A.D.M. COLLEGE FOR WOMEN

(AUTONOMOUS)

Nationally Accredited with "A" Grade by NAAC - 3rd Cycle (Affiliated to Bharathidasan University, Thiruchirappalli)

No.1, College Road, Velippalayam,

Nagapattinam – 611 001, Tamil Nadu, India

PG & RESEARCH DEPARTMENT OF ECONOMICS

(for the candidates admitted from the academic year 2021-2022 onwards)



M.A. Economics 2021-2023

A.D.M COLLEGE FOR WOMEN (AUTONOMOUS), Nagapattinam

PG Programme - M.A

(For the candidates admitted from 2021 – 2022 onwards)

Bloom's Taxonomy Based Assessment Pattern

Knowledge Level

K1 - Recalling	K2 – Understanding	K3 - Annlying	K1 - Analyzing	K5 - Evaluating	K6 - Creating
NI Necalling	KZ — Officer staffulling	NO Applying	INT Allalyzing	Lvaluating	ito Cicating

1. Part I, II and III

Theory (External + Internal = 75 + 25 = 100 marks)

External/Internal							
Knowledge Level	Section	Marks	Hrs.	Total	Passing Mark		
K1-K3	A (Answer all)	$10 \times 2 = 20$					
K3-K6	B (Either or pattern)	$5 \times 5 = 25$	3	75	40		
K3-K6	C (Answer 3 out of 5)	$3 \times 10 = 30$					

PG AND RESEARCH DEPARTMENT OF ECONOMICS

(For the candidates admitted from the academic year 2021–2022 onwards)

M.A ECONOMICS

Programme Educational Objectives (PEO)

PEO 1:	• To become ethical persons who think like economists and serve the society.
PEO 2:	• To be provided with Structured syllabi which support the academic development of them
PEO 3:	• To prepare students for employment and further studies in Economics.
PEO 4:	• To be provided well resourced learning environment for Economics.
PEO 5:	• To be equipped with the opportunities to apply economic principles in policy issues of the Economy

Programme Outcomes (POs) PG On Completion of programme Students, should be able to

PO 1:	• To understand the knowledge and application of micro and macro Economics for
	the formulation of policies and planning.
PO 2:	• To pinpoint and understand the past, present economic conditions of the country.
PO 3:	• To forecast the future course of changes and development through their knowledge of policies and programme set by government and other development agencies.
PO 4:	• Economics Graduate to be alert with their self-employment to improve the general attitudes and living conditions of the masses.
PO 5:	• To evaluate the consequence of Economic activities for individuals and social welfare.

Programme Specific Outcomes (PSO) M.A.ECONOMICS

PSO 1:	• To analyze historical and current events from an economic perspective.
PSO 2:	• To understand Economic Activities, Planning and Budget.
PSO 3:	• To enriched Knowledge with new ideas and technique essential for business
PSO 4:	• To gain knowledge regarding the implications of mathematical tools in economic planning.
	To equip the students for employment and further studies in economics

M.A 2021-2022

STRUCTURE OF THE PROGRAMME

COURSE	NO. OF PAPERS	HOURS	CREDIT
Core Course	14	83	66
Elective Course	5	28	20
Project	1	9	4
Total	20	120	90

Passing Minimum: A candidate shall be declared to have passed in each course if she secures not less than 40% marks out 75 marks (ie., 30 marks) in the End Semester Examination (SE) and 50 % out of 25 marks (ie., 10 marks) in the Continuous Internal Assessment (CIA)

M.A. Economics 2021- 2023 Batch SCHEME OF THE PROGRAMME

	Course	Ins.			Exam	Marks		Total
Sem.	Code	Course	Hrs	Credit	Hours	CIA	SE	Marks
	PGEA	CC- Core Course I	6	5	3	25	75	100
		Advanced Micro Economic Theory- I						
	PGEB	CC- Core Course 2		5	3	25	75	100
		Macro Economic Theory and Policy – I						
	PGEC	CC- Core Course 3	6	5	3	25	75	100
I		Contributions of Nobel laureates in Economics						
	PGED	CC- Core Course 4 Mathematical Methods for	6	5	3	25	75	100
		Economic Analysis						
	PGEE1	EC- Core Course I Indian Economic Problems /	6	4	3	25	75	100
		Labour Economics						
		Total	30	24				500
	PGEE	CC- Core Course 5	6	5	3	25	75	100
		Advanced Micro Economic Theory – II						
	PGEF	CC- Core Course 6	6	5	3	25	75	100
		Macro Economic Theory and policy – II						
II	PGEG	CC- Core Course 7	6	5	3	25	75	100
		Fiscal Economics						
	PGEH	CC- Core Course 8	6	5	3	25	75	100
		Statistical Methods for Economic Analysis						
	PGEE2	EC- Core Course II Environmental	6	3	3	25	75	100
		Economics/ Human Resource Management						
		Total	30	23				500
	PGEI	CC- Core Course 9	6	5	3	25	75	100
III		Research Methodology						
	PGEJ	CC- Core Course 10	6	5	3	25	75	100
		Industrial Economics						
	PGEK	CC- Core Course 11	6	5	3	25	75	100
		International Economics						
	PGEL	CC- Core Course 12	6	5	3	25	75	100
		Monetary Economics						
	PGEE3	EC- Core Course III Computer Applications in	3	2	2	25	75	100
	A	Economics / Globalization and Development						
	PGEE3	Computer Applications in Economics (Practical)	3	1	3			
	BY							
		Total	30	23				500
	PGEM	CC- Core Course 13	6	5	3	25	75	100
		Agricultural Economics						
IV	PGEN	CC- Core Course 14	5	5	3	25	75	100
		Economics of Development						
	PGEE4	EC- Core Course IV Economics of Infrastructure	5	3	3	25	75	100
		/Financial Economics						
	PGEE5	EC- Core Course V Health	5	3	3	25	75	100
		Economics/Advertising Management				_		_
	PGSEP	Project	9	4	3	25	75	100
		Total	30	20				500
0	PGEB	Grand Total	120	90		I		2000

Semester – I/	ADVANCED MICRO	Course Code :PGEA
Core Course – 1 (CC)	ECONOMIC THEORY- I	
Instruction Hours: 6	Credits: 5	Exam Hours: 3
Internal Marks: 25	External Marks : 75	Total Marks : 100

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Hour
15
Consumer's
ormulation
oothesis –
15
n - Law of
ion.
15
g run
15
, Hotelling
cteristics -
int Profit
rship- Low
ship Model
etition in
15
eory - Hall
g, Mark-up
l of Limit

Unit VI	Self Study			
	Simon's Satisfying theory Behavioral theory of Cyert and malth theory			
	– group discussion Assignment –seminar			

1. Jhingan. M.L - Advanced Micro Economic Theory, 12th Edition, Vrinda

Publication, Private Limited, 2018

2.Sankaran, S - Micro Economics, 7th Edition, Margham Publications, Madras, 2018

References

1. Watson - Price theory and uses scientific book Co., Calcutta, 2011.

2. Stigler G - Theory of prize 4th edition prentice hall of India, New Delhi. 2017.

3. Koutsoyiannis - Modern Micro Economics Macmillan press, London, 1971.

 Ahuja H.L - Advanced Economic Theory, 11th Edition, S Chand and co., Ltd., Ram Nagar, New Delhi 2015

5. Thomas Nagle, John E. Hogan & Joseph Zale - "The Strategy and Tactics of Pricing". 5thEdition, Pearson International Edition, 2013.

e- Resources

1. http://www.Introductory Micro Economics – Dr. Pradeep Kumar Mehta, Dr. Mrs. Meena Singh, 2nd Edition 2017.

1. http://www.Micro Economics data.pdf

Course Out Comes

On completion of the course students should be able to

CO1:Find out the price of the product

CO2:Understand the cost of production of the product

CO3:Know the procedure of price fixation in perfect competition

CO4: Understand the profit level of oligopoly and duopoly market.

CO5:Know about the different condition of price fixation

CO /		PO				PS	SO		
PO									
	1	2		1	2		1	2	
CO1	S	M	CO1	S	M	CO1	S	M	CO1
CO2	S	M	CO2	S	M	CO2	S	M	CO2
CO3	S	M	CO3	S	M	CO3	S	M	CO3
CO4	S	M	CO4	S	M	CO4	S	M	CO4
CO5	S	M	CO5	S	M	CO5	S	M	CO5

Semester – I/	MACRO ECONOMICS	Course Code :PGEB
Core Course – 2 (CC)	THEORY AND POLICY-1	
Instruction Hours: 6	Credits: 5	Exam Hours: 3
Internal Marks : 25	External Marks : 75	Total Marks: 100

Cognitive	K1 -Recalling	
Level	K2 -Understanding	
	K3 -Applying	
	K4 - Analyzing	
	K5 - Evaluating	
	K6 - Creating	
Course	The Course aims	
Objective	• To make the students be aware of the concepts of macro economics.	
	• To develop the skill of calculating National Income.	
	• To aware of various theories of Employment.	
	• To make the students to be aware of the Consumption Function.	
	To understand the rational behavior of the producer	
Unit	Content	Hour
Unit -1	INTRODUCTION TO MACRO ECONOMIC ANALYSIS	
	Macro Economic Concepts – Nature and Scope - Importance - Limitations –	15
	Methods - Statics - Dynamic - Comparative statics Analysis	
Unit –II	NATIONAL INCOME ACCOUNTING	
	National Income Accounting- Definition- Concepts and components-	
	Methods of Measuring National Income - Difficulties in Calculation-	
	Circular Flow Model: Two Sector- Three Sector- Four Sector Economy-	15
	Social Accounting - Input-Output Accounts -Circular flow of fund	
	Accounting and Balance of Payment Accounts.	
Unit –III	THEORIES OF EMPLOYMENT	
	Keynes Theory of Employment - Principles of Effective Demand-	15
	Aggregate Supply Function - Aggregate Demand Function - Comparison	
	and Contrast Between Classical and Keynes's Theory	
Unit –IV	CONSUMPTION FUNCTION	
	Concepts - Keynes Psychological Law - Determinants of Consumption	15
	Function - Theories: Absolute Income Hypothesis- Relative Income	
	Hypothesis- Permanent Income Hypothesis- Life Cycle Hypothesis.	
Unit -V	NEW CLASSICAL MACRO ECONOMICS	
	Supply Side Economics - Rational Expectations Hypothesis - New Classical	15
	Macro Economics – Labour Market – Goods Market - Policy Implications	
Unit VI	Self Study	
	Classical theory of employment say's law - Pigou's theory- group	
	discussion-Assignment –Seminar	

1. M.L. Jhingan - Macro Economics, Vrinda Publication Ltd, 2014.

2. D.N. Diwedi - Macro Economic Theory and Policy Tata McGraw

Publishing Company Limited New Delhi, 2001.

