Dowling, E. T.: Schaum's Outlines-Introduction to Mathematical Economics. (3rd ed.). New York: McGraw Hill.

Allen, R.G.D (2006): Mathematical Analysis for Economists, Macmillan and Company Limited

A.C. Chiang and K. Wainwright (2005): Fundamental Methods of Mathematical Economics, McGraw Hill International Edition.

T. Yamane (2012): Mathematics for Economists, Prentice-Hall of India

K. Sydsaeter and P. J. Hammond (2002): Mathematics for Economic Analysis, Pearson Educational Asia

Mehta and Madnani: Mathematics for Economists, New Delhi: Sultan Chand Company

J.M. Handerson & R.E.Quandt(1980): Micro Economic Theory: A Mathematical Approach. (New Delhi: McGraw-Hill Book Company)

SEMESTER-VI, Paper-XIII C (For Major 1 Courses)

Industrial Economics

Course Code: ECO-603C

Credit: 4

(T)

Course Outcomes: This paper introduces to students with concept of firms and its structure. The students

will learn how location of industry is determined by different location theories and different types of project

appraisal techniques.

Unit I: Introduction to Industrial Economics

Concept and Organization of a firm - Ownership control and objectives of a firm, Passive and active behavior

of firm, Size, Growth, Profitability, Productivity, Efficiency and Capacity Utilization-Concept and

measurement. Industrial policy, MSME Policy, Role of Public and private sectors Privatization and

disinvestment debate, Recent trends in Indian industrial growth.

Unit II: Location and Regional Development of Industry

Determinants of Industrial Location - Technical, economic, infrastructural and other factors. Theories of

industrial location - Weber, August Losch, Sargant Florence, Development of Backward Regions -

Government Policy and approach for the development of backward regions.

Unit III: Industrial Structure and Labour

Alternative Patterns of Industrialization - Hoffman's hypothesis of capitalistic economies - Simon Kuznet's

interpretation - Industrialization and planned economies - Entry & Exit Policy, Mergers and Acquisitions,

Structure of Industrial labour, Industrial relations, Social Security Measures and Labour Reforms in Indian

Context.

Unit IV: Project Appraisal and Industrial Finance

Project Appraisal Techniques - Payback method CBA, NPV and IRR, Sources of Industrial Finance -

Owned, external and components of funds; Nature, Volume and Types of institutional finance – IDBI, IFCI,

SFCs, SIDC, Commercial Banks, etc.;

Text Books

Barthwal, R.R: Industrial Economics (Wiley Eastern Ltd, New Delhi, 1985)

Cherunilam F: Industrial Economics: Indian Perspective (3rd Edition) (Himalaya Publishing House, Mumbai, 1994)

Suggested Readings:

Ahluwalia, I.J: Industrial Growth in India (Oxford University Press, New Delhi, 1985)

Desai B: Industrial Economy in India (3rd Edition) (Himalaya Publishing House, Mumbai, 1999)

Divine P.J & R.M Joneset. Al: An Introduction to Industrial Economics (George Allen and Unwin Ltd, London, 1976)

Web References

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SEMESTER-VII, Paper: XIV (For Major 1 Course)

Advanced Microeconomics

Course Code: ECO-701 Credit: 4 (T)

Course Outcomes- The emphasis will be on giving conceptual clarity to the students coupled with the use of mathematical tools and reasoning.

Unit I: Consumer Behaviour

Measurement of Utility, Cardinal vs. Ordinal Approaches, Indirect Utility Function, Roy's Identity, Shepherds Lemma, Theory of Revealed Preference and logic of Ordering; Strong and weak Ordering and theory of Demand; Hicks Revision of Demand theory and characteristics approach to Demand composite commodity theorem

Unit II: Theory of Production

Production Function of a Single and Multi Product Firm, Technological Progress and Production Function, Choice of Optimal Input Combinations, Input demand curves- shifts in input demand curves, productivity of an input, marginal productivity of labour and marginal revenue product.

