6th Semester

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Program Name	BA in Economics		Semester	Sixth Semester
Course Title	Internationa	l Economic	s	
Course Code:	ECO C13		No. of Credits	4
Contact hours	60 Hours	aran SII	Duration of SEA/Exam	2 Hours
Formative Asses	ssment Marks	40	Summative Assessment Marks	60

- · CO1. Understand the international trade theories and their application in international trade
- CO2. Explain the concept of terms of trade and demonstrate the effect of trade barriers; and display
 the ability to analyse the stages of economic integration
- CO3. Understand the concept of BoP and assess the BoP position and examine the changes in forex rate
- CO4. Analyse the role of International trade and financial institutions
- CO5. Demonstrate good inter-personal and communication skills through class participation and contributing to critical discussion on trade issues

MODULES	DESCRIPTION	60 Hours
Module I	International Trade Theories	15
	Meaning and Importance of International trade; Differences between Internal and International Trade; Trade Theories: Mercantilist view; Absolute cost and comparative cost advantage theories; Haberler"s Opportunity cost theory; Hecksher-Ohlin theory; Leontief"s paradox	
Practicum	Assignment on Ricardo"s Comparative cost advantage and Leontief"s paradox	
Module II	Terms of Trade and Commercial Policy	18
	Terms of trade- Concept and Types, Factors determining Terms of Trade; Commercial Policy: Free trade v/s Protection; Tariffs: Types and effects; Quotas; Anti-dumping; Economic Integration: Meaning and stages.	
Practicum	Debate: Free trade v/s Protection Mini project: Trace the evolution of India towards Economic Integration	
Module III	Balance of Payment and Capital Flow	12
	Balance of Payment: Concept, Components; Disequilibrium in Balance of Payment: Causes and Measures to correct disequilibrium; Foreign Exchange rate: Meaning and types; determination of Foreign exchange rate: Demand for and Supply of Forex; Purchasing Power Parity (PPP) theory; Capital Flow: Meaning and concept of Foreign Investment; Forms of FDI; Advantages and disadvantages of FDI.	

Modale IV		Assignment on Forms of FDI International Finance and Trade Institutions			
	10,212.5 (17.1)	Bretton Woods Institutions: IMF and IBRD -IDA and IFC: Organization, Objectives, Functions and their role in developing countries; Evolution of WTO: GATT – principles and objectives; WTO: Organization, Objectives, Functions, Agreements and current issues; WTO and developing countries;			
Pra	cticum:	Group Discussion: Effectiveness of IMF and IBRD in developing countries Seminar: Agreements of WTO or current issues of WTO			
Ref	erences				
1	Soderste	en. B. (1993): International Economics, MacMillan, 3 Edition, London,			
2	Salvator	re, D. (2016): International Economies, 12 Edition, Wiley Publication			
3		Vaish, M. C. and Sudama Singh (1980): International Economics, 3 Edition, Oxford and IBH Publication, New Delhi.			
4	Carbaug	n, R. J. (1999): International Economics, International Thompson Publishing, New York			
5		S. (2000): International Economics: Study Guide and work Book, 5. Edition, ge Publishers, London.			
5	Routled				
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6	Routled Kenen, Krugma Publicat	ge Publishers, London. P. B. (1994). The International Economy, Cambridge University Press, London. In, P.R. and M. Obstfeld (1994): International Economics: Theory and Policy Addisortions. JD. (1998) The World Trading System, Cambridge University Press, Mass.Cheruni			
6	Routled Kenen, Krugma Publicat Jackson Internat	ge Publishers, London. P. B. (1994). The International Economy, Cambridge University Press, London. In, P.R. and M. Obstfeld (1994): International Economics: Theory and Policy Addisons.			
6 7 8	Routled Kenen, Krugma Publicat Jackson Internat D M Mi	ge Publishers, London. P. B. (1994). The International Economy, Cambridge University Press, London. In, P.R. and M. Obstfeld (1994): International Economics: Theory and Policy Addisortions. JD. (1998) The World Trading System, Cambridge University Press, Mass.Cheruni ional Economics, TMH, New Delhi.			
6 7 8 9	Routled Kenen, Krugma Publicat Jackson Internat D M Mi	ge Publishers, London. P. B. (1994). The International Economy, Cambridge University Press, London. In, P.R. and M. Obstfeld (1994): International Economics: Theory and Policy Addisortions. JD. (1998) The World Trading System, Cambridge University Press, Mass.Cheruni ional Economics, TMH, New Delhi. ithani, International Economics, Himalaya, Mumbai.	lam,		
6 7 8 9	Routled Kenen, Krugma Publicat Jackson Internat D M Mi Jhingan Dwived	ge Publishers, London. P. B. (1994). The International Economy, Cambridge University Press, London. In, P.R. and M. Obstfeld (1994): International Economics: Theory and Policy Addisortions. JD. (1998) The World Trading System, Cambridge University Press, Mass.Cheruni ional Economics, TMH, New Delhi. Ithani, International Economics, Himalaya, Mumbai. M.L.(2016): International Economics, Vrinda Publications Pvt Ltd-Delhi	lam,		





Program Name	BA in Economics		Semester	Sixth Semester
Course Title Indian Public Finance		Bang or open all the same participations.	Sugar	
Course Code:	ECO C14	min a donne	No. of Credits	4
Contact hours	60 Hours		Duration of SEA/Exam	2 Hours
Formative Asses	ssment Marks	40	Summative Assessment Marks	60

- CO1. Understand the structure of Indian Public Finance
- · CO2. Enable the students to know the Source and nature of public revenue and expenditure
- · CO3. Understand the Budget and different concept of deficits
- · CO4. Know the Public debt and its management
- · CO5. Understand the fiscal and monetary policy and their tools and importance
- CO7. To enable the students to know the Indian federal financing system and Financial Commissions

MODULES	DESCRIPTION	60 Hours	
Module I	Public Revenue	18	
	Direct Tax Revenue - Sources of Revenue-Tax and Non-Tax Revenue; Trends and Patterns of Tax Revenue in India; Direct and Indirect Taxes in India; Personal Income Tax Rates and Slabs; Corporate Tax- Tax Rate and Slabs; Indirect Tax Revenue - Indirect Taxes - Earlier Taxes-VAT and MODVAT; Goods and Services Tax (GST)- Objectives and Classification of GST, Tax Rates of GST; Trends and Patterns of GST; Impact of GST on Indian Economy; Tax Reform Commissions.		
Practicum	Collection and analysis of data on Direct tax Collection and analysis of GST from businesses		
Module II	Public Expenditure		
	Revenue Expenditure - Classification of Public Expenditure in India; Revenue Account Expenditure- Trends and Patterns; Capital Account Expenditure-Trends and Patterns; Fiscal Responsibility and Budget Management (FRBM) Act; Impact of Public Expenditure on Indian Economy; Expenditure Reforms Commission (ERC) in India; Union Budget and Its Analysis - Meaning and Classification of Budgets; Zero-Based Budget; Composition of Union Budget; Union Budget Analysis (current one); Different Concept of Deficits- Revenue, Fiscal, Primary Deficits		
Practicum	Analysis of Union Budget (Current one) Group Discussion on Budget Deficits	THE STATE OF	
Module III	Public Deht and Its Management	14	