3. Shapiro, E. - Macro Economic Analysis, Galgotia Publication, New

Delhi,1996.

1. Reddy. R.V - A Review of Monetary and Financial Sector Reforms in

India - A Central Baker's Perspective, UBSPD, New

Delhi.1982

2. Edward Shapiro. - Macro Economics , Harcourt Brace, Jovanovich, Inc,

newYork,2001.

3. Lucas. R - Studies in Business Cycle Theory, M.I.T. Press, Cambridge, Masscechusetts, 1981.

e- Resources

1. http://www. Principles of Macro Economics, Soumyeb Sikdar, 2nd Edition, Oxford Publication

http://www.nlist.inflibnet.ac.in

Course Outcomes

On completion of the course students should be able to

CO1:Know the static and dynamic features of the Economy

CO2:Understand, how to calculate the National Income.

CO3:Find out, which theory of employment is more benefited in the economy

CO4:Understand the various theories of consumption functions.

CO5:Know the rational behavior of the producer

CO /	PO					PSO				
PO										
	1	2	3	4	5	1	2	3	4	5
CO1	S	M	S	S	S	S	S	S	S	S
CO2	S	M	S	S	S	S	S	S	S	S
CO3	S	M	S	S	S	S	S	S	S	S
CO4	S	M	S	S	S	S	S	S	S	S
CO5	S	M	S	S	S	S	S	S	S	S

Semester – I/	CONTRIBUTION OF NOBLE	Course Code :PGEC
Core Course – 3 (CC)	LAUREATES IN ECONOMICS	
Instruction Hours: 6	Credits: 5	Exam Hours: 3
Internal Marks : 25	External Marks: 75	Total Marks : 100

Cognitive	K1 -Recalling					
Level	K2 -Understanding					
20,01	K3 -Applying					
	K4 - Analyzing					
	K5 - Evaluating					
	K6 - Creating					
Course	The Course aims					
Objective	• To enable the students to understand about the Theories of trade cycle	e				
	• To know about their economic contributions in detail.					
	• To prepare the students to know about poverty and inequality.					
	• To enable the students to understand the theories of international trad	e.				
	To know about the recent Nobel laureates and their contributions.					
Unit	Content	Hour				
Unit -1	PAUL A.SAMUELSON AND SIR JOHN HICKS	15				
	Theory of Revealed Preference - Business Cycle Social Welfare					
	Function - Utility Possibility Approach -Main Economic Ideas					
	Consumer's Equilibrium - Revision of Demand Theory - Consumer's					
	Surplus – General Equilibrium - Economic Dynamics - Stationary					
	State - Theory of Trade Cycle - Welfare Economics.					
Unit –II	UNIT II MILTON FRIEDMAN	15				
	Theory of Money - Demand Functions - Permanent Income Hypothe	ļ				
	Hypothesis					
Unit –III	UNIT III AMARTHYA SEN	15				
	Poverty and Famines - Poverty And Inequality - Concept of Capability					
	-Entitlement - Choice of Technique - Time Series Criteria					
Unit –IV	UNIT IV ROBERT A.MUNDELL	15				
	Theory of International Trade -Open Macro Economy					
	Optimum Currency Area Argument - Monetary Approaches to the					
	Balance of Payment - Macro Economics - Fiscal & Monetary Mixtures					
	and the Assignment Rule					
Unit –V	UNIT V RECENT NOBEL LAUREATES AND THEIR	15				
	CONTRIBUTION					
	Jean Tirole(2014), Angles Deaton (2015), Oliver Hart(2016), Richard					
	Thaler (2017), Paul Romer(2018), William Nordhaus(2018), Bergt					
	Holmstrom (2018).					
Unit VI	Self Study					
	Current Nobel laureates ideas.					

1. Jhingan M.L - History of Economic Thought vrinta publications, 12nd Edition, 2018.

2. Sankaran.S - A History of Economic Thought, Margham Publications, 2nd Edition, 2018.

References

1. Jhinga. M.L - Advanced Micro Theory, vrinta publications, 12nd Edition, 2018.

2. Jhingan. M.L - Macro Economic Theory and Policy, vrinta publications, 12nd Edition, 2018.

3. Lokanathan - History of Economic thought, S. Chand Publicatins,3rd Edition , 2018.

Web- Resources:

1. http://www. Economics 2007.pdf

2. http://www.ndl.litkgp.ac.in

Course Outcomes

On completion of the course students should be able to

CO1:Understand the consumer's equilibrium and welfare aspects of our economy

CO2: Aware of the concept of demand and supply of money

CO3:Know the Amarthiya sen's ideas of economics

CO4: Find out the balance of payments problems and its measures.

CO5: Aware of the Recent Nobel Laureates and their contribution

CO /	PO							PSO		
PO										
	1	2	3	4	5	1	2	3	4	5
CO1	S	S	S	S	M	S	S	S	S	S
CO2	S	S	S	S	M	S	S	S	S	S
CO3	S	S	S	S	M	S	S	S	S	S
CO4	S	S	S	S	M	S	S	S	S	S
CO5	S	S	S	S	M	S	S	S	S	S

Semester – I/	MATHEMATICAL METHODS	Course Code :PGED
Core Course – 4 (CC)	FOR ECONOMIC ANALYSIS	
Instruction Hours: 6	Credits: 5	Exam Hours: 3
Internal Marks : 25	External Marks : 75	Total Marks : 100

Cognitive	K1 -Recalling	
Level	K2 -Understanding	
	K3 -Applying	
	K4 - Analyzing	
	K5 - Evaluating	
-	K6 - Creating	
Course	The Course aims	
Objective	• To create the awareness among the students about the concepts and technical methods.	iques of
	• To inculcate the applications of Mathematical Techniques in Economics.	
	To know the types of matrix and Algebra.	
	To enable the students to understand the cramer's rule.	
	To examine input Output model.	
Unit	Content	Hour
Unit -1	BASIC CONCEPTS	15
	Constants, Variables, Parameters, Coefficient, Functions - Inverse, General and	
	Specific Functions- Types of Functions- Linear and Non- linear. Uses of	
	Mathematics in Economics. (Only Theory).	
Unit –II	DIFFERENTIAL CALCULUS	15
	Differentiation – Definition, sign of Derivatives, Rules of Differentiation –	
	Basic rule, power rule, power of power rule, Addition and Subtraction rule and	
	Quotient rule. Differentiation of Simple Functions Like $y = 5x - 10x + x - 100$.	
	(No Logarithmic, Exponential and Trigonometric functions). Partial derivatives	
	only for two variables, Higher order derivatives up to second order for the	
	functions like $Z = f(x, y) = 10xy-5xy+6x-11y+1000$. Simple problems	
Unit –III	MATRIX ALGEBRA	15
	Matrix – Definition – Types, Addition and Subtraction of 2 or more matrices,	
	Scalar multiplication of a matrix, Multiplication of 2 matrices, (up to 3x3 order	
) Singular matrix, Non – Singular matrix, Uses of matrices – Simple problems.	
Unit –IV	SOLVING SIMULTANEOUS EQUATIONS	15
	Determinants – Definitions, Minors and Co-factors of each element of a	
	determinant (Simple problems No properties of determinants). Solving	
	simultaneous equations using Cramer's rule up to 3x3 order – Simple problem	
Unit -V	UNIT V INPUT - OUTPUT MODEL	15
	Leontief's Input - Output model - Definition, Assumptions, Input Output	
	transaction, Matrix Closed and Open Input – Output models, Uses of Input –	
	Output model, Limitations of Input – Output model (Only theory).	

Unit VI	Self Study	
	Differential Calculus and its Applications- State Optimization Problems and	
	their application.	

1. Chiang, AC -Fundamental methods of Mathematical

Economics MC Graw Hill, New Delhi, 1975.

2. Metha BC and MadnaniG.M.K -Mathematics for Economists, Sultan Chand

References Book

1. Allen R.G.D - Mathematical Analysis of Economist, Macmillan press and

ELBS,Landon,2001.

2. Dr. Agarwal H.S - A mathematical approach to Economic Theory Lakshmi

Narayana Agarwal, Educational publications, Agra, 2001.