Unit III: Cost Function Meaning and Types of Cost

Meaning and Types of Cost, Traditional and Modern Theory of Cost, Shapes of Cost Curves, Analysis of Economies of Scale, Derivation of Cost Function from Production Function.

Unit IV: Market Forms and Pricing of Product Types of Market Situations

Relationship between Perfect and Monopoly Situation, Duopoly Market Situation, Cournot's, Stackelberg, Edgeworth and Bertrand Models, Monopolistic Competition: Characteristics, Price and Non-Price Competition.

Suggested References:

Koutsoyiannis, A. Modern Microeconomics. Macmillan Education

Pindyc, Robert S. and Daniel L. Rubinfeld. Microeconomics.

Varian, Hal R. Intermediate Microeconomics: A Modern Approach. W. W Norton and Company/Affiliated East-West Press (India).

SEMESTER-VII, Paper: XV (For Major 1 Course)

Advanced Macroeconomics

Course Code: ECO-702 Credit: 4 (T)

Course Outcomes: This course aims to introduce the students to the basic concepts of Macroeconomics. Macroeconomics deals with the aggregate economy. This course discusses the preliminary concepts associated with the determination and measurement of aggregate macroeconomic variable like savings, investment, GDP, money and inflation, circular flow of income, trade cycle etc.

Unit I: Circular Flow of National Income and theory of Distribution

Circular flow of National income: impact of changes in government expenditure and taxes; Macroeconomic Equilibrium with and without External Sector, Macroeconomic Theories of distribution- Ricardo, Marx and Kaldor.

Unit II: IS-LM Analysis

Equilibrium in the product and money markets: IS and LM functions, changes in IS and LMFunctions, Elasticity of LM Schedule and shift in LM curve with changes in Money Supply and Money Demand, Interest Elasticity of IS schedule and equilibrium.Macroeconomic Equilibrium with three sector economy model.

Macro Economic policies: Monetary and Fiscal Policies: Objectives, Instruments, Policy-Mix and limitations

Unit III: Inflation & Trade Cycles.

Inflation: Concept, Types, Causes and Measurement – Effects of Inflation – Measures to Control Inflation – Concepts of Phillips Curve, Deflation and Stagflation. The Philips Curve and the trade-off between Inflation and Unemployment- Short-run and long-run Philips Curve, Adaptive and Rational Expectation; Policy ineffectiveness debate. Trade Cycles: Concept, Causes and Phases of trade cycle. Theories of Trade Cycles: Hawtrey, Hayek, Schumpeter, Samuelson and Hicks.

Macro Economics Policies: Targets and instruments; The Great Depression; Auto- stabilization, Lags in the effect of policies; Expectations and Reactions; Uncertainty and Economic Policies.

Unit IV: New Keynesian Theories

Real vs. Nominal Rigidities, Real Non-Walrasian Theories, Coordination Failures, the Efficiency Wage Model, Insider-Outsider Model, Search and Matching Models. Gradualism vs Shock Therapy, Rules vs Discretion, Dynamic Inconsistency Problem, Inflation Targeting, Seignorage, Barro-Ricardo and Blinder-Solow Hypothesis.

Reading List:-

David Romer, Advanced Macroeconomics, 2e McGraw Hill, 2001
Oliver J Blanchard and Stanley Fischer, Lectures on macroeconomics, Prentice Hall, New Delhi
Mankiw, N. G. and D. Romer (Eds.) (1991), New Keynesian Economics, (2 Vols.), MIT Press, Cambridge.

Rudiger Dornbusch, Stanley Fischer and Richard Startz (2018) Macroeconomics (12th edition), McGraw Hill

Eroll D'souza, (2012) Macroeconomics, 2/e Pearson Education India

SEMESTER-VII, Paper: XVI (For Major 1 Course)

Basic Econometrics

Course Code: ECO-703 Credit: 4 (T)

Course Outcome: This paper introduces to students with concepts of econometrics such Probability, Normal Distribution, Testing of Hypotheses, Ordinary Least Square, Regression etc.