2	Public Borrowings and Debt - Meaning and Nature of Public Debit; Sources of Public Borrowings; Classification of Public Debt; Trends and Patterns of Central Government Debt; Main Characteristics of Indian Public Debt; Crowding out of Private Investment; Causes of Public Debt in India; Burden of Public Debt and Management in India - Meaning of Burden of Public Debt; Importance of Public Management; Principles of Public Debt Management; Repayment of Public Debt in India; Impact of Public Debt on Indian Economy; Finance Commissions in India	
Practicum	Assignment to write on Indian Public Dent and sources of repayment Group Discussion on Burden of Public Debt	
Module IV	Fiscal and Monetary Policies and Federal Finance in India	13
	Fiscal and Monetary Policy India - Meaning and Objectives of Fiscal Policy; Importance of Fiscal Policy; Tools of Fiscal Policy; Meaning and Objectives of Monetary Policy; Importance of Monetary Policy; Tools of Monetary Policy; Indian Federal Finance - Meaning and Importance-Stages of Growth; Allocation of Resources- Division of Functions and Resources; Principles of Federal Finance; Shortcomings of Federal Financing; Finance Commission and Their Recommendations.	
Practicum	Group Discussion about the Role of Fiscal and Monetary Policies in controlling inflation Assignment to write the State List, Union List and Concurrent list	

Ref	teferences			
1	Bhatia H L (2021): Public Finance, S. Chand and Co., New Delhi.			
2	Lekhi R.K (2020): Public Finance, Kalyani Publishers, New Delhi.			
3	Musgrave R.A and Musgrave P.A (2017): Public Finance in Theory and Practice, Mcgraw-Hill Kogakusha, Tokyo.			
4	Om Prakash (2021): Public Economics: Theory a practice, Vishal Publishing Co. Ludhiana.			
5	S.K. Singh (2019): Public Economics: Theory and Practice S. Chand and Co., New Delhi.			
6	Tyagi, B.P (2018): Public Finance, Jai Prakash Nath and Company, Meerut, India.			

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Program Name	BA in Econo	mics	OUT THUS	Semester	Sixth Semester
Course Title	Economic T	houghts of I	Dr.B.R Amb	edkar	
Course Code:	ECO C15			No. of Credits	4
Contact hours	60 Hours	notes in E		Duration of SEA/Exam	2 hours
Formative Asses	ssment Marks	40	Sum	mative Assessment Marks	60

- CO1. derive inspiration from the life and works of B R Ambedkar
- CO2. Appreciate the socio-economic scenario during Ambedkar" period and compare it with present day
- CO3. Comprehend the contributions of Ambedkar on various economic aspects
- CO4. Assess the economic views of Ambedkar in the light of present-day socio-economic problems
- · CO5. develop the traits of critical thinking and critiquing

MODULES	DESCRIPTION		
Module 1	Ambedkar's views on Economy, Society and Equity	15 Hrs	
	Socio- Economic-Political Context of India during Ambedkar"s period; Brief outline of Ambedkar"s life and career; Ambedkar"s views on: a) economy and society; b) role of state c) Socialism and State Socialism; d) Women Empowerment, e) Objectives of economy: growth & equity; Socio-economic inequality: Economics of Caste, discrimination and deprivation; reforms suggested there in by Dr Ambedkar: Constitutional Provisions; Hindu code Bill		
Practicum	Assignment: Socio-economic inequality and status of affirmative actions in India		
Module 2	Thoughts of Ambedkar on Agriculture	15Hrs	
	Ambedkar's views on: Agrarian Economy; Consolidation of land holdings and land revenue; Comparison with Ricardian view; Collective farming; views on land-ownership and land lessness; Nationalization of land and ceiling on land holdings; Surplus labour utilisation in agriculture and capital formation;		
Practicum	Mini Project: Using the Agriculture census data (https://agcensus.dacnet.nic.in/), chart the average size of operational holdings (by group) for different social classes in your tehsils and district (for2001-2 and 2015-16); compare with the corresponding figures of state and nation.		
	Ambedkar on Industrialisation and Planning	15 Hrs	
	Ideas on Industrialisation; views on types of industries Labour: views on labour exploitation and labour reforms; Social security Planning: Measures to develop Irrigation and Power sector: River linking;	10 110	

Practicum	Debate 1): Small & cottage industries of rural areas v/s large scale industries in	
	urban areas Debate 2) Industrialize or perish v/s Industrialize and perish	
Module 4	Ambedkar's contribution to Fiscal and Monetary Economics	15 Hrs
	Fiscal Economics: study of sources of revenue; canons of expenditure Monetary Economics: Price stability and exchange rate stability; Currency reform	
Practicum	Seminar: Ambedkar"s views on "The Problem of Rupee"	

1	Heggade O D (1998) - Economic Thoughts of B R Ambedkar
2	Heggade O D - 000000 00 d 000000 0000000, Arjun Pub. House, Mysuru
3	Speeches and writing of Dr. B R Ambedkar, W R Mujawar (4 Volumes)
4	□□.□□□□□□□□ □□□□□ವ ರರಬರಹಗ □□ ಮ □□ □□ಪ ಣಗಳ □ − Vol 1, Vol.2 Part 1& 2, Vol 3, Vol 6 Part 1& 2, Vol 10 Part 1, 2, & 3, Vol 12 part 2, Pub by Govt of Karnataka
5	Nagar and Nagar (2010), Economic Thoughts and Policy of Dr. B. R. Ambedkar
6	Permaiah, P.K and Sateesh Reddy (1994) - Dr Ambedkar's Economic Philosophy, Delta Pub, New Delhi
7	Dongre M K - Economic Thought of Dr B R Ambedkar
8	Ramaiah Reddy (ed) (1987)- Dr B R Amdedkar"s Economic Philosophy
9	Sukhadeo Thorat(1998), Ambedkar"s Role in Economic Planning and Water Policy, Shipra Publications, New Delhi.
10	Ambedkar B. R. (1936) Annihilation of Caste, Government of Maharashtra, Writings and Speeches of Dr B R Ambedkar, Volume 1, Mumbai.
	Also see https://www.brambedkar.in/annihilation-of-caste/
11	Ambedkar B. R. (1923) THE PROBLEM OF THE RUPEE: ITS ORIGIN AND ITS SOLUTION (HISTORY OF INDIAN CURRENCY & BANKING)
	http://drambedkar.co.in/wp-content/uploads/books/category1/13the-problem-of-the-rupee.pdf
12	Vasant Moon (Compiled) (1989) DR. BABASAHEB AMBEDKAR WRITINGS AND SPEECHES VOL. 1Part V of https://www.mea.gov.in/Images/attach/amb/Volume_01.pdf