3. Badal Mukherji and pandit -Mathematical Methods for Economic Analysis, Allied Publisher Pvt, New Delhi, 2005.

Web- Resources:

1. http://www.ndl.litkgp.ac.in

2. http://www.nlist.inflibnet.ac.in

Course out comes

On completion of the course students should be able to

CO1: Understand the concepts of parameters co efficient and it functions

CO2:Know the definitions and signs of derivatives.

CO3:Understand the matrix and algebra.

CO4:Explain cramers'rule.

CO5:Understand input output model

CO /	PO				PSO					
PO										
	1	2	3	4	5	1	2	3	4	5
CO1	S	S	S	S	M	S	S	S	S	S
CO2	S	S	S	S	M	S	S	S	S	S
CO3	S	S	S	S	M	S	S	S	S	S
CO4	S	S	S	S	M	S	S	S	S	S
CO5	S	S	S	S	M	S	S	S	S	S

Semester – I/	INDIAN ECONOMICS	Course Code :PGEE1
Elective course -1 (EC)	PROBLEMS	
Instruction Hours: 6	Credits: 4	Exam Hours: 3
Internal Marks : 25	External Marks: 75	Total Marks: 100

Cognitive Level	K1 -Recalling	
	K2 -Understanding	
	K3 -Applying	
	K4 - Analyzing	
	K5 - Evaluating	
	K6 - Creating	
Course	The Course aims	
Objective	• Make the students to understand about various sectors and their	
	Development in Indian Economy.	
	To know about Agricultural sector,	
	To know the trends of industrial sector.	
	To analyse the major issues in Indian Economy.	
	To enable the students to understand the Economic Returns.	
Unit	Content	Hour
Unit -1	DEMOGRAPHIC FEATURES	15
	Basic Demographic Features: Rural -Urban Migration; Urbanization	
	- Environment Regional Imbalance; Issues and Policies - New	
	Population Policy.	
Unit –II	AGRICULTURAL SECTOR	15
	Institutional Structure - Land Reforms in India; Technological	
	Change in Agriculture - Pricing of Agricultural inputs and outputs -	
	Terms of Trade between Agriculture and Industry - Agricultural	
	Finance Policy - Concepts in Food Security - Policies for	
	Sustainable Agriculture	
Unit –III	INDUSTRIAL SECTOR	15
	New Industrial policy; Public sector Entrepreneurs and their	
	performance; problems of sick units in India; Privatization and	
	disinvestment debate; MSMEs; productivity in industrial sector -	
	Issues in Labour market reforms - Concepts of Medium and Small	
	Enterprise- Large Scale Industries- Industrial Problems - Measures-	
	New Industrial Policy.	
Unit –IV	PLANNING AND MAJOR ISSUES	15
	12th Five year Plan in India - Objectives and strategies -	
	Achievements and failures -NITI-Aayog - features and Functions;	
	Major Issues - Poverty - Inequality - Unemployment - Black	
	Money.	

Unit –V	ECONOMIC REFORMS	15
	Globalization of Indian Economy; W.T.O. and its impact- Impact of	
	Economic Reforms on Indian Economy - FDI and FII - Banking and	
	Financial Sector Reforms - Global Economic Crisis and Indian	
	Economy.	
Unit VI	Self Study	
	Impact of covid-19 on Indian Economy	

1. Dutt, Ruddar. K.P.M. Sundaram - Indian Economy, Sultan Chand & CO., New elhi, 2015

Dr. S.Sankaran - Indian Economy Margam publications, 2015.

References Books

- 1.Brahnananda, P.R and Development Experience in the Indian Economy inter V.R. Panchmukhi (Eds) State Perspectives, Book well, Delhi.2000.
- 2. Dantwala M.L, Dilemnas of Growth The Indian Experience Saga Publications, New Delhi, 1996.
- 3. Dutt, Ruddar & Indian Economy, Sultan Chand & CO., New Delhi. 2000.

K.P.M. Sundaram

4. Jalan. B - The Indian Economy - Problems & Prospects NewDelhi, 1992.

Web- Resources:

1. 1 http://www.Development in Women Through EDP Training.pdf http://www.nlist.inflibnet.ac.in

Course outcomes

On completion of the course students should be able to

CO1: Understand the demographic features of our economy

CO2:Explain the role of agriculture and to bring forth the most important development indicators for agricultural sector.

CO3:Explain the role of industrial aspects in our Economy.

CO4:Develop a prospective on the different problems and approaches to economic planning and development in India

CO5:Understand the role of the Indian economy in the Global context

CO / PO		PO					PSO				
	1	2	3	4	5	1	2	3	4	5	
CO1	S	S	S	M	S	S	S	S	S	S	
CO2	S	S	S	M	S	S	S	S	S	S	
CO3	S	S	S	M	S	S	S	S	S	S	
CO4	S	S	S	M	S	S	S	S	S	S	
CO5	S	S	S	M	S	S	S	S	S	S	

Semester – 2/	ADVANCED MICRO	Course Code :PGEE
core course -5 (CC)	ECONOMIC THEORY-II	
Instruction Hours: 6	Credits: 5	Exam Hours: 3
Internal Marks : 25	External Marks: 75	Total Marks : 100

Cognitive	K1 -Recalling						
Level	K2 -Understanding						
	K3 -Applying						
	K4 - Analyzing						
	K5 - Evaluating K6 - Creating						
Course	The Course aims						
Objective							
•	Economics.						
	To highlight the practical applications of two sector model.						
	To make the students to understand Economics of risk						
	• To understand the different theories of searching.						
	To know about the Welfare Economics						
Unit	Content	Hour					
Unit -1	DISTRIBUTION	15					
	Macro Theories of Distribution: Functional Distribution - Personal						
	Distribution - Theory of Distribution: Ricardian - Marxian- Marginal						
	Productivity Theory of Distribution - Kelecki Degree of Monopoly Theory						
	– Keynesian or Kaldor Model –Sraffa Model - Euler's Theorem						
Unit –II	E OF UNCONOMICSCERTAINTY	15					
	Individual Behaviour Towards Risk- Certainty Equivalence Approaches -						
	Risk Version -Gambling - Insurance - Problems - Choice Between						
	Insurance and Gambling - Asset Portfolio Selection - Markowitz Theory.						
Unit –III	E OF UNCONOMICSCERTAINTY	15					
	Individual Behaviour Towards Risk- Certainty Equivalence Approaches -						
	Risk Version -Gambling - Insurance - Problems - Choice Between						
	Insurance and Gambling - Asset Portfolio Selection						
Unit –IV	COMPETITIVE FIRM UNDER UNCERTAINTY	15					
	Theory of Search - Stigler's Model - Rothschild's Model - Salop's Model -						
	Salop and Stiglitz's Model - Asymmetric Information - Market Signaling -						
	Efficient Market Hypothesis - Types - Limitations.						
Unit –V	WELFARE ECONOMICS	15					
	Welfare Economics: Concepts - Old Welfare Idea - Pigou - Pareto's						
	optimality - Social Welfare Functions - Compensation Criteria - Kaldor,						
	Hicks criteria - Arrow's Impossibility Theorem - Market Failure &						
	Externalities Theory of Second Best						
Unit VI	Self Study						
	Differential Calculus and its Applications- State Optimization Problems and						
	their application.						

- 1. Koutsoyiannis, A Modern Micro Economics 2nd Edition Macmillan Publication, 1980.
- 2. Jhingan. M.L Advanced Micro Economic Theory, 12th Edition ,Vrinda Publication Private Limited,2018

References Books

- 1. Ahuja H.L Advanced Economic Theory, 11th Edition, S Chand and co., Ltd., Ram Nagar, New Delhi, 2015.
- 2. Agarwal H.S Principles of Economics, 2010.
- 3. Waston Price theory and uses scientific book Co., Calcutta, 2011.
- 4. Stigler G Theory of prize 4th edition prentice hall of India, New Delhi. 2017.
- 5. Thomas Nagle, John E. Hogan & Joseph Zale "The Strategy and Tactics of Pricing". 5th Edition, Pearson International Edition, 2013.