Unit I: Probability Distribution

Probability Theory and Distribution, Defining Random Variables, Expected Values and Probability Functions; Discrete and Continuous distributions; Normal Distribution, Testing of Hypotheses, Type I and Type II errors.

Unit II: Simple Linear Regression Model

Estimation of Model by Ordinary Least Square: Assumptions & Properties; Goodness of fit- R Square; Gauss-Markov Theorem; Testing of Regression Coefficient.

Unit III: Violation of the CLRM Assumptions:

Heteroscedasticity: Causes, Consequences, Detection and Remedies, Autocorrelation: Causes, Consequences, Detection and Remedies, Multicollinearity: Causes, Consequences, Detection and Remedies.

Unit IV: Multiple Linear Regression Model

Estimation of Model by Ordinary Least Square: Assumptions & Properties, Multiple Regression Coefficients, Partial Correlation Coefficient and its Relation with Multiple Regression Coefficient.

Readings

Gujarati, D. N., Porter, D.C., (2009). Basic Econometrics. (5th ed.). New Delhi: McGraw Hill.

Gujarati, D. N. (2011). Econometrics by Example (1st ed.). New Delhi: Palgrave.

Koutsoyiannis, A. (1973). Theory of Econometrics. New York: Harper & Row.

Studenmund, A. H. (2014). Using Econometrics: A Practical Guide. (7th ed.). New Delhi: Pearson.

Wooldridge, J. M. (2018). Introductory econometrics: A modern approach, (7th Ed), CENGAGE

SEMESTER-VII, Paper: XVII (For Major 1 Course)

Advances in Indian Economy

Course Code: ECO- 704 Credit: 4 (T)

Course Outcome: To provide the students with a critical understanding of the Indian economy so that they may be able to engage meaningfully with the issues regarding the country's economy. Moreover, student should be able to comprehend the issues at the macro level while using their theoretical understanding of the macroeconomics and development in the context of the Indian economy.

Unit 1: History of Development and planning

Development strategies since independence, major aspects of transformation and recent developments, Pattern, trends, aggregate and sectoral composition of National Income and per capita income, Fiscal Reforms, Financial Sector Reforms and Trade Reforms.

Unit 2: Agriculture

Pattern and Growth, Public Distribution System, Agricultural Price Policy and Subsidies, Food Security, Investment in agriculture, WTO and agriculture, Agriculture and Environment.

Unit 3: Industry and Services

Pattern and Growth of Industries, Strategy for Industrial development, Role of Foreign Direct investment and multinationals, Growth and Structure of Services Sector, Low employability of high end services sector.

Unit 4: Poverty, Unemployment and Human Development

Estimates of inequality and poverty for India, Multidimensional Poverty Index, India's human development record in global perspective.

Suggested Readings:

Agarwal A. N and M.K. Indian Economy, New Age Publications

Baneriee Abhijit, What the Economy Needs Now, Juggernaut Publication

Dreze Jean, Social Policy (EPW), Orient Blackswan

Economic Survey, Ministry of Finance, Government of India

Human Development Reports, UNDP

Kapila Uma, Indian Economy: Performance and Policies, Academic Foundation

Kumar Sanjeev, Crop Diversification and Food Security in India, Mittal Publications

Piketty Thomas, Economics of Inequality, Harvard University Press

Stiglitz Joseph, Globalization and its Discontents, Penguin

Relevant Government Publications

SEMESTER-VII, Paper: XVIII-A (For Major 1 Course)

Financial Economics

Course Code: ECO-705A Credit: 4 (T)

Course Outcome: The course is designed to inculcate the values of financial literacy and banking in the 21st century, which are an utmost need of the hour to overcome various challenges. To make the students aware of the benefits of financial planning, capital flows foreign exchange market.