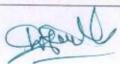
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Program Name	BA in Economics		Semester	Sixth Semester
Course Title	Environmen	tal Econom	ics	
Course Code:	ECO C16		No. of Credits	4
Contact hours	60 Hours		Duration of SEA/Exam	2 Hours
Formative Asses	ssment Marks	40	Summative Assessment Marks	60

- · CO1. Understand how economic methods can be applied to environmental issues facing society
- CO2. Examine the linkages between Environmental Degradation and Economic Development
- CO3. Develop an informed view regarding the potential of economics to help societies achieve their environmental goals
- CO4. Demonstrate good inter-personal and communication skills through writing an essay and contributing to critical discussion
- · CO5. Analyze environmental problems and to assess environmental policies

MODULES	DESCRIPTION		
Module I	Environment and Ecology	15	
	Meaning, Nature and Scope of Economics of Environment; Linkages between Environment and the Economy; Environmental Kuznets curve; Environmental Stress; Population and Environment; Poverty and Environment; Meaning and elements of ecology; Biotic and Abiotic components; Food, Hydrological and Carbon Cycles; Material Balanced Principle (Entropy law); Meaning and strategies to achieve Sustainable Development; Rio Summit; Green Accounting Introduction to SDGs		
Practicum:	Making charts relating to SDGs or Assignments on environment- economy linkages at the local level		
Module II	Natural Resources Scarcity and Conservation	15	
	Meaning and Characteristics of Renewable and Non-renewable resources; Non-Renewable Resources and the problem of depletion and problem of overuse; Resource Scarcity and Economic Growth (Limits to Growth Model); Energy and Economic Development; Energy resources and their Pricing; Alternative energy sources; Conservation of Natural Resources- 3Rs – Reduce, Reuse and Recycling Measures		
Practicum:	Identifying local resources; Project on resource conservation (esp. water) at the College level; Discussion on Limits to Growth		



Module III	Environmental Pollution	15
	Environmental regulatory system in India; Pollution Control Boards and their Functions; Provisions of the Environmental Protection Act, 1986; Environmental Movements in India (Chipko); Role of Citizens and NGOs in Environmental Protection.	
Practicum:	visiting the Pollution Control Board office and observing its functions	
Module IV	Environmental Pollution and Regulation	
	Environmental regulatory system in India; Pollution Control Boards and their Functions; Provisions of the Environmental Protection Act, 1986; Environmental Movements in India (Chipko); Role of Citizens and NGOs in Environmental Protection.	
Practicum:	Assignments on types of pollution in local areas; Seminars on climate change and its consequences; visiting the Pollution Control Board office and observing its functions	

1	Bhattacharya, R.N (Ed) (2001), Environmental Economics: An Indian Perspective, Oxford University Press.
2	Karpagam M. (1993), Environmental Economics, Sterling Publishers, New Delhi.
3	Shankar, U, (2001), Environmental Economics, Oxford University Press, New Delhi.
4	Singh, Katar and Anil Shisodia (2007): Environmental Economics: Theory and Applications, Sage Publications, New Delhi
5	Mahajan V.S (2003): Environmental Protection - Challenges & Issues, Deep & Deep Publishers New Delhi
6	Sengupta, R.P. (Ed.) (2001), Ecology and economics: An Approach to Sustainable Development, Oxford University Press, New Delhi.
7	Nick Hanley, Jason F, Shogren and Ben White (2005): Environmental Economics in Theory and Practice, Macmillan India Ltd.



Program Name	BA in Economics		Semester	Sixth Semester
Course Title	Industrial E	conomics		Yell I THE
Course Code:	ECO E2A	721	No. of Credits	3
Contact hours	45 Hours		Duration of SEA/Exam	2 hours
Formative Asse	ssment Marks	40	Summative Assessment Marks	60

- · CO1. Understand Industrial Economics in the Indian context.
- CO2. Critically examine and summarize the theories of industrial location.
- CO3. Describe the working of different industrial finance institutions.
- CO4. Identify the major issues involved in Indian industry and Government policies.

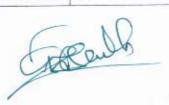
MODULES	DESCRIPTION	45 Hours	
Module - I	Framework of Industrial Economics		
	Industrial Economics: Meaning, Nature & Scope, Importance - Concepts: Plant, Firm and Industry; Organization of a Firm; Classification of Firms on the basis of Ownership (Public, Private, Joint and Cooperative Sectors), - Industrial Combinations, causes, Mergers & Acquisitions and Amalgamations; Industrial Location: Meaning, Determinants, Weber's theory, Florence's theory, Industrial location policy in India, Industrial Location trend in India.		
Practicum Visit to nearest firm/organization and prepare the report			
Module - II	Industrial Growth and Finance in India	15	
	Industrial growth in India: Review of recent trends in Indian industrial growth and structural transformation, Changing role of Public enterprises, efficiency, productivity and performance constraints - Performance and role of Micro, Small, Medium Enterprises (MSME), Role of MNC"s in India, The IT sector in India viewed in world context; Industrial Finance: Internal & External and other components of Funds, Role, Nature, Volume and types of Industrial Finance - Role of Commercial Banks, IDBI, SIDBI, IFCI, SFCs etc.		
Practicum	Discussion on sources of Industrial Finance.		

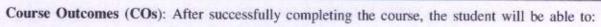
	Major Issues in Indian Industry: Industrial Backwardness, Problems of Regional Imbalance, Industrial Sickness: Industrial Disputes: Causes and Measures, Industrial Proliferation and Environmental Protection; Government Policies for Industries: Global Competition emerging trend, Government's recent policies - Industrial policy 1991 and subsequent changes, Technology and Foreign Collaboration Policy,
Practicum	Seminar on Industrial disputes.

Ref	erences
1	Barthwal R.R. (2022), Industrial Economics: An Introductory Textbook, 3 rd Edn, NewAge International Publishers.
2	Bhalerao N & Desai SSM (2010), <i>Industrial Economy of India</i> , 5 th Edition, HimalayaPublishing House, Bombay.
3	Cherunilam, F. (1994), Industrial Economics: Indian Perspective, Himalaya PublishingHouse, Mumbai.
4	Hay, D. and D.J. Morris (1979), <i>Industrial Economics: Theory and Evidence</i> , OxfordUniversity Press, New Delhi.
5	Singh, Sai A. and A. N. Sadhu (1988), Industrial Economics, Himalaya Publishing House, Bombay.
6	Sivayya, K.V. and Das, V.B.M. (2004), Indian Industrial Economy, S. Chand & Co., NewDelhi.



Program Name	BA in Economics		Semester	Sixth Semester
Course Title	Labour Econ	Labour Economics		
Course Code:	ECO E2B		No. of Credits	3
Contact hours	45 Hours		Duration of SEA/Exam	2 Hours
Formative Asset	ssment Marks	40	Summative Assessment Marks	60





CO1.Understand the basic concepts of Labour Economics.