Web- Resources:

- 1. http://www.Introductory Micro Economics Dr. Pradeep Kumar Mehta, Dr. Mrs. Meena Singh, 2nd Edition 2017.
- 2. http://www. Micro Economics data.pdf
- 3. http://www.Micro Economics with calculus.pdf

Course Out Comes

On completion of the course students should be able to

CO1:Know the distribution of returns of the Economy

CO2: Understand the Difference between one sector and Two sector model of general Equilibrium

CO3: Aware of Individual Behaviour of risk and gampling

CO4:Find out the Lowest price of the Commodity Through searching Theory

CO /	PO					PSO				
PO										
	1	2	3	4	5	1	2	3	4	5
CO1	S	S	S	S	S	S	S	S	M	S
CO2	S	S	S	S	S	S	S	S	M	S
CO3	S	S	S	S	S	S	S	S	M	S
CO4	S	S	S	S	S	S	S	S	M	S
CO5	S	S	S	S	S	S	S	S	M	S

Semester – 2/	MACRO ECONOMIC	Course Code :PGEF
core course -6 (CC)	THEORY AND POLICY-II	
Instruction Hours: 6	Credits: 5	Exam Hours: 3
Internal Marks: 25	External Marks : 75	Total Marks: 100

Cognitive K1 -Recalling	
Level K2 -Understanding	
K3 -Applying	
K4 - Analyzing	
K5 - Evaluating	
K6 - Creating	
Course The Course aims Objective To make the students to understand the Macro Economic concents	
• To make the students to understand the Macro Economic concepts	•
• To train the students in analyzing money and product market	
• To aware of the causes and the process and problems of Inflation	
• To understand the theory of Business cycle.	Ľ
• To know about objectives and components of Macro Economic Po Unit Content	Hour
Unit -1 INVESTMENT FUNCTION	15
Keynes Theory of Investment - Marginal Efficiency of capital - Ma	•
Efficiency of Investment - Investment Multiplier - The Princip	ple of
Acceleration -The Multiplier - Concept of Super Multiplier. Cla	assical
Theory - Loanable Fund Theory - Neo-Classical Theories - Key	nesian
Liquidity Preference Theory	
Unit –II INVESTMENT FUNCTION	15
Keynes Theory of Investment - Marginal Efficiency of capital - Ma	arginal
Efficiency of Investment - Investment Multiplier - The Princip	ple of
Acceleration -The Multiplier - Concept of Super Multiplier. Cla	•
Theory - Loanable Fund Theory - Neo-Classical Theories - Key	
Liquidity Preference Theory	
Unit -III INFLATION & STAGFLATION	15
Inflation - Meaning- Types - Inflationary Gap - Causes - Relation be	
Unemployment and Inflation - Phillips Curve - Long-Run Phillips C	
Tobin's View-Solow's View - Rational Expectations- implication	
Phillips Curve - Measures to Control Inflation - Effects of Infla	
Stagflation: Meaning- Friedman's View - Measures to Control Stagfl	
Unit –IV BUSINESS CYCLE	15
Concepts - Phases and Characteristics - Causes - Effects - The	eories:
Keynesian Theory - Samuelson Model - Hicks Model- Kaldor Model.	
Unit -V MACRO ECONOMIC POLICY	15
Macro Economics Policies - Meaning - Objectives - Component	ents -
Monetary Policy: Meaning - Objectives and Components, Income I	Policy:
Meaning, Objectives and Components - Trade off in Policy - Objec	•
Problems of coordination of Macro Economic Policy.	

Unit -VI	Self study						
	Swan model- Mundel model Rules Vs Direction in Economics Policy-						
	group discussion –Assignment –seminar.						

 M.L. Jhingan
 Macro Economics, Vrinda Publication Ltd, 2014.
 D.N. Dwivedi
 Macro Economic Theory and Policy Tata McGraw Publishing Company Limited New Delhi, 2001

3. Reddy. R.V

- A Review of Monetary and Financial Sector Reforms in India – A Central Baker's Perspective, UBSPD,

New Delhi.2001

4. Edward Shapiro. - Macro Economics , Harcourt Brace, Jovanovich, Inc, New York, 2001.

5. Lucas. R - Studies in Business Cycle Theory, M.I.T. Press, Cambridge, Masscechusetts, 1981.

6. Shapiro, E. - Macro Economic Analysis, Galgotia Publication, New Delhi, 1996.

Web- Resources:

Reddy. R.V
 A Review of Monetary and Financial Sector Reforms in India – A Central Baker's Perspective, UBSPD,

New Delhi.2001

2. Edward Shapiro. - Macro Economics, Harcourt Brace, Jovanovich, Inc,

New York, 2001.

3. Lucas. R - Studies in Business Cycle Theory, M.I.T. Press,

Cambridge, Masscechusetts, 1981.

4. Shapiro, E. - Macro Economic Analysis, Galgotia Publication, New

Delhi, 1996.

Web- Resources:

1. http://www.Macro Economics in Context – John Miller.
http://www.EconomicGrowth.pdf

Course Out comes

On completion of the course students should be able to

CO1:Understand the positive impact of investment

CO2: Know the relationship between product market and money market

CO3:Find out the measures to control Inflation

CO4:Understand, How to develop business cycle in our Economy.

CO5:Find out measures to the improve the revenue sources of our Economy.

CO / PO	PO					PSO				
	1	2	3	4	5	1	2	3	4	5
CO1	S	M	S	M	S	S	S	S	M	S
CO2	S	M	S	M	S	S	S	S	M	S
CO3	S	M	S	M	S	S	S	S	M	S
CO4	S	M	S	M	S	S	S	S	M	S
CO5	S	M	S	M	S	S	S	S	S	S

Semester – 2/ core course – 7 (CC)	FISCAL ECONOMICS	Course Code :PGEG
Instruction Hours: 6	Credits: 5	Exam Hours: 3
Internal Marks : 25	External Marks: 75	Total Marks : 100

Cognitive	K1 -Recalling	
Level	K2 -Understanding	
	K3 -Applying	
	K4 - Analyzing	
	K5 - Evaluating	
	K6 - Creating	
Course	The Course aims	
Objective	To make the students to understand about Private Goods and Public	C
	Goods.	
	To learn the students the sources of Revenue our Economy. The students the sources of Revenue our Economy.	1
	To enable the students to understand the causes and methods to contribute Bublic Expanditure	rol
	Public Expenditure.	
	To analyse the Budget.To understand the concepts of Fiscal Policy.	
Unit	Content	Hour
Unit -1	THEORY OF PUBLIC GOODS AND PUBLIC CHOICE	15
	Public Finance – Concepts -Theory of Private Goods and Merit Goods	
	- Market Failure- Imperfection, Decreasing Costs, Externalities, Public	
	Goods – Voting System	
Unit –II	PUBLIC REVENUE AND TAXATION	15
	Sources - Tax, Non Tax Revenue - Theories of Taxation - Optimal	
	Taxation- Concepts of Double Taxation -VAT-Indian Tax Structure	
	and Trends – GST	
Unit –III	PUBLIC EXPENDITURE	15
	Public Expenditure - Causes and Methods of Controls Public	
	Expenditure - Wagner's law of increasing State Activities; Wiseman -	
	Peacock Hypothesis - Structure and Growth of Public Expenditure -	
	causes- control of public expenditure.	
Unit –IV	PUBLIC DEBT AND BUDGET	15
Omt –I v	Public Debt Sources; Classical view of Public Debt; Compensatory	
	Aspects of Debt- Policy - Burden of Public Debt - Sources of Public	
	Debt – Effects of Public Debt - Principles and methods of Debt	
	-	
	Management and Redemption - Budget: Meaning - Importance-	
TT24 T7	Features – Objectives – Procedure - Budgetary Policy	15
Unit –V	FISCAL POLICY AND FISCAL FEDERALISM Fiscal Policy magning Objectives and Instruments Central State	13
	Fiscal Policy- meaning - Objectives and Instruments - Central, State	
	Financial Relations in India - principles of fiscal federalism - problems	
	- Finance commission - Functions Recommendations of Recent	
	Finance Commission.	

Unit -VI	Self study							
	Current Issues of Indian tax system- Discuss current							
	Budget.(2021-22)							

http://www. Macro Economics in Context – John Miller.

http://www. EconomicGrowth.pdf

References Books

1. Atkinson A.B and J.E Sighitz

- Lectures on Public Economics (Tata Mcgraw,

Hill, New Delhi, 1980.

2. Bachana J.M

- The Demand and supply of public goods(Rand

Monally), Chicago, 1968.

3. Peacock A and D.J. Roberson (Eds)

- Public Expenditure: Appraisal and

Control(Oliver and Boyd, Edinburgh),1963.

4. Rajah Chellaiah

- Final Policy in Underdeveloped Countries

(George Allen Unwin, Lodon),1966.

5.Musgrave R.A and Pegy B. Musgrave

- Public Finance in theory and practice, New Delhi, 1980.

Web- Resources:

1. http://www.Public policies and Economic Performance.pdf
http://www.Economics-ejournal.org.

Course Outcomes

On completion of the course students should be able to

CO1:Understand the merits and demerits of private goods and public goods.

CO2:Understand the sources of tax revenue and non tax revenue.

CO3:Identify the causes and methods to control public expenditure

CO4: Understand the advantages and knowledge of Budget

CO5:Understand the concepts of fiscal

CO / PO	PO					PSO				
10	1	2	3	4	5	1	2	3	4	5
CO1	S	S	S	S	S	S	S	S	S	S
CO2	S	S	S	S	S	S	S	S	S	S
CO3	S	S	S	S	S	S	S	S	S	S
CO4	S	S	S	S	S	S	S	S	S	S
CO5	S	S	S	S	S	S	S	S	S	S

Semester – 2/ core course – 8 (CC)	STATISTICAL METHODS FOR ECONOMICS ANALYSIS	Course Code : PGEH
Instruction Hours: 6	Credits: 5	Exam Hours: 3
Internal Marks : 25	External Marks : 75	Total Marks : 100