Unit I: Introduction to Financial Economics

Financial versus non financial assets, Structure of financial markets, Money market, Banks and NBFIs, Mutual funds, Regulation of financial markets, Globalization of markets, Financial development and economic development

Unit II: Investment theory and portfolio analysis

Discounting and present value and future value of an asset, Bond prices and yields, Term structure of interest rates, Yield curves, spot rates and forward rates.

Types of risk, Measurement of risk and return of an asset, portfolio, and measurement of risk and return of portfolio, determinant of beta, risk return tradeoff, security market line, CAPM, Use of CAPM in investment analysis and as a pricing formula

Unit III: Capital Market

Capital market, Primary and Secondary market, Equity, Debentures, Bonds and Derivatives, Valuation of securities. Futures and Options, Call and Put Options, Put Call Parity, Factors affecting options prices.

Unit IV: Capital Flows and Foreign Exchange Market

Capital flows and Foreign Investment: Foreign Direct Investment, Foreign Portfolio Investment, External Commercial Borrowings. International liquidity

Foreign Exchange market, Factors affecting Exchange Rate, Exchange rate fluctuations and Hedging, forward hedges, money market hedges and hedging with swaps.

Suggested Readings:

L. M. Bhole and J. Mahukud, Financial Institutions and Markets, Tata McGraw Hill, 5th edition, 2011.

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

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

Thomas E. Copeland, J. Fred Weston and Kuldeep Shastri, Financial Theory and Corporate Policy, Prentice Hall, 4th edition, 2003.

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

Stephen A. Ross, Randolph W. Westerfield and Bradford D. Jordan, Fundamentals of Corporate Finance. McGraw-Hill, 7th edition, 2005.

SEMESTER-VII, Paper: XVIII-B (For Major 1 Course)
Agriculture Economics

Course Code: ECO- 705B Credit: 4 (T)

Course Outcome: To provide detailed understanding regarding the issues in agricultural economics to those intending to specialize in this area. To familiarize students with policy issues that is relevant to agricultural economics and enables them to analyse these issues.

Unit 1: Agriculture and Economic Development

Nature and Scope of Agricultural Economics, Characteristics of Agriculture. Transformation of Traditional Agriculture-Schultz and Mellor's Analysis Agriculture and Dual Models- Fei- Ranis and Arthur Lewis. Agriculture and Its Contribution- Kuznets's Formulations, Inter-Regional Disparities in growth of production and productivity in Indian agriculture.

Unit 2: Agricultural Marketing Structure

Agricultural Marketing, APMC, Marketed and marketable Surplus. Inter- sectoral Terms of Trade and their impact on agriculture. Agricultural Price Policy in India, Role of Subsidies, Cobweb theorem, food security.

Unit 3: Agriculture Labour and Finance

Problems of Agricultural Labour, Rural Wage differentials, Rural Indebtedness, Crop insurance. Sources of Agricultural finance: Capital formation in India, Public and Private Investment.

Unit 4: Issues in India's Agricultural Development

Land Reforms, Food Security and PDS, Agricultural production function, farm size, Irrigation. Diversification of agriculture: plantation and Horticultural Produce, livestock, Poultry and Fishery etc in India,

Environmental issues in Agriculture: Approaches to Sustainable Agriculture, Green Revolution, Agro-Climatic Zones and Climate resilient farming methods.

WTO and Agreement on Agriculture, Pattern and composition of change in Exports and imports of agricultural commodities.

Suggested Readings:

Alag Y.K. Globalisation and Agriculture Crisis in India, Deep and Deep Publications

Bilgrami S. A.R. An Introduction to Agricultural Economics, Himalaya Publishing House

Kumar. Sanjeev. Crop Diversification and Food Security in India, Mittal Publications

Kumar Sanjeev. The State of Indian Agriculture, Sage publications.