CO2. analyze and tackle the labour issues effective

C03. Understand the theories of wages as well as wage policy analyse

MODULES	DESCRIPTION	45 Hrs
Module - I	Introduction Labour Economics	15
	Concept and Definition - Nature, Scope and Importance - Labour as a Unique Factor of Production - Labour Economics as a Branch of Economics - Interdisciplinary Character of Labour Economics; Labour Market Concept of Labour Market and its Features - Difference between Labour Market and Commodity Market - Labour Market Imperfections and Factors Contributing to Imperfections - Determinants of the Supply and the Demand for Labour - Organized and Unorganized Labour.	
Practicum	Group Discussion on Labour as a Unique Factor of Production.	
	Assignment on Labour Economics as a branch of economics	
	Visit to Organized and Unorganized Labour Market	
Module II	Employment and Wage	15
	Concept of Employment and Full Employment - Need for Full Employment - Theories of Employment - Classical, Neo-Classical and Modern Approaches to Employment - Unemployment, Causes and Consequences - Technology and Employment - Information Technology Revolution and Employment; Wages Wage Concept and Definitions - Wage and Development - Theories of Wages, Classical, Marginal Productivity and Collective Bargaining Theory of Wage - Wage Differentials - Wage Policy, Objectives and Importance.	
Practicum	Presentation on Theories of Employment	
	Undertake evaluation study on wage policies and prepare an assignment.	
Module III	Labour Productivity and Labour Welfare	15
	Concept of Labour Productivity - Measurement and Importance of Labour Productivity - Determinants - Causes for Low Labour Productivity and Measures to Increased Labour Productivity - Technology and Labour Productivity. State and	
	Labour: Need for State Intervention in Labour Matters - Methods of Intervention - Labour Social Security and Labour Welfare Measures; Labour Policy, Objectives and Importance - Emerging Perception on State Intervention.	
	Survey on the conditions of Labour in different sectors	
	Debate on need for State Intervention in Labour Matters	

Ref	erences
1	Bhagoliwal T.N. Economics of Labour and Industrial Relations, Sahitya Bhavan, Agra.
2	McConnell C.R. and S.L. Brue Contemporary Labour Economics, McGraw Hill, New York.
3	Mittal and Sanjay Prakash Sharma. Labour Economics, RSBA, Jaipur.





Program Name	BA in Econo	mics	Semester	Sixth Semester
Course Title	Agricultural	Economics		
Course Code:	ECO E2C		No. of Credits	3
Contact hours	45 Hours		Duration of SEA/Exam	2 Hours
Formative Asse	ssment Marks	40	Summative Assessment Marks	60

- CO1. Understand the concepts of Agricultural Economics
- CO2. The students can be able to analyze and understand critical issues effectively.
- CO3.To understand the importance of agricultural economics

MODULES	DESCRIPTION	45 Hours		
Module I	Introduction to Agricultural Economics	15		
	Agriculture And Economic Development, Definition and scope of Agriculture Economics – Agriculture in a growing Economy –Interdependence between Agriculture and Industry–Farming System: Traditional, Subsistence, Commercial, co-operative, Collective and State farming– Agriculture Production In India, Features of Indian Agriculture: Extent of Employment and unemployment tin Agriculture– Agricultural wages– women in Agriculture– Wage discrimination			
Practicum	Collecting information on existing Farming system to understand the existing scenario Collect the information about unemployment in Agricultural Sector			
Module II	Size of Holdings and Inputs	15		
	Farm size, and productivity relationship in Indian Agriculture Factors Affecting Agriculture Growth And Productivity, Technical change and Labour adsorption Size of landholdings—Land Reforms—Supply of Inputs: Irrigation ,Power, Seed and Fertilizer—Pricing of Inputs —Social forestry and Environment Determination of the prices of Agricultural commodities— Agricultural prices policy in India— Crop Insurance			
Practicum	Collecting information on size of holdings Collecting information on Irrigation and Productivity in Agriculture			
Module III	Agricultural Credit and Markets	15		



. Agricultural Credit In India And Agricultural Markets, Demand for Agricultural credit and supply of Agricultural credit – Institutional agencies supplying Agricultural credit: National bank for Agriculture and Rural Development[NABARD],Co-operatives, Commercial Banks, and Regional Rural banks Agricultural Markets: Definition and Scope—Types of Agricultural markets—cooperative marketing and regulated markets: Structure and functioning Agricultural Markets. Challenges To Indian Agriculture, Trends in Agricultural development—Green revolution and its impact—Sustainable Agriculture.

Practicum

Conducting surveys to understand the financial needs of Agriculture sector Conducting survey to understand the Price trends in the Agricultural Sector.

References

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- 1. Bilgrami, S.A.R. (1996), Agricultural Economics, Himalaya Publishing House, Delhi.
- 2. DandekarV.M(1994), TheIndian Economy1947-1992, Vol I Agriculture, Sage
- Dantwala, M.L. et.al(1991), Indian Agricultural Development Since Independence, Oxford & IBH, New Delhi.
- 4. DesaiR.G(1998), Agricultural Economics [models, Problems and plocy is sue],
- 5. GovernmentofIndia(1976), Report of the National Commission on Agriculture, New Delhi.
- Governmentof India, EconomicSurvey (Annual), NewDelhi.
- Gulati, A. and T. Kelly (1999), TradeLiberalization and Indian Agriculture, Oxford University Press, New Delhi.

8. TyagiB.P. (2002), Agricultural Economics and Rural development, Jaiprakash





Program Name	BA in Econo	mics	Semester	Sixth Semester
Course Title	Economics o	f Non-Farn	Sector	
Course Code:	ECO E2D		No. of Credits	3
Contact hours	45 Hours		Duration of SEA/Exam	2 Hours
Formative Asse	ssment Marks	40	Summative Assessment Marks	60

- CO1.Understand the Meaning, Concepts, objectives, Nature and scope of Economics of Non-Farm Sector.
- · CO2. To know the sustainable development of non-farm sector
- · CO3. To understand the importance of non-farm sector in the Indian economy
- CO4. To study the Government programmes and policies for non-farm sector.

MODULES	DESCRIPTION	45 Hours
Module I	Introduction to Non-Farm Sector	15
	Meaning and Definition of Non-Farm Sector, Nature of Non-Farm Sector Economics, Importance of non-farm sector, Role of non-farm sector in the rural Economy, the demand for and supply of non-farm labour in the rural Economy. Need of sustainable development of non-farm sector in India,	
Practicum		
Module II	Non-Farm Sector and Employment	15
	Types of unemployment in rural India, Nature of nonfarm Employment-Construction, Mining and quarrying, small businesses. Women and women employment in non-farm sector, Agro based Industries, and agro processing industries, Rural Markets, Rural MSMEs, women employment in households and cottage industry, Textile and handlooms, Rural Trade and Transportation. Rural Tourism-Swadesh Darshan.	
Practicum	Collecting the information on mining and quarrying workers condition Collecting information on rural trade and transportation Seminars and discussion	
Module III	Government Schemes and Policies for Non-Farm Sector	15
	Role of NGOs in non-farm sector, Government Schemes, MGNREGA, Skill India, , Pradhan Mantri Kaushal Vikas Yojna, National Apprenticeship Promotion	