Cognitive	K1 -Recalling							
Level	K2 -Understanding							
	K3 -Applying							
	K4 - Analyzing K5 - Evaluating							
	K6 - Creating							
Course	The Course aims							
Objective	To learn measure of dispersions .							
	To learn the students to frame and test the hypothesis.							
	To understand the Regression analysis							
	To suggest suitable sampling methods							
	To find out the ways of testing of hypothesis							
Unit	Content	Hour						
Unit -1	MEASURES OF AVERAGES AND DISPERSIONS	15						
	Measures of Averages, Definition, Characteristics of a good Measure of							
	Average - Mean, Median and Mode - Definition, Merits and Demerits							
	(Simple Problems). Measures of Dispersions - Definition, Characteristics of							
	a good measure of dispersion - Standard Deviation - Definition, Merits and							
	Demerits, Coefficient of Variation, (Simple Problems)							
Unit –II	·							
	Correlation Analysis- Definition, Types, Methods of Finding Correlation							
	Co-efficient - Scatter Diagram, Karl Pearson, Spearman's Rank Correlation							
	Co-efficient, Concurrent Deviations Method -Properties of Correlation Co-							
	efficient.(Only statement Without proof) (Simple Problem							
Unit –III	REGRESSIONANALYSIS	15						
	Regression Analysis –Definition, Types, Regression Equation X on Y and							
	Regression Equation Y on X - Properties of Regression Co- Efficient- (
	Without proof) - Difference Between Correlation and Regression Analysis.							
	(Simple Problems)							
Unit –IV	SAMPLING METHODS	15						
	Sampling- Definition, Uses of sampling. Random Sampling- Simple							
	Random Sampling Stratified Random Sampling, Systematic Random							
	Sampling - Definition, Merits and Demerits, Non-random sampling -							
	Purposive, Quota and Judgement sampling. (Only Theory							
Unit -V	TESTING OF HYPOTHESIS	15						
	Sampling distribution of Means, Standard Error- Uses of Standard Error -							
	Testing of Hypothesis - Test Procedure - Type I error, Types II error - One							
	Tailed & Two Tailed Tests, - t - test- Testing Significance of Single Mean							
	and Difference between Two Means, Chi square test-Testing the							
	Independence of Two Attributes, (Simple Problems)							
	1	<u> </u>						

Unit VI	Self study							
	Skewness- measures of skewness- karl pearson, Bowley and Kelly -							
	moments-kurtosis.(theory only)							

1.Gupta S.P - Statistical methods, Sultan Chand and Son's New Delhi, 2014,

2.Gupta, S.C - Fundamentals of Applied Statistics, Sultan Chand and son's

New Delhi, 2005

References Books

1. Nagar AL and Das RK - Basic statistics Oxford University Press New Delhi, 1997

2. Salvatore Dominick - Statistics and Econometrics Mc.Graw Hill Co., New Delhi,2011.

3. Morris Carl. N and John E Rolph - Introduction to Data Analysis and Statistical Inference Prentice, Hall Inc. Engle wood Cliffs, New

Jersey 07632, 1981.

4. Speigal MR hill

Theory and problems of Statistics, McGraw Book Company, 1992.

Applied General Statistics, Prentice hall of

5. Crozton Cowden and Klein

India. New Delhi. 1968.

Chou Y Statistics Analysis Holy Reinhart and New Delhi, 1975

Winston,

Web- Resources:

1.http://www. Freeeconomics books.com

http://www.delnet.in 1.

Course Outcomes

On completion of the course students should be able to

CO1: Explain Mean, Median, Mode

CO2: Explain Correlation analysis

CO3:Obtain basics skills in Regression analysis

CO4:Understand the uses of sampling methods

CO5:Have a solid understanding of Testing of Hypothesis

CO /	PO						PSO				
PO											
	1	2	3	4	5	1	2	3	4	5	
CO1	S	S	S	S	S	S	S	S	S	S	
CO2	S	S	S	S	S	S	S	S	S	S	
CO3	S	S	S	S	S	S	S	S	S	S	
CO4	S	S	S	S	S	S	S	S	S	S	
CO5	S	S	S	S	S	S	S	S	S	S	

Semester – 2/	ENVIRONMENTAL	Course Code :PGEE22
Elective Course – 2(EC)	ECONOMICS	
Instruction Hours: 6	Credits: 4	Exam Hours: 3
Internal Marks: 25	External Marks: 75	Total Marks: 100

Cognitive	K1 -Recalling						
Level	K2 -Understanding						
Level	K3 -Applying						
	K4 - Analyzing						
	K5 - Evaluating						
	K6 - Creating						
Course Objective	 The Course aims To make the students to familiarize with Economics on Natural Resource and Sustainable Development. 	e manage					
	 To make the students to be aware of policy instruments for controlling po To know the Environmental problems. 	ollution.					
	To understand the management of Environmental value. To make the students to understand the Environmental Management.						
Unit	• To make the students to understand the Environmental Management Content Hour						
Unit -1	NEXUS BETWEEN ECONOMICS & ENVIRONMENTS	15					
	Nature, Scope and significance of Environment: Environment & Economy						
	relations, Material balance principle - Externalities & Market inefficiency -						
	Property Right & Externality - Non Convexities and Externalities - Pareto						
	Optimal Provision of Public Goods - Common Property Resources						
Unit –II	NATURAL RESOURCE MANAGEMENT	15					
	Simon Kuznets Hypothesis; Sustainable Development - Concepts,						
	Objectives - indicators - Principles and measures- Issues In bio-diversity						
Unit –III	ENVIRONMENTAL PROBLEMS	15					
	Global level Environmental Problems: Global Warming, Green House						
	Effect, ACID rain - Ozone Depletion - Climatic Changes - Environmental						
	Pollution : Air - Water- Noise: Causes-Effects- Control Measures; Solid						
	Waste Pollution- sources- Methods of Solid Waste Management						
Unit –IV	MEASUREMENT OF ENVIRONMENTAL VALUE	15					
	Need for Environmental Valuation - User Values, Option Values and Non-						
	User Values, Methods of Valuation - Direct and Indirect Methods - Stated						
	Preference Methods - Revealed Preference Method - Contingent Valuation						
	Methods - Hedonic Pricing Model						

Unit -V	ENVIRONMENTAL MANAGEMENT	15
	Concepts - Components Environmental Management - Approaches, Moral	
	Suasion - Direct Control - Fiscal Technical - Government Investment	
	programmers - Legal Measures; Environment Protection Act1986 - National	
	Environmental Policy	
Unit -VI	Self Study	
	Environmental Awareness-Dilemma of Environmental Ethis and practical	
	problems-Plastic ban economics Vs environment	

Text book

- 1.M.L Jhingan Environmental Economics Vrinda Publications, 12th Edition, 2016.
- 2.Sankaran.S Environmental Economics, Margham Publications, 2nd Edition, 2018.

References Books

- 1. Charles Kolstad, Intermediate Environmental Economics, Oxford University Press , 2^{nd} Edition, 2010.
- 2. Robert N. Stavins (ed.), Economics of the Environment: Selected Readings, W.W Norton, 5th Edition, 2005.
- 3. Roger Perman, Yue Ma, James McGilvray and Michael Common, Natural Resource and Environmental Economics, Pearson Education/Addison Wesley, 3rd Edition, 2003.
- 4. Eugine . T Environmental Economics Vrinda Publications, 2015.
- 5. Karpagam.S Environmental Economics, Sterling Publications, 2008.

Web- Resources:

1. http://www.epa.gov/environmental Economics.pdf http://www.nlist.inflibnet.ac.in

Course Outcomes

On completion of the course students should be able to

CO1:The learn concepts and significance of environment Economics.

CO2: The understand course and familiarizes the sustainable development...

CO3:Know the awareness of Global warming

CO4:Know the measurement of environmental values.

CO5: The basic skills in environmental legal policy.

CO / PO	PO						PSO				
	1	2	3	4	5	1	2	3	4	5	
CO1	S	S	S	S	S	S	S	S	S	S	
CO2	S	S	S	S	S	S	S	S	S	S	
CO3	S	S	S	S	S	S	S	S	S	S	
CO4	S	S	S	S	S	S	S	S	S	S	
CO5	S	S	S	S	S	S	S	S	S	S	

Semester – 3/	RESEARCH	Course Code :PGEI
core course -9 (CC)	METHODOLOGY	
Instruction Hours: 6	Credits: 5	Exam Hours: 3
Internal Marks : 25	External Marks: 75	Total Marks: 100

Cognitive Level	K1 -Recalling K2 -Understanding K3 -Applying K4 - Analyzing K5 - Evaluating K6 - Creating	
Course	The course aims	
Objective	 To define research, explain and apply research techniques in Econom To propose a research study and justify the theory as well methodological decisions, including Research Problem and Hypothesis To learn the sample design and to develop the skills for sampling sampling techniques used to collect survey data To learn the Data Collection method and the Data Source based selected topic To know the significance of Report writing and mechanics of thesis writing 	as the song and on the
Unit	Content	Hour
Unit -1	TYPES OF RESEARCH Research - Meaning Definitions, Types of Research - Features - Facts - ausality - Objectivity in Research	18
Unit –II	UNIT II: RESEARCH PROBLEM AND HYPEOTHESIS	18
0	Choice of the Research Problem - Factors involved in the choice - Review of Literature - Characteristics of a Good Hypothesis.	
Unit –III	SAMPLING TECHNIQUES AND RESEARCH DESIGN Census Method - Sampling Method - Methods of Sampling: Random sampling method - Judgement Method - Stratified, Systematic, Quota and Multistage sampling Method - Sampling and Non Sampling errors - Methods of reducing both Sampling size - Scaling techniques - Research design.	18
Unit –IV	DATA SOURCE Merits and Demerits - Methods of collecting Primary data - Schedule methods - Observation Methods - Interview method -Questionnaire Method- Qualities of a good Questionnaire - Secondary data - Merits and Demerits -Sources of Secondary data- Published and Unpublished	18
Unit –V	RESEARCH REPORT WRITING Meaning of analysis -Editing -Coding - Classification of Research - Statistical and Mathematical tools of Analysis -Research Report writing	18

Unit -VI	Self study	
	Research process- Data Types Qualitative and Quantitative Research -	
	Types of research Report	

1. Bajbai, S.R. - Methods of social Survey and Research Kita Mahal, Kanpur. 1976.

2. Kothari C.R -Research Methodology, Ne age Publications, 2014.

3. Wilkinson and Bhandarkar - Methodology and techniques of Social research Himalaya Publishing House, Mumbai, 1994.

4. P.Saravanavel - Research Methodology tab Mahal agencies, Allahabad, 2007.

Reference Books:

1. Goode W.J and Hatt P.K - Methods in Social Research, MC Graw- Hill London, 1965.

2. Bhatnaga P - Research Methods and Measurements in Behaviour and Social, New Delhi, Agra, Cole Publishing Academy.

3. Gupta, S.P - Statistical Methods, Sultan Chand & Co, NewDelhi, 1992

Web- Resources:

1. http://dare.nic.in

2. http://planningcommission.gov.in

3. http://ssi.gov.in

Curse outcomes

On completion of the course students should be able to

CO1:Understand the research and apply research techniques in Economics.