Lekhi R.K., & Joginder Singh, Agricultural Economics, Kalyani Publishers

Meier Gerald M. Leading Issues in Economic Development, Oxford University Press

Mellor, John, Agricultural Development and Economic Transformation, Palgrave Macmillan

Misra Roli. Agricultural Growth and Terms of Trade in India Since 1951, Kunal Books

Sadhu A.N and Singh Amarjit, Fundamentals of Agricultural Economics, Himalaya Publication House

SEMESTER-VII, Paper: XVIII C (For Major 1 Course)

Labour Economics

Course Code: ECO-705C Credit: 4 (T)

Course Outcomes- The objective of this course is to introduce students to the economic analysis of the labor

market. Acquaint students with the contribution of labor in the process of capitalist development. Develop

understanding of students to the determinants of observed structure of wages and employment. Exposing

students to diverse labor relations with respect to its demand and supply.

Unit I Introduction to Labor Economics- Basic definitions, meaning and concept of labor, characteristics

of Indian labor; Labor Market- structure and problems of Indian labor market, labor market regulations,

Labor market equilibrium, Monopsony, Demand and Supply of labor, Labor force participation rate.

Unit II Wage Differentials and Wage structure- wage determination theories, wage differentials

standardization, minimum wages Act, and national wage policy.

Unit III Industrial Relations and Trade Unionism- recruitment of workers, Industrial disputes and

establishment of peace, settlement of disputes, collective bargaining, participation in management; Trade

Union- theories, objectives and functions, trade union movement in India.

Unit IV Labor Welfare and Contemporary Issues- Labor welfare measures in India, Social Security in

India, Labor market failure, working poverty, skill deficit in India, rural labor, child and women labor in

India, ILO.

Suggested Readings-

Labor Economics: theory, institutional and pub. policy, by Ray Marshall

Labor Economics: by Sinha and Sinha

Labor Economics and Social welfare: by Dr. BP Tyagi and Dr. HP Singh

Labor Economics and Labor Problems: by MV Joshi

Web References

http://heecontent.upsdc.gov.in/https://epgp.inflibnet.ac.in/

https://swavam.gov.in/

https://udrc.lkouniv.ac.in/Department/DepartmentDetail/StudyMaterial?dept=5

https://www.coursera.org

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SEMESTER-VIII, Paper: XIX (For Major 1 Course)

Research Methodology

Course Code: ECO- 801 Credit: 4 (T)

Course Outcome: This paper helps students to understand the research methodology such as how to develop a research design framework for economic research, types and sources of data collection, and how to write dissertation and reports of research findings.

Unit I: Introduction to Research

Introduction to Research, Need, Meaning, Objectives, Motivation, Concept of Theory, Research Methods vs Methodology, Research Design, Descriptive vs Analytical, Applied vs Fundamental, Quantitative vs Qualitative.

Unit II- Review of Literature and Research Data

Review of Literature, Sources of data, identifying research gap, Formulation of research problem, Development of working hypothesis, Data collection, and Primary vs Secondary data

Unit III- Data Analysis

Statistical Analysis, Sampling, Correlation and Regression analysis, Analysis of Variance, Time Series Analysis, Graphical presentation, Use of MS Excel for data analysis, and Statistical inference.

Unit IV: Report Writing

Research reports- Structure and Components of Scientific Reports, Layout, Structure and Language of Typical Reports- Illustration and Tables, Bibliography, Referencing and footnotes, Safeguard against Plagiarism.

Suggested Reading

Kothari C.R, (1988) Research Methodology Method and Techniques, Wiley Eastern Limited, New Delhi.

Kumar, R. (2018). Research methodology: A step-by-step guide forbeginners. Research methodology, 1-528.

Goode William J. and Hatt, Paul, Methods in Social Research, McGraw Hill, New York.

Creswell, J. W., & Creswell, J. D. (2017). Research design: Qualitative, quantitative, and mixed methods approaches. Sage publications.