	Scheme, Aajeevika, Deen Dayal Upadhyay Gramin Kaushal Yojana, Pradhan Mantri MUDRA Yojana (PMMY), National Institute of Rural Development and Panchayati Raj (NIRDPR), Establishing cooperative societies.
Practicum	Collecting the information on National Apprenticeship Scheme Collecting information on MUDRA Yojana Seminars and discussion

Ref	erences
1	Nayyar Rohini and Sharma N Alakh, (2005), Rural Transformation in India: The Role of Non-Farm Sector: Institute for Human Development
2	Rao M Koteswars (2000). Rural Employment: The Non-Farm Sector. Deep and Deep publication New Delhi
3	Chattopadhyay Apurba Kumar and Chakrabarti Saumya (2013) Economics of Rural Non-Farm Sector: Certain Characteristics and Determinants Serial Publication New Delhi
4	Fisher Thomas (1997), Forgotten Sector: Non-farm employment and enterprises in rural India: Practical Action Publication
5	Jami.B.Kilangla and M Giribabu. (Eds): 2020 AGRICULTURE AND RURAL TRANSFORMATION: Issues and Challenges (With Special Reference to North-East India). Rawa Publication .Jaipur
6	Government of India.2020-21. Annual Report: Department of Agriculture, Cooperation and Farmers Welfare
7	Antony Piyush, V. R.P Gayathri, Mamgain; (2001) "Social and Economic Security in India" (ed.) Institute for Human Development, New Delhi



6th Semester

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Program Name	B.Sc. in Econ	nomics	Semester	Sixth Semester
Course Title	Actuarial Ec	onomics		
Course Code:	ECO C13		No. of Credits	4
Contact hours	60 Hours		Duration of SEA/Exam	2 Hours
Formative Asse	ssment Marks	40	Summative Assessment Marks	60

Course Objective:

- · To understand the basic actuarial techniques
- · To understand the concepts of finance and its application in actuarial economics

- CO1. Enables understanding on Actuarial Economics and Insurance sector.
- CO.2.To acquaint with advances in financial models

Modules	Description	60 Hours	
Module I	Introduction to Actuarial Economics	10	
	Principles of Actuarial Economics - Importance of Finance and Mathematics in Actuarial Economics - The concept of Insurance - Classification of Insurance - Types of Life Insurance - History of Insurance in India - Insurance regulatory and development Act.	8	
Practicum	Assignment on Principles and Importance of Finance and Mathematics in a Economics		
Module II	Theory of Interest	18	
Chapter 4	Time value of money - Simple interest, compound interest, depreciation, investing over a period. Cash flow models - Zero coupon bonds, fixed interest securities, index linked securities, equity, annuity, an interest on loan, repayment loan. Interest rates - Nominal rate, effective rate and force of interest.		
Practicum	Calculate Simple interest, compound interest, depreciation	ur_or	
Module III	Theory of Uncertainty and Risk Models	18	
	Axioms of choice under uncertainty; utility functions; expected utility theorem; measures of risk-absolute and relative risk aversions; measures of investment risk-variance of return, semi-variance of return Decision Theory: Zero-sum two-player games – Domination - The Minimax criterion - Saddle points.		
Practicum	Presentation on Theory of Uncertainty and Risk Models		
Module IV	Portfolio Theory	14	
Portfolio Theory - Benefits of Diversification, Models of Asset Retur Multifactor Models - The Single Index Model, Asset Pricing Models: -			



	Capital Asset Pricing Models (CAPM) – Limitations of CAPM.
Practicum	Group discussion on Portfolio Theory and Benefits of Diversification

Rei	'erences
1	Stephen G. Kellison, The theory of interest. Irwin Mc Graw Hill, 2008.
2	John Hull, Futures, Options and financial derivatives, Prentice hall publication
3	Panjer, Harry, H. (1998), Financial economics with applications to investments, Insurance and pensions. The Actuarial foundation.



Program Name	B.Sc. in Eco	nomics	Semester	Fifth Semester
Course Title	Indian Publi	c Finance	Alleman Brown I make an	A ATMINIS
Course Code:	ECO C14	M-1196	No. of Credits	4
Contact hours	60 Hours		Duration of SEA/Exam	2 Hours
Formative Asses	ssment Marks	40	Summative Assessment Marks	60

- · CO1. Understand the structure of Indian Public Finance
- CO2. Enable the students to know the Source and nature of public revenue and expenditure
- CO3. Understand the Budget and different concept of deficits
- CO4. Know the Public debt and its management
- · CO5. Understand the fiscal and monetary policy and their tools and importance
- CO7. To enable the students to know the Indian federal financing system and Financial Commissions

MODULES	DESCRIPTION	60 Hours
Module I	Public Revenue	18
	Direct Tax Revenue - Sources of Revenue-Tax and Non-Tax Revenue; Trends and Patterns of Tax Revenue in India; Direct and Indirect Taxes in India; Personal Income Tax Rates and Slabs; Corporate Tax- Tax Rate and Slabs; Indirect Tax Revenue - Indirect Taxes - Earlier Taxes-VAT and MODVAT; Goods and Services Tax (GST)- Objectives and Classification of GST, Tax Rates of GST; Trends and Patterns of GST; Impact of GST on Indian Economy; Tax Refogn Commissions.	

Practicum	Collection and analysis of data on Direct tax Collection and analysis of GST from businesses	
Module II	Public Expenditure	15
	Revenue Expenditure - Classification of Public Expenditure in India; Revenue Account Expenditure- Trends and Patterns; Capital Account Expenditure-Trends and Patterns; Fiscal Responsibility and Budget Management (FRBM) Act; Impact of Public Expenditure on Indian Economy; Expenditure Reforms Commission (ERC) in India; Union Budget and Its Analysis - Meaning and Classification of Budgets; Zero- Based Budget; Composition of Union Budget; Union Budget Analysis (current one); Different Concept of Deficits- Revenue, Fiscal, Primary Deficits	
Practicum	Analysis of Union Budget (Current one) Group Discussion on Budget Deficits	
Module III	Public Debt and Its Management	14
	Public Borrowings and Debt - Meaning and Nature of Public Debit; Sources of Public Borrowings; Classification of Public Debt; Trends and Patterns of Central Government Debt; Main Characteristics of Indian Public Debt; Crowding out of Private Investment; Causes of Public Debt in India; Burden of Public Debt and Management in India - Meaning of Burden of Public Debt; Importance of Public Management; Principles of Public Debt Management; Repayment of Public Debt in India; Impact of Public Debt on Indian Economy; Finance Commissions in India Assignment to write on Indian Public Dent and sources of repayment	
Practicum	Group Discussion on Burden of Public Debt	
Module IV	Fiscal and Monetary Policies and Federal Finance in India	13
	Fiscal and Monetary Policy India - Meaning and Objectives of Fiscal Policy; Importance of Fiscal Policy; Tools of Fiscal Policy; Meaning and Objectives of Monetary Policy; Importance of Monetary Policy; Tools of Monetary Policy; Indian Federal Finance - Meaning and Importance-Stages of Growth; Allocation of Resources- Division of Functions and Resources; Principles of Federal Finance; Shortcomings of Federal Financing; Finance Commission and Their Recommendations.	-
Practicum	Group Discussion about the Role of Fiscal and Monetary Policies in controlling inflation Assignment to write the State List, Union List and Concurrent list	

Ref	erences
1	Bhatia H L (2021): Public Finance, S. Chand and Co., New Delhi.
2	Lekhi R.K (2020): Public Finance, Kalyani Publishers, New Delhi.
3	Musgrave R.A and Musgrave P.A (2017): Public Finance in Theory and Practice, Mcgraw-Hill Kogakusha, Tokyo.
4	Om Prakash (2021): Public Economics: Theory a practice, Vishal Publishing Co. Ludhiana.
5	S.K. Singh (2019): Public Economics: Theory and Practice S. Chand and Co., New Delhi.
6	Tyagi, B.P (2018): Public Finance, Jai Prakash Nath and Company, Meerut, India.