CO2:Understand a research study and justify the theory as well as the methodological decisions, including Research Problem and Hypothesis

CO3:know the sample design and to develop the skills for sampling and sampling techniques used to collect survey data

CO4:Collect the data based on the selected topic

CO5:know Report writing and thesis writing

CO /	PO					PSO				
PO										
	1	2	3	4	5	1	2	3	4	5
CO1	S	S	S	M	S	S	S	S	S	S
CO2	S	S	S	S	S	S	S	M	S	S
CO3	S	S	M	S	S	S	S	S	M	S
CO4	S	S	S	S	S	S	S	M	M	S
CO5	S	S	S	M	S	S	S	S	S	S

Semester – 3/ core course – (CC)	INDUSTRIAL ECONOMICS	Course Code :PGEJ
Instruction Hours: 6	Credits : 5	Exam Hours: 3
Internal Marks : 25	External Marks: 75	Total Marks: 100

Cognitive	K1 -Recalling	
Level	K1 - Recaining K2 - Understanding	
Level	K3 -Applying	
	K4 - Analyzing	
	K5 - Evaluating	
Course	K6 - Creating The course aims	
Objective		
Objective	To describe the basic models of industrial organization To lower the students to understand the important theories of	ا مشهوریان ما
	• To learn the students to understand the important theories of	mausmai
	Economics	
	To learn the sources of Industrial finance The learn the source of Industrial finance The learn the le	
	To learn the structure of Industrial labour	
	To have knowledge of the new industrial policy and issues in i	industries
	and project planning and appraisal	
Unit	Content	Hour
Unit -1	PATTRENS AND STRUCTURE	18
	Rationale of Industrialization - Process and pattern of Industrialization -	
	Industrial structure and change - Alternative patterns; Chenery-	
	Hoffman, Simon Kuznet	
Unit –II	THEORIES OF INDUSTRIAL LOCATION	18
	Theories of Industrial location - Weber, Sargent Florence, and Losch -	
	Factors affecting location Factors determining location - Cost approach	
	- Demand approach	
Unit –III	INDUSTRIAL FINANCE	18
	Institutional Finance - Need- Sources - IDBI - IFCI - SFCs - SIDCO,	
	Commercial Bank - Insurance company - LIC- Private LIC - AXIS	
	Bank	
Unit –IV	INDUSTRIAL LABOUR	18
	Structure of Industrial labour - Labour in organized and unorganized	
	industries - Industrial Legislation, Wages and problems of Bonus -	
	Absenteeism, Migration Turnover, and Attrition - Labour Market	
	Reforms	
Unit –V	PROJECT PLANNING AND APPRAISAL	18
	Process- Methods- Pay Back Period and CPM - Project Evaluation	
	Review Techniques - Net present value - Internal Rate of Return	
Unit –VI	Self study	
	Industrial policy in India –role of public and private sector, recent trends	
	in industrial growth	

Text book:

1. Sanjay M Dandade - Industrial Economics Chandralok prakashan 2012

2.S.S.M..Desai - Industrial Economy of India, Himalaya Publishing house Pvt Ltd

New Delhi 2010

3. Cherunilam .F - Industrial Economics Himalaya Publishing House - 1994

4.Barthwal.R.R - Industrial Economics Vikas Publishing House New Delhi-2000

Reference Books:

1. Ruddar Dutt and K.P.M Sundram - Indian Economy, S. Chand and company. 2015

2. Bhagwati, J and P. Desai - Indian Planning for Industrialization.

3.A.N. Sadhu - Industrial Economics Himalaya Publishing house 1998

Web- Resources:.

1. www.rbi.org.in www.cpolicy.rbi.org.in

2. www.bulletin.rbi.org.in www.bankreport.rbi.org.in

3. http://mospi.nic.in

4. .http://www.indiastat.com

Course Outcomes

On completion of the course students should be able to

CO1: Understand the basic models of industrial organization

CO2:Understand the important theories of industrial Economics

CO3:Understand the sources of Industrial finance

CO4: Understand the structure of Industrial labour.

CO5:Gain the knowledge of the new industrial policy and issues in industries and project planning and appraisal

CO /	PO					PSO				
PO										
	1	2	3	4	5	1	2	3	4	5
CO1	S	S	S	S	S	S	S	S	S	S
CO2	S	S	S	S	S	S	S	S	S	S
CO3	S	S	S	S	S	S	S	S	S	S
CO4	S	S	S	S	S	S	S	S	S	S
CO5	S	S	S	S	S	S	S	S	S	S

Semester – 3/ core course – (CC)	International Economics	Course Code :PGEK
Instruction Hours: 6	Credits: 5	Exam Hours: 3
Internal Marks : 25	External Marks: 75	Total Marks: 100

Cognitive	K1 -Recalling	
Level	K2 -Understanding	
	K3 -Applying	
	K4 - Analyzing	
	K5 - Evaluating K6 - Creating	
Course	The course aims	
Objective	To learn the important theories of international trade	
	To learn the ways to regulate international trade	
	To learn the Balance of Payments	
	• To Know the functions of international financial institutions in the	ne global
	economy.	
	• To learn the students to understand the Indian EXIM Policy.	
Unit	Content	Hour
Unit -1	THEORIES OF INTERNATIONAL TRADE	18
	The basic theory of International Trade- Opportunity Costs - Heackscher	
	-OhlinTheory of Trade -Stopler SamuelSon Theorem - Rybezynski	
	Theorem - Leontief Paradox.	
Unit –II	TRADE GAINS AND THEORY OF INTERVENTIONS	18
	Trade - Gains from Trade and their Distribution -Concepts of Terms of	
	Trade -uses and Limitations -Foreign Trade Multiplier -Meaning - types	
	and Effects (Tariffs, Quotas and non- Tariff barriers).	
Unit –III	BALANCE OF PAYMENT AND FOREIGN EXCHANGE	18
	MARKET	
	Meaning and Components of Balance of Payment, Equilibrium and	
	Disequilibrium in the Balance of Payments -Exchange rate- Merits and	
	Demerits of Fixed and Flexible Exchange Rates	
Unit –IV	INTERNATIONAL TRADE ORGANISATION	18
	International Trade and Financial Institutions -Role of IMF, IBRD,	
	GATT, WTO, UNCTAD, Asian Development Bank - Euro Dollar	
	Market.	
Unit –V	TRADE POLICIES IN INDIA	18
	Trade Policies - Concepts - Objectives - Evolution -MNC - EPZ -SEZ -	
	Recent trade Policy of India.	
Unit -VI	Self study	
	Future of crypto currency and cashless society.	

1 . Cherunilam F
 2. S. Sankaran
 International Economics, Tata Mc Graw Hill, New Delhi.(2010)
 International Economics, Margham Publications, Chennai, (2015)

3. D.M.Mithani - International Economics Himalaya Publications, Mumbai.1

Reference Book:

1. Charles P.Kindlebeger - Introduction to International Trade and

Finance(Richard D. Irwin INC, U.S.A).

2. Lorie Tarshis - Introduction to international Trade and finance(John

Wiley sons, (INC, U.S.A)(1955)

3 . Paul R.Krugman, - Maurice Obstfeld and Marc Melitz International Economics

(9th) Edition, Pearson Education Asia. (2012)

Web- Resources:.

1. http://www.tradeget.com/partners.html

2. http://commin.nic.in

3. http://ipindia.nic.in/ipr/patent/patents.html

4. http://dgft.delhi.nic.in.