Gupta S.P (1988) - Statistical Methods- Sultan Chand & Sons, New Delhi.

Gupta, S. C. (1993), Fundamentals of Applied Statistics, S. Chand & Sons, New Delhi.

SEMESTER- VIII, (For Major 1 Course) Major Research Project

Course Objective: The objective of the course is to make the students learn the skills of formulation of research problem, objectives, hypotheses and also the skills of data collection, analysis and interpretation. This course is directly related to Ability Enhancement of students.

General Outlines:

- 1. Each student should be assigned a project supervisor from the faculty members of the concerned centre.
- 2. The topic of project report should be decided by the supervisor taking into account the area of interest of the student. As far as possible the topic should address the current issues / developments in the field of Economics.
- 3. Standard norms for the preparation of a research project report may be followed introduction, brief background, relevance of the topic, literature review, problemstatement, objectives, hypotheses, sample design, data nature and sources, tools and techniques of data collection, data presentation, analysis, and interpretation, findings and conclusion.
- 4. The Dissertation outcomes may be reported in the following form: Chapter-1:Introduction & Review of Literature; Chapter-2: Research Methodology; Chapter-3: Conceptual & Theoretical Description; Chapter-4: Analysis and Interpretations; Chapter-5: Conclusion, Suggestions & Scope for further research; References, Annexure, etc.
- 5. The Dissertation outcomes should be evaluated both in the form of reports and viva-voce examination by a duly constituted committee by the appropriate authority.
 - 6. This is to be evaluated as 'Satisfactory (S)' or 'Unsatisfactory (US)'.

FINANCIAL LITERACY AND BANKING

Course Code: ECO-101 CC1

Credit: 4

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Course Objective: The course is designed to inculcate the values of financial literacy and banking in

the 21st century, which are an utmost need of the hour to overcome various challenges. To make the

students aware of the benefits of financial planning through financialliteracy and banking.

Unit: I

Basics of Savings and Investment: Why are investing and savings important? Savings Vs Investment,

Return, Inflation effects on Investment, Investor's Age and Assets Allocation. Tax saving

Power of Compounding, What should be the investment objectives? Risk and

Schemes Government Schemes-National Saving Certificates, Public Provident Fund, Post Office

Schemes, Equity Linked Savings Schemes, Retirement Benefits Schemes- NPS (NewPension System)

Unit:-II

Banking Activities: Deposits and Types of Deposits-Saving Bank Accounts, Fixed Deposit Accounts,

Recurring Deposit Account, Special Term Deposit Schemes, Loans and Types of loan advanced by

Banks and Other secondary functions of Bank. Banking structure in India and Role of Reserve Bank of

India

Unit: III

Financial Markets: Capital Market Vs Money Market, Securities and its types, i.e., Equity, Debentures

or Bonds, IPOs and FPOs, Mutual Funds, Types of Mutual Funds, Brokers, sub-brokers, Process for

becoming a capital market investor

Unit: IV

Protection Related products: Insurance Policies, Life Insurance, Term Life Insurance, Endowment

Policies, Pension Policies, ULIP, Health Insurance and its Plans, Understanding of Ponzi Schemes

Output: It will make a more responsible individual with a disciplined approach to money and helps

people from overspending and inculcates a habit of savings and investments.

Text Books and Suggested Readings:

Investment Planning by SEBI

Indian financial System, by T. R. Jain and R. L. Sharma, VK Global Publisher

Money and Banking by T. R. Jain and R. K. Kaundal, VK Global Publisher

Web References

http://heecontent.upsdc.gov.in/

https://epgp.inflibnet.ac.in/

https://swayam.gov.in/

https://udrc.lkouniv.ac.in/Department/DepartmentDetail/StudyMaterial?dept=5

SEMESTER- II, Paper: I (For VC1)
Basics of Financial Market

Course Code: ECO-201 VC1 Credit: 4 (T) Course

Objective: This paper intends to build up the four primary skills in students in the academic as well as in the wider domains of use like public offices. The books recommended only provide guidelines for what to teach, and the list is in no way exhaustive. Teachers must be free and resourceful enough to collect teaching materials on their own, and even use newspaper clippings as teaching materials.