Program Name	B.Sc. in Eco	nomics	Semester	Sixth Semester
Course Title	Internationa	l Economic	s	
Course Code:	ECO C15		No. of Credits	4
Contact hours	60 Hours		Duration of SEA/Exam	2 Hours
Formative Asses	ssment Marks	40	Summative Assessment Marks	60

- · CO1. Understand the international trade theories and their application in international trade
- CO2. Explain the concept of terms of trade and demonstrate the effect of trade barriers; and display
 the ability to analyse the stages of economic integration
- CO3. Understand the concept of BoP and assess the BoP position and examine the changes in forex rate
- · CO4. Analyse the role of International trade and financial institutions
- CO5. Demonstrate good inter-personal and communication skills through class participation and contributing to critical discussion on trade issues

MODULES	DESCRIPTION	60 Hours			
Module I	International Trade Theories	15			
	Meaning and Importance of International trade; Differences between Internal and International Trade; Trade Theories: Mercantilist view; Absolute cost and comparative cost advantage theories; Haberler"s Opportunity cost theory; Hecksher-Ohlin theory; Leontief"s paradox				
Practicum	Assignment on Ricardo"s Comparative cost advantage and Leontief"s paradox				
Module II	Terms of Trade and Commercial Policy				
	Terms of trade- Concept and Types, Factors determining Terms of Trade; Commercial Policy: Free trade v/s Protection; Tariffs: Types and effects; Quotas; Anti-dumping; Economic Integration: Meaning and stages.				
Practicum	Debate: Free trade v/s Protection Mini project: Trace the evolution of India towards Economic Integration				
Module III	Balance of Payment and Capital Flow	12			
	Balance of Payment: Concept, Components; Disequilibrium in Balance of Payment: Causes and Measures to correct disequilibrium; Foreign Exchange rate: Meaning and types; determination of Foreign exchange rate: Demand for and Supply of Forex; Purchasing Power Parity (PPP) theory; Capital Flow: Meaning and concept of Foreign Investment; Forms of FDI; Advantages and disadvantages of FDI.				

Practicum		Prepare India"s Balance of Payment statement using recent Economic Survey Assignment on Forms of FDI International Finance and Trade Institutions 15				
Module IV		International Finance and Trade Institutions				
100000		Bretton Woods Institutions: IMF and IBRD -IDA and IFC: Organization, Objectives, Functions and their role in developing countries; Evolution of WTO: GATT – principles and objectives; WTO: Organization, Objectives, Functions, Agreements and current issues; WTO and developing countries;				
Pra	Practicum: Group Discussion: Effectiveness of IMF and IBRD in developing countries Seminar: Agreements of WTO or current issues of WTO					
Refe	erences					
1	Soderste	en. B. (1993): International Economics, MacMillan, 3 Edition, London,				
2	Salvator	re, D. (2016): International Economies, 12 Edition, Wiley Publication				
3	Publicat	Vaish, M. C. and Sudama Singh (1980): International Economics, 3 Edition, Oxford and IBH Publication, New Delhi.				
4	Carbaug	th, R. J. (1999): International Economics, International Thompson Publishing, New Y	York			
5		S. (2000): International Economics: Study Guide and work Book, 5. Edition, ge Publishers, London.				
6	Kenen,	P. B. (1994). The International Economy, Cambridge University Press, London.				
7	Krugman, P.R. and M. Obstfeld (1994): International Economics: Theory and Policy Addison-Wesl- Publications.					
8		, JD. (1998) The World Trading System, Cambridge University Press, Mass. Cheruni ional Economics, TMH, New Delhi.	lam,			
9	DMM	ithani, International Economics, Himalaya, Mumbai.				
10	Jhingan	M.L.(2016): International Economics, Vrinda Publications Pvt Ltd-Delhi				
11	Dwived	i D.N.(2013): International Economics Theory & Policy, Vikas Publishing House Pv.	t Ltd.			
12	K.C. Ra	ana & K.N. Verma (2017): International Economics; Vishal Publishing Co.				
13	Krishna	murthy H.R (2013): Antararashtreeya Arthashastra; (Kannada version), Sapna, Ben	galuru			





Program Name	B.Sc. in Eco	nomics	Semester	Sixth Semester
Course Title	Environmen	tal Economi	ics	
Course Code:	ECO C16		No. of Credits	4
Contact hours	60 Hours	Walle State	Duration of SEA/Exam	2 Hours
Formative Asses	sment Marks	40	Summative Assessment Marks	60

- · CO1. Understand how economic methods can be applied to environmental issues facing society
- CO2. Examine the linkages between Environmental Degradation and Economic Development
- CO3. Develop an informed view regarding the potential of economics to help societies achieve their environmental goals
- CO4. Demonstrate good inter-personal and communication skills through writing an essay and contributing to critical discussion
- · CO5. Analyze environmental problems and to assess environmental policies

MODULES	DESCRIPTION	60 Hours
Module I	Environment and Ecology	15
	Meaning, Nature and Scope of Economics of Environment; Linkages between Environment and the Economy; Environmental Kuznets curve; Environmental Stress; Population and Environment; Poverty and Environment; Meaning and elements of ecology; Biotic and Abiotic components; Food, Hydrological and Carbon Cycles; Material Balanced Principle (Entropy law); Meaning and strategies to achieve Sustainable Development; Rio Summit; Green Accounting Introduction to SDGs	
Practicum:	Making charts relating to SDGs or Assignments on environment- economy linkages at the local level	
Module II	Natural Resources Scarcity and Conservation	15
	Meaning and Characteristics of Renewable and Non-renewable resources; Non-Renewable Resources and the problem of depletion and problem of overuse; Resource Scarcity and Economic Growth (Limits to Growth Model); Energy and Economic Development; Energy resources and their Pricing; Alternative energy sources; Conservation of Natural Resources- 3Rs – Reduce, Reuse and Recycling Measures	
Practicum:	Identifying local resources; Project on resource conservation (esp. water) at the College level; Discussion on Limits to Growth	
Module III	Environmental Pollution	15