Course Outcomes

On completion of the course students should be able to

CO1:Understand the important theories of international trade

CO2:Understand the various ways to regulate international trade

CO3:Understand the Balance of Payments position

CO4:Understand the functions of international financial institutions in the global economy

C05:Understand the Indian EXIM Policy

0 0100 0 111	outcomes									
CO /	PO	PO					PSO			
PO										
	1	2	3	4	5	1	2	3	4	5
CO1	S	S	S	S	S	S	S	S	S	S
CO2	S	S	S	S	S	S	S	S	S	S
CO3	S	S	S	S	S	S	S	S	S	S
CO4	S	S	S	S	S	S	S	S	S	S
CO5	S	S	S	S	S	S	S	S	S	S

Semester – 3/ core course – (CC)	Monetary Economics	Course Code :PGEL
Instruction Hours : 6	Credits: 5	Exam Hours: 3
Internal Marks : 25	External Marks: 75	Total Marks: 100

Cognitive	K1 -Recalling					
Level	K2 -Understanding					
	K3 -Applying					
	K4 - Analyzing					
	K5 - Evaluating K6 - Creating					
Course	The course aims					
Objective	 To learn the classical and neo-classical theories in Monetary Economics 					
Ü	 To Aware of the Keynes and Post Keynesian Theories in Monetary Economics 					
	To Know the Monetarism Vs Keynesianism in Monetary Economics					
	To learn the importance of Money and Capital market and its working					
	To Know the importance of Monetary Policy and its working					
Unit	Content	Hour				
Unit -1	CLASSICAL AND NEO-CLASSICAL THEORIES	18				
	Classical -Fisher's approach; Neo- Classical - Cambridge- Marshall,					
	Pigou - Robertson and Keynes Comparison - Critical Evaluation .					
Unit –II	KEYNES AND POST KEYNESIAN THEORIES	18				
	Keynesian Reformulation of Quantity Theory of money - Tobin's port					
	folio analysis of Money- Milton Friedman's Reformulated Quantity					
	Theory of money -Patinkin's Real Balance Effect					
Unit –III	MONETARISM Vs KEYNESIANISM	18				
	Monetarism Vs Keynesianism - Comparison - Determination of money					
	supply -Policies of Inflation & Policy Implications - Gurley & Shaw					
	Analysis					
Unit –IV	MONEY AND CAPITAL MARKETS	18				
	Structure of money Market and Capital Market in India - The role of					
	Financial Intermediaries - Effects of financial Intermediaries - the cost					
	and availability of finance -Non - Banking Financial Institutions in India					
	- Small Financial Bank					
Unit –V	BANKING AND MONETARY POLICY	18				
	Commercial Banks - Functions - Credit Creation -RBI's role in					
	Economic policy Development operation in India - Limitations of					
	Monetary Policy - Effects of Debt Management Policy.					
Unit -VI	Self Study					
	Recent Trends in the Banking System-Market Reforms					

1. Gupta R.D. - Keynes and post Keynesian Economics (Kalayani

Publishers, New Delhi.2006.

2. K.P.M.Sundaram -Money, Banking and International Trade(Vikas, New Delhi. 2009.

3. S.Sankaran - Monetary Economics, Margham Publications, Chennai, 2015.

4. S.B.Gupta - Monetary Economics, S.Chand & Co Publication, New Delhi 1994.

Reference Book:

1. M.L.Seth - Monetary Economics, Lakshmi Narain

Agarwal, Agra. 2000.

2. M.C. Vaish - Money, Banking and International Trade (Wiley Eastern

Ltd., New Delhi.

4. Basu S.K. - Recent Banking Development(Chand and Co., New Delhi)

5. M.L.Jhingan - Vrinda Publication Pvt.Ltd- 7th Edition,2016.

Web- Resources:

1. http://www.www.bulletin.rbi.org.in

2. www.bankreport.rbi.org.in

3. http://mospi.nic.in.

4. http://www.indiastat.com

Course Outcomes

On completion of the course students should be able to

CO1:Understand the classical and neo-classical theories in Monetary Economics

CO2:Understand the Keynes and Post Keynesian Theories of Monetary Economics

CO3:Understand the Monetarism Vs Keynesianism in Monetary Economics

CO4:Understand the importance of Money and Capital market and its working

CO5:Understand the importance of Monetary Policy and its working

CO / PO	PO					PSO				
	1	2	3	4	5	1	2	3	4	5
CO1	S	S	S	M	S	S	S	S	S	S
CO2	S	S	S	M	S	S	S	S	S	S
CO3	S	S	S	M	S	S	S	S	S	S
CO4	S	S	S	M	S	S	S	S	S	S
CO5	S	S	S	M	S	S	S	S	S	S

Semester – 3/	COMPUTER APPLICATIONS IN	Course Code :PGEE3a
core course - (EC)	ECONOMICS	
Instruction Hours: 6	Credits: 4	Exam Hours: 3
Internal Marks : 25	External Marks: 75	Total Marks : 100

Cognitive Level	K1 -Recalling K2 -Understanding K3 -Applying K4 - Analyzing K5 - Evaluating K6 - Creating	
Course	The course aims	
Objective	Make the students to use internet in higher study and Research wo	ork.
	 To Know the concepts of social networking sites 	
Unit	Content	Hour
Unit -1	INTRODUCTION TO COMPUTER	18
	Evolution, Generations and Classification of computers - Hardware and	
	Software - C.P.U and its Functions - Input and Output devices -	
	Application of computers in Economics and Business	
Unit –II	WORLD WIDE WEB	18
	Internet Basics - Browsing internet - Using search engines - Opening E-	
	mail ID. Sending and Checking E -mail - Downloading text from	
	internet	

- 1. Rajaraman.V- Fundamentals of computers, Prentice Hall of India, New Delhi. (1996)
- 2. Sinha Computer Fundamentals PB, Publications, New Delhi. (1992)
- 3.K Danasekaran Computer Applications in Economics Vrinta publications (2010)

Reference Book;

- 1. Rajaraman.V- Fundamentals of computers, Prentice Hall of India, New Delhi. (1996)
- 2. Sinha Computer Fundamentals PB, Publications, New Delhi. (1992)
- 3.K Danasekaran Computer Applications in Economics Vrinta publications (2010)

Web-Resources:

- 1.www.spss.com
- 2.www.ats.ucla.edu
- 3.www.utexas.edu
- 4.www.indiana.edu

Course Outcomes.

On completion of the course students should be able to

CO1:Use internet in higher study and Research work

CO2:Understand the concepts of social networking sites

CO / PO	PO					PSO				
	1	2	3	4	5	1	2	3	4	5
CO1	S	S	S	M	S	S	S	S	S	S
CO2	S	S	S	S	S	S	S	S	S	S
CO3	S	S	S	S	S	S	S	S	S	S
CO4	M	M	M	M	M	S	S	S	S	S
CO5	S	S	S	S	S	S	S	S	S	S

Semester – 4/ core course – (CC)	Agricultural Economics	Course Code :PGEM
Instruction Hours: 6	Credits: 5	Exam Hours: 3
Internal Marks : 25	External Marks: 75	Total Marks : 100

Cognitive	K1 -Recalling	
Level	K2 -Understanding	
	K3 -Applying	
	K4 - Analyzing	
	K5 - Evaluating K6 - Creating	
Course	The course aims	
Objective	• To know the nature of Agricultural Economics.	
J	• To understand the concept of Cropping Pattern.	
	• To understand the sources of Agricultural Finance.	
	To know the channels of Agricultural Marketing	
	To understand the promotional strategies in Agriculture	
Unit	Content	Hour
Unit -1	NATURE OF AGRICULTURAL ECONOMICS	18
	Nature and Scope of Agricultural Economics -Features of Indian	
	Agriculture - Inter relationship between Agriculture and industry-	
	Significance of Agriculture in India - Inter sectoral Linkage - Agri	
	and Agro based Industries.	
Unit –II	CROPPING PATTERN	18
	Meaning - Factors - Productivity Trends in Area Production -	
	Productivity and strategies -Crop Insurance - sea farming	
Unit –III	AGRICULTURAL FINANCE	18
	Meaning -Needs - Types - Source - Role of Co-operatives,	
	Commercial Bank - NABARD in rural Finance -Problems -	
	Institutional - Non - Institutional Finance	
Unit –IV	AGRICULTURAL MARKETING	18
	Marketed and marketable surplus - Marketing of Agro- based	
	Industrial Produces - Agricultural marketing System -Need for	
	marketing Research - Procedure for Conducting Marketing Research -	
	Food Corporation of India -TNCSC- Agricultural Pricing Policy	
	Marine Products Market	
Unit –V	PROMOTIONAL STRATEGIES	18
	Organic- In-organic fertilizers- Compost manure - Bio-fertilizer -	
	Recycling of Agricultural Products - Value Addition of Agricultural	
	Commodities - Cold storage - Prospects of Agricultural Business in	
	India -Marine Producers Cartels- MNCs in Fisheries Business	
Unit –VI	Self study	
	Agricultural Policy vision - Brief comment and assessment of the	
	Agricultural policy- Farmer suicide in India.	

1.B.P. Vasant Desai - Agricultural Economics, Rural development, Jai Prakash North

Publication.1996.