Unit I: Basics of Financial Markets

Introduction to Financial Markets: Financial Assets and Non-Financial Assets, Types of Financial Assets, Portfolio, Financial System in India, Role of Intermediaries, Types of Risk, Concept of Risk and Return

Unit II: Money Market

Organized VS. Unorganized Markets, RBI, Banks and NBFIs, Types of NBFIs, Systemically Important NBFIs, RBI, Life and General Insurance, Risk and Insurance, IRDA, Pension Funds,

Unit III: Capital Market: Primary and Secondary market, Equity, Bonds and Debentures, Derivatives, Mutual funds, Types, SEBI, Trading, Rules and regulations for Demat Accounts, Mutual funds - Types, Valuation, KYC

Unit IV: Foreign Exchange Market

Structure and Importance, Determinants of Foreign Exchange Rate, Spot, Forward and Futures Exchange Rate, Arbitrage, Capital Flows, FDI and FII, International Monetary Institutions.

Suggested Readings

Pathak, Bharati V. The Indian Financial Markets Institutions and Services 2014

L. M. Bhole and J. Mahukud, Financial Institutions and Markets, Tata McGraw Hill, 5th edition, 2011.

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

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

Thomas E. Copeland, J. Fred Weston and Kuldeep Shastri, Financial Theory and Corporate Policy, Prentice Hall, 4th edition, 2003.

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

Stephen A. Ross, Randolph W. Westerfield and Bradford D. Jordan, Fundamentals of Corporate Finance McGraw-Hill, 7th edition, 2005.

Web Readings

http://heecontent.upsdc.gov.in/https://epgp.inflibnet.ac.in/

https://swayam.gov.in/

https://udrc.lkouniv.ac.in/Department/DepartmentDetail/StudyMaterial?dept=5 https://www.coursera.org/in

SEMESTER-III, Paper: I (For CC2)

Issues in Environmental Economics

Course Code: ECO-301 CC2

Credit: 4 (T)

Course Outcomes: The management and conservation of the natural resources and the orientation of technological and institutional change in order to ensure the attainment and continued satisfaction of human needs for present and future generations. These types of sustainable development practices conserve land, water, plant and animal genetic resources. It is also environmentally non-degrading, technically appropriate, economically viable and socially acceptable." (Food and Agricultural Organization)

Unit I

Environmental Economics: Meaning and Definition, Components of Environment, Sustainable Development, Measurement of Sustainable Development, Climate change: Meaning, Causes, Seasonal change. Impact on Indian Agriculture, Land use, Crop cycle, Agriculture Production, Agriculture productivity, Agriculture producers, Consumers, Change in consumption pattern, food security, Mitigating Hunger, Green Revolution and climate change, Agro-Climatic Zones and trends of climatic variables in India

Unit II

Studying human-nature interactions and recent trends; Geography, Ecology and Cultures. Monsoon, river systems and oceans, Water; Dams, Displacement, Pollution, Degradation, Environment as global concern: Climate change and global efforts.

Unit -III

Forests; Human-wildlife conflict, threat to Bio-diversity, movements. Alternative visions: solar and wind energy. Industrial Disasters, Environment and Health, Poverty and Environment

Unit -IV

Environmental Issues: Global warming. Green house effect, Acid rain, Biodiversity Preservation, Chipko Movement, Narmada Bachavo Movement.

Essential Readings

Agarwal Anil and S. Narain, eds. The Fifth Citizen's Report on the Environment in India Delhi: Centre for Science and Environment, 1999.

Agarwal Anil and S. Narain, eds. The Second Citizen's Report on the Environment in India, 1984-85. Delhi: Centre for Science and Environment, 1985.