0	Environmental regulatory system in India; Pollution Control Boards and their Functions; Provisions of the Environmental Protection Act, 1986; Environmental Movements in India (Chipko); Role of Citizens and NGOs in Environmental Protection.	
Practicum:	visiting the Pollution Control Board office and observing its functions	
Module IV	Environmental Pollution and Regulation	15
	Environmental regulatory system in India; Pollution Control Boards and their Functions; Provisions of the Environmental Protection Act, 1986; Environmental Movements in India (Chipko); Role of Citizens and NGOs in Environmental Protection.	
Practicum:	Assignments on types of pollution in local areas; Seminars on climate change and its consequences; visiting the Pollution Control Board office and observing its functions	

Re	eferences
1	Bhattacharya, R.N (Ed) (2001), Environmental Economics: An Indian Perspective, Oxford University Press.
2	Karpagam M. (1993), Environmental Economics, Sterling Publishers, New Delhi.
3	Shankar, U, (2001), Environmental Economics, Oxford University Press, New Delhi.
4	Singh, Katar and Anil Shisodia (2007): Environmental Economics: Theory and Applications, Sage Publications, New Delhi
5	Delhi
6	Sengupta, R.P. (Ed.) (2001), Ecology and economics: An Approach to Sustainable Development, Oxford University Press, New Delhi.
7	Nick Hanley, Jason F, Shogren and Ben White (2005): Environmental Economics in Theory and Practice, Macmillan India Ltd.

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Program Name	BSc in Economics		Semester	Sixth Semester
Course Title	Economics of	f Informatio	n notice of the contract of th	
Course Code:	ECO E2A	-	No. of Credits	3
Contact hours	45 Hours		Duration of SEA/Exam	2 Hours
Formative Asse	ssment Marks	40	Summative Assessment Marks	60

- CO1. Students shall be able to understand the role of information in contemporary economics.
- CO2. Students are expected to understand the strategies for pricing information.
- CO3. Students are expected to understand relevance of information policy in contemporary digital economy.

MODULES	DESCRIPTION	45 Hours	
Module I	Role of Information in Economy		
	Foundations of the Information economy-Introduction to Information economy-Definition of information good-The cost of producing information-Managing intellectual property-Economic and public good-The economics of attention-Technology Systems competition Lock-in and switching costs-Positive feedback, network externalities, and standards Policy		
Practicum	Assignment on Role of Information in Economy		
Module II	Strategies for Pricing Information	15	
	Pricing Information Goods-Cost of producing information-Costs and competition-Product Personalization-Product pricing-Personalized pricing-Versioning-Group pricing- Price sensitivity, Network effects, Lock-in, Sharing Versioning Information-Types of versioning-Value-subtracted versions-Avoiding pitfalls in versioning-On-line and off-line versions-Goldilocks pricing-Customizing the browser-Bundling-Promotional pricing		
Practicum	Survey on Strategies for Pricing Information and write a report on it		
Module III	3 Strategies for Information Industries and Information Policy in New Economy	15	



6	Cooperation and Compatibility-How standards change the game-Winners and Loser from standards-Tactics in formal standard-setting-Managing open standards-Case Study- Linux Adoption in the Public Sector: An Economic Analysis-Waging a Standards War-Classification of standards wars-Information-age standards wars-Key assets in network markets-Two basic tactics in standards wars-Capstone case: Microsoft Netscape Information Policy overview-Price differentiation-Competition policy-Telecommunications regulation and policy in brief (Indian context)	
	The components of Digital Economics-Twelve theme of the new economy- The ten technology shift-The Internet Economy and its Indicators-E- commerce and Digital Economy	
Practicum	Presentation on 3 Strategies for Information Industries and Information Policy in Economy	Ne

References [Please refer to the Latest Editions] Don Tapscott. The digital economy: Promise and peril in the age of networked intelligence. McGraw-Hill. (ISBN: 0-07-063342-8) Amrit Tiwana. The knowledge Management Toolkit: Practical techniques for building a knowledge Management System. Pearson Education. (ISBN 981-405-873-4)



Gulbarga University, Kalaburagi Department of Studies and Research in Economics

Program Name	BSc in Economics		Semester	Sixth Semester
Course Title	METHODS O	F DATA AN	ALYSIS	
Course Code:	ECO E2B		No. of Credits	3
Contact hours	45 Hours		Duration of SEA/Exam	2 Hours
Formative Asses	ssment Marks	40	Summative Assessment Marks	60

Course Outcome: After the successful completion of the course, the student will be able to:

- CO1. What are Theoretical Distributions?
- · CO2. Hypothesis Testing
- CO3. Techniques of Data Analysis t test, ANOVA, Factor Analysis, Regression and correlation

MODULES	DESCI	RIPTION	45	Hours
Module I	Hypothesis Testing			15

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Practicum	Debate on Applications of advanced data analysis	
	Regression Analysis: Simple Regression, Partial Regression and Multiple Regression Analysis - Assumptions - Estimation of Regression Model. Correlation Analysis: Correlation Analysis - Types of Correlation: Cross Tabulation, Charles Spearman's Coefficient of Correlation, Karl Pearson's Coefficient of Correlation, Coefficient Multiple and Partial Correlation.	
	Factor Analysis: Meaning of Factor Analysis - Objectives of Factor Analysis - Designing a Factor Analysis - Assumptions in Factor Analysis - Deriving Factors and Assessing Overall Fit - Interpreting the Factors - Validation of Factor Analysis.	
Module III	Advanced Data Analysis	15
Practicum	Presentation on Techniques of Data Analysis	
Module II	Techniques of Data Analysis Estimation of Mean and Variance - Test of Single Sample Mean - Two Independent Means Test - Testing for Means of Paired Data - Test of Single Sample Variance - Two Sample Variance Test - Test of Proportions - Non-Parametric Tests - Testing of Hypotheses: Concepts,. Non-Parametric Tests: Advantages & Disadvantages - Chi-square Tests - Tests for Randomness. Analysis of Variance - Assumptions for Analysis of Variance - Testing for the Equality of K Proportion Means - Between Treatments Estimate of Population Variance - Within Treatments Estimate of Population Variance - Comparing the Variance of Estimates - The F Test - Multiple Comparison Procedures.	15
Practicum	Types of Analysis: Univariate, Bivariate and Multivariate Data Analysis - Descriptive vs. Inferential Analysis - Theoretical Distributions - Normal, Chi-square, t, F, Binomial and Poisson Distributions - Concept of Estimator - Sampling Distribution of Estimator - Point and Interval Estimation - Properties of Good Estimator for Small and Large Samples Hypothesis Testing: Steps in Testing of Hypothesis - Approaches to Hypothesis Testing - Confidence Interval Approach -Test of Significance Approach and P-Value Approach- Formulation of Hypothesis - Null and Alternative - Level of Significance - One Sided and Two Sided Hypothesis - Type-I and Type-II Error - Test Statistic- Critical Value Conduct independent research and analysis and formulate and test the hypothesis	S

Refer	ences
1	Anderson, Sweeney and Willams, (2012) Statistics for Business and Economics, Thomson South Western, US.
2	Hair, Anderson, Tatham and Black (2009) Multivariate Data Analysis, Pearson Education, Singapore





Program Name BSc in Economics		omics	Semester	Sixth Semester
Course Title	Game Theor	у		
Course Code: ECO E2C Contact hours 45 Hours			No. of Credits	
			Duration of SEA/Exam	
Formative Asses	ssment Marks	40	Summative Assessment Marks	60

- CO1. Describe the basic elements of a game, including players, strategies, and preferences and explain the basic assumptions for the analysis.
- CO2. Analyze games with simultaneous moves and apply best response analysis to determine the
 equilibrium of a game.
- CO3. Analyze games with sequential moves and apply backwards induction to determine the
 equilibrium of a game.
- CO4. Describe and analyze a number of strategic situations frequently observed in economic, political, and social environments and explain the nature of the equilibrium.
- CO5. Describe and analyze a number of strategic situations frequently observed in the business world, including imperfect competition and incentives in organizations.

MODULES	DESCRIPTION	45 Hours			
Module I	Introduction to Game Theory				
	Basic Ideas and Examples – The GPA RAT Race – Why Professors So Mean? - How to Think about Strategic Games – Decisions versus Games - Classifying games: Sequential or Simultaneous - Conflict or Commonality – Single or Repeated with same or changing opponents - Equal or Asymmetric Information – Games with Fixed rules or Manipulable – Cooperative or Non-cooperative – some Terminology: Strategies – Payoffs – Rationality – Common Knowledge of Rules – Equilibrium – Observation and experiment – Uses of game Theory.				
Practicum	Group Discussion on the notion of a strategic game and equilibria and identify the characteristics of main applications of these concepts and write an assignment				
Module II	Games with Sequential Moves	10			
	Game Trees: Nodes – Branches – Paths of Play – Uncertainty and Nature's Moves – Outcomes and Payoff – Strategies – Tree Construction — Adding More Players – Adding More Moves				
Practicum	Solve Games using Trees - Solve Games Adding More Players and Moves				
Module III	Simultaneous Move Games - Discrete and Continuous Strategies	20			
	Depicting Simultaneous Move Games with Discrete Strategies - Nash Equilibrium - Nash Equilibrium as a System of Beliefs and Choices -				



	Dominance; Both Players have Dominant Strategies - One Players has a Dominant Strategy - Successive Elimination of Dominant Strategies - Best- Response Analysis - Simultaneous Move Games with Continuous Strategies; Pure Strategies that are Continuous variables - Price Competition - Some Economics of Oligopoly - Political campaign Advertisement - General Method of Finding Nash Equilibria
Practicum	Real World Evidence of Nash Equilibrium Computer Software to Solve Game Problems

Ref	erences
1	Avinash K. Dixit and Barry J. Nalebuff: The Art of Strategy, W.W. Norton, 2008.
2	Martin Osborne, An Introduction to Game Theory, Oxford University Press, 2003



Program Name	BSc in Economics		Sem	ester	Sixth Semester
Course Title	Operational I	Research in	Economics		
Course Code:	ECO E2D		No. of Cr	edits	3
Contact hours	et hours 45 Hours		Duration of SEA/Exam		2 Hours
Formative Asse	ssment Marks	40	Summative Assessment Mar	ks	60

Course Outcome: After the successful completion of the course, the student will be able to:

- · CO1. Explain the concepts of operational research and history of it.
- · CO2. Explain the different approaches to decision analysis
- · CO3. To optimize the objective function with given constraints.
- CO4. Solve different types of problems involving linear programming
- CO5. Discuss the concept of system analysis and identify the various categories of systems
- CO6. Describe model and analyze the different types of models

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- · CO7. Able to draw decision tree
- CO8. Defined simulation and highlight the various types of simulation models

MODULES DESCRIPTION		45 Hours			
Module I	Fundamentals of Operation Research	15			
	Operations Research (OP) – Objectives, History and Development, Definition, Characteristics of Operation Research; Scientific Methods in Operations Research-The Judgment Phase, The Research Phase, The Action Phase; Necessity of Operations Research in Industry; Scope and Applications of Operations Research; Scope of Operations Research in Financial Management Tools of OP: Linear Programming (LP)- Formulation of LP Problems, Constrained maximization and minimization, Graphical and algebra solution for LP problems.				
Practicum	Designing LP Problem Empirically optimizing objective function Verification of graphical solutions with algebra method. Solving the LP problem in Excel Sheet.				
Module II	Modeling in Operational Research	15			
	Introduction, Objectives, Definition, and Classification of Modeling; Characteristics of Good Models, Advantages of Models, Limitations of Models, Constructing a Model; Types of Mathematical Models; Introduction to Decision Tree: Definition, Benefits and Disadvantages of Using Decision Tree, Components of the Decision Tree, Structure of a, Decision Tree, Analysis of Decision Tree.				
Practicum	Construction of different operation research models Drawing decision tree				
Module III	Simulation and System Analysis	15			
	Introduction to Simulation: Objectives, Definition, Advantages of Simulation Technique, Application of Simulation, Limitations of Simulation Technique, Monte Carlo Simulation Introduction to System Analysis: Objectives, Definition, The Systems Theory, Elements of a System, Types of Systems; Forms of Systems - Conceptual System, Mechanical System, Social System, Deterministic System, Probabilistic System; The Concept of Entropy in a System.				
Practicum	Simulation experiments Monte Carlo Simulation using software Analysis of probability systems.				

1	Dixon - Ogbechi, B.N. (2001). Decision Theory in Business. Lagos: Philglad Nig. Ltd.
2	Gupta, P.K. & Hira, D.S. (2012). Operations Research, New Delhi: S. Chand & Company.
3	Rama Murthy P (2007). Operations Research, New Delhi: New Age International (P) Limited Publishers
4	Taylor III, B.W. (2007). Introduction to Management Science, (9th ed.). New Jersey: Pearson Education Inc.



CBCS Question Paper Pattern for UG Semester DSC, DSEC &OEC

Paper Code:	Pi	per Title:			
Duration of Exam	2 Hours	forefre de person		Max Marks	60 Marks
Instruction:	Answer all the sections	Facility	dangin da S		Jun and
	Salara Maria	Section-A			
1. Answer ALL to	he following sub-question	s, each sub-question	on carries ONE mar	k (10X1=10)
Α.	berial belt have a	ue de la companya de			
В.					
C.					
D.					
•					
J.					
Note for Section-A:	Three sub-questions from eac	h unit and remaining	g one sub-question (J) f	rom unit I to I	П.
		Section-B	The state of		
Answer any FOU	R of the following question	ons, each question	carries FIVE marks		(4X5=20)
2.			Sin is some sumer	MONOGO I I I	Sparing.
3.					
4.					
5.					
6.					
7.					
Note for Section-B:	Minimum Two question from	each unit (Q No 2 to	6)		
		Section-C			
Answer any THR	EE of the following ques	tions, each questio	n carries TEN mark	s (3X10=30)
	900	0			

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Note for Section-C: Minimum Two question from each unit (Q No 8 to 12) Sub-questions such as 'a' and 'b' may be given for a question in section-C only.

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