Agarwal, Anil, et al, eds. The First Citizens' Report on the Environment in India. Delhi: Centre for Science and Environment, 1982.

Divya bhanusinh. The End of a Trail: History of Cheetah in India. New Delhi: Oxford University Press, 1990.

Gadgil Madhav& amp; Ramachandra Guha. This Fissured Land: An Ecological History of India. New Delhi: Oxford University Press, 1992.

Grove, Richard, Vinita Damodaran and Satpal Sangwan, eds. Nature and the Orient: The Environmental History of South and Southeast Asia. New Delhi: Oxford University Press, 2000.

Guha R. Environmentalism: A Global History. New Delhi: Oxford University Press,2001.

Kumar Sanjeev, The State of Indian Agriculture: Agricultural Productivity, Food Security and Climate Change: Sage, 2020.

Lahiri Nayanjot. ed. The Decline and fall of the Indus Civilization. Ranikhet: Permanent Black, 2002.

SEMESTER-IV, Paper: I (For VC2)

Basics of Business Analytics and Computer Application

Course Code: ECO- 401 VC2 Credit: 4 (T) Course

Course Outcomes: In the present era of information society, information is one of the major driving forces for social, economic, political and cultural development of a country.. The knowledge of tools and techniques of datacollection, data presentation and data analysis by using the spread sheet package is high in demand in almost all the sectors of economy.

Unit 1: Basics of Computer

Introduction to Computation and Computers. Components of computer. Types of memory. Types of computers. Software and Hardware. Introduction To Input Devices - Input devices (keyboard, MICR, OCR, OMR)- Graphic input devices (Mouse, Graphic Tablet, Joystick), output devices (Printers - Impact & non-impact printer). Introduction to Software: classification of software. Evolution of operating systems. Functions of operating systems. Types of operating systems

Unit 2: Basics of MS Office

MS-Word: Introduction to MS-Word and its use. Creating, editing and saving documents and reports. Formatting features of word processing. Spacing, font change, insertion of smart art, chart, pictures in documents. Working with tables and graphs. Preview and printing documents. **Powerpoint**: Introduction and use of powerpoint. Creation of slideshow, Preparing slideshows, Editing and Saving slide shows. Templates- Animations – Builtin presentations - Customised presentations.

Unit 2: Presentation of Data in MS-Excel

Inserting Data into columns. Overview of Description Statistics (Central Tendency, Variability), Data Visualization -Definition, Visualization Techniques. Conditional Formatting. Number Formatting. Table Formatting. Protecting Sheets & Files. Understanding Various Excel Window Techniques. Viewing Excel Spreadsheet in various Layouts. Advanced Printing Techniques. Templates – Themes; Data Analysis Tools. Data Consolidation - Text to Columns - Flash Fill - Remove Duplicates - Advanced Data Validation Techniques. What-if Analysis. Goal Seek - Data Table - Solver – Scenarios; Working with Tables. Creating Charts. Understanding Sparklines (Line, Column, and Win/Loss). Pivot Tables & Pivot Charts.

Unit 4: Functions and Formulae in MS-Excel

Understanding Screen Layout - Creating Auto List & Custom List - Entering, Selecting and Editing Data - Understanding References (Relative, Absolute & Mixed). Working on Various Functions & Formulas - Common Basic Functions. Logical Functions. Text Functions. Date & Time Functions. Lookup & Reference Functions. Mathematical Functions. Conditional Functions. Referring Data from Different Worksheet & Workbook Formula. Auditing. Various Calculation Techniques - Working on Ranges.

Textbooks

- 1. Excel Bible: John Walkenbach, Wiley.
- 2. Excel Data Analysis Modeling and Simulation: Hector Guerrero, Springer.
- 3. Excel Functions and Formulas: Bernd Held, BPB Publications.
- 4. Microsoft Excel: Data Analysis and Business Modeling: Winston, PH

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