2. V. Natakarani - Agricultural Prices and Development with stability

3.S.Sankaran - Indian Economy, Margham Publication, Chennai – 2015

Reference Book:

1. Government of India - Agricultural Marketing Reports

2. Ruddar Dutt and K.P.M.Sundaram - Indian Economy S.Chand Ltd, NewDelhi 2015.

Web- Resources:

1. http://dare.nic.in

- 2. http://ari.gov.in
- 3. http://aquaculture.tn.nic.in
- 4. http://agricoop.nic.in
- 5. http://drdpat.bih.nic.in
- 6. http://www.nddb.org

Course Outcomes:

On completion of the course students should be able to

CO1:Know the nature of Agricultural Economics

CO2:Understand the concepts of Cropping Pattern

CO3:Understand the sources of Agricultural Finance

CO4:know the channels of Agricultural Marketing\

CO5:Understand the promotional strategies in Agriculture

CO / PO	PO	PO					PSO			
	1	2	3	4	5	1	2	3	4	5
CO1	S	S	S	S	S	S	S	S	S	S
CO2	S	S	S	S	S	S	S	S	S	S
CO3	S	S	S	S	S	S	S	S	S	S
CO4	S	S	S	S	S	S	S	S	S	S
CO5	S	S	S	S	S	S	S	S	S	S

Semester – 4/	ECONOMICS OF	Course Code :PGEN
core course - (CC)	DEVELOPMENT	
Instruction Hours: 6	Credits: 5	Exam Hours: 3
Internal Marks : 25	External Marks : 75	Total Marks : 100

Cognitive Level Course Objective	 K1 -Recalling K2 -Understanding K3 -Applying K4 - Analyzing K5 - Evaluating K6 - Creating The course aims To learn the indicators of development. To study about the theories of Economic Development To learn the various models of Growth Strategies. To learn the role of factors of Production in growth process. 	
	 To learn the rationale of Economic Planning. 	
Unit	Content	Hour
Unit -1	GROWTH AND DEVELOPMENT Definition- Growth Vs Development- Characteristics of Underdevelopment - Economic and Non-Economic Factors of Development - Obstacles to Development- Vicious Circle Theory.	18
Unit –II	CLASSICAL THEORIES Classical theories, Ricardo, Marx, Rostow, Schumpeter, Nurkse and Meir and Baldwin.	18
Unit –III	GROWTH STRATEGIES Theories of Under development -Surplus labour theory by Lewis, Big-Push, Rosentein Rodan - Balanced Vs Unbalanced growth - Hirschman - Minimum Critical Effort - Leibenstein.	18
Unit –IV	FACTORS OF PRODUCTION Factors in the Development Process - Land, Labour and Capital - Population Growth and Development Processes - Theory of Demographic Transition - Employment Problem - Economic uses of National Resources - Capital Formation - Factors Affecting Capital Formation - Capital Output Ratio in Developed and Underdeveloped Countries.	18
Unit –V	ECONOMIC PLANNING Rationale -Types - Objectives - Strategies - Models - Gandhian-Nehruvian, Rao, Mahalanobis - Achievements and Failure - Current Five year Plan- NITI AAyog .	18
Unit -VI	Self Study Sector aspects of Development and Macro Economics policy	

- 1. CT.Kurien Theories and Problems of Development Economics, The Economy Sage Publications, New Delhi. (2011)
- 2. Puri (V.K) and MisraS.K -- Economic Development and Planning, Himalaya Publication,(2010)
- 3.M.L.Jingan Economics of Development and planning -Konark Publishers NewDelhi 2015
- 4. I.C.Dhingra Indian Economic Problems, Sultan Chand & Sons. New Delhi.
- 5.Ruddar Dutt Sundaram K.P.M. -Indian Economy Sultan chand & Co , New Delhi -2015. Mapping of Cos with Pos & PSOs

Reference Book:

- 1.N.P.Hariharan -Lights & Shades of Indian Economy. -Vishal Publishing Co.-2005-06
- 2.Basu Kaushik 1998 Analitical Development Economics -Oxford University Press. New Delhi.
- 3.M.L.Taneja & R.M.Myer Economic of Development and Planning, Vishal Publishing co Jalandhar .India .2006.

Web- Resources:

- 1. http://dare.nic.in
- 2. http://agricoop.nic.in
- 3. http://planningcommission.gov.in

Course Outcomes

On completion of the course students should be able to

CO1: Understand about the indicators of development

CO2:Understand about the theories of Economic Development

CO3:Understand the various models of Growth Strategies

CO4: Understand the role of factors of Production in growth process.

Co5:Understand the rationale of Economic Planning.

CO /	PO	PO						PSO		
PO										
	1	2	3	4	5	1	2	3	4	5
CO1	S	S	S	S	S	S	S	S	S	S
CO2	S	S	S	S	S	S	S	S	S	S
CO3	S	S	S	S	S	S	S	S	S	S
CO4	S	S	S	S	S	S	S	S	S	S
CO5	S	S	S	S	S	S	S	S	S	S

Semester – 4/ core course – (EC)	ECONOMICS OF INFRASTRUCTURE	Course Code :PGEE4
Instruction Hours: 6	Credits : 4	Exam Hours: 3
Internal Marks : 25	External Marks: 75	Total Marks: 100

Cognitive	K1 -Recalling	
Level	K2 -Understanding	
	K3 -Applying	
	K4 - Analyzing K5 - Evaluating	
	K6 - Creating	
Course	The course aims	
Objective	To learn the role of infrastructure in Economic Development	
	To aware of various models of Transport	
	To Understand the various types of Communication	
	To Aware of renewable and non renewable sources of Energy	
	To Know the Importance of social Infrastructure	
Unit	Content	Hour
Unit -1	INTRODUCTION	18
	Infrastructure and economic development – infrastructure as a public good;	
	social and physical infrastructure; special characteristics of public utilities.	
	The peak – load, off – load problem, dual principle controversy; economics	
	of scale of joint supply; marginal cost pricing vs. other methods of pricing in	
	public utilities; cross – subsidization – free prices, equity and efficiency.	
Unit –II	TRANSPORTATION	18
	Transportation economics – the structure of transport costs and location of	
	economic activities. Demand for transport. Models of freight and passenger	
	demand. Model choice; cost functions in the transport sector. Pricing	
	principle. Special problems of individual models of transport.	
Unit –III	COMMUNICATION	18
	Communication – rate making in telephone utilities. Principles of	
	decreasing costs in telephone industry. Characteristics of postal services.	
	Criteria for fixation of postal rates. Measurement of standards of service in	
Unit –IV	telephone and postal services. ENERGY ECONOMICS	18
Omt –i v	Energy economics – primacy of energy in the process of economic	10
	development. Factors determining energy demand. Effects of energy	
	shortages. Energy conservation. Renewable and nonconventional sources of	
	energy. Energy modeling. The search for an optimal energy policy in the	
	Indian context.	
Unit –V	SOCIAL INFRASTRUCTURE	18
	Social infrastructure – organization and financing of supply of social	
	services .Private vs. public sector financing; recent debate about the fixation	

	of pricing of social services .Development of social services in the successive Indian plans	
Unit –VI	Self Study	
	Private participation in Infrastructure	

1. Crew. M.A Public Utility Economics, Macmillan, London & P.R. Kleind orfer ICSSR(1976) Economics of Infrastructure Vol. VI, New Delhi

Reference Books:

- 1) Parikh, K.S (Ed) India Development Report 1999-2000, Oxford, New Delhi
- 2) Turvey, R (Ed) Public Enterprises, Penguin, Harmonds Worth
- 3) Welson, J.R. Marginal Cost Pricing in Practice. Prentice Hall
- 4) Kneafsey, J.T Transportation Economic Analysis, Lexington, Toronts
- 5) Munty, D (Ed) Transport: Selected Readings, Penguin, Harmonds Worth

Course Outcomes

On completion of the course students should be able to

CO1: Understand the importance of Infrastructure in Economic Development.

Co2:To know the functions of Transport Sector

CO3:To find out, Which Communication is best one

CO4:To know the positive effects Energy

CO5:To know the role of Social Infrastructure in Social Service

CO /	PO	PO					PSO			
PO										
	1	2	3	4	5	1	2	3	4	5
CO1	S	S	S	S	S	S	S	S	S	S
CO2	S	S	S	S	S	S	S	S	S	S
CO3	S	S	S	S	S	S	S	S	S	S
CO4	S	S	S	S	S	S	S	S	S	S
CO5	S	S	S	S	S	S	S	S	S	S

Semester – 4/ core course – 5 (EC)	Health Economics	Course Code :PGEE5
Instruction Hours: 6	Credits: 5	Exam Hours: 3
Internal Marks : 25	External Marks: 75	Total Marks: 100

Cognitive Level Course Objective	K1 -Recalling K2 -Understanding K3 -Applying K4 - Analyzing K5 - Evaluating K6 - Creating The course aims To know the importance of Health Economics. To understand the process of development of health policy To know the role of Planning in health care sector.	
	To know the role of Donors in health care sector	
Unit	 To be aware of the significance of public health and the related issues. Content 	Hour
Unit -1	INTRODUCTION	18
Omt -1	Meaning -Definition -Objectives -Importance -Determinants of Health Status	10
Unit –II	HEALTH AND DEVELOPMENT Indicators of Health and Development -Ecological factors affecting Health Fertility - Morbidity - Mortality -Life expectancy - Urbanisation - Industrialisation - Impact on health and Human development	18
Unit –III	DIMENSIONS OF DEVELOPMENT Determinants of health -Poverty and malnutrition -Economic dimensions of health care -Health care programme -National programmes -The planning process -Importance of Health Education -The budgetary process.	18
Unit –IV	DONORS ON HEALTH CARE Allocation of Resources for health care -Donors spending -World Bank - NFPA -DFID -WHO	18
Unit –V	EVALUATION Monitoring -Evaluation and Operational Research -HMIS -BLS -NFHS - DLHS -NSS	18
Unit –VI	Self study Health Economics strategies and inter- sectoral action implementation of inter sectoral programme fro health.	

- 1. S.B. Verma, S.K. Jiloka, A. CPanthak Rural Health Care and Housing
- 2. William jack Principles of Health Economics for Development Countries 1999.
- 3. John M.Gowtterr and Renuga devi Health Economics Deep & Deep Publications 2011

Reference Book:

- 1. Alistair Mc Guire, John Hendersone and Gavin Mooney- The Economic of Health Care. An Introductory text, 1988.
- 2. World Bank- World Development Report Investing in Health. World Development indicators,1993.

Web- Resources:

- 1. http://humanresourceplanning.purebusiness.com
- 2.http://www.wisegeek.com/www.info.com/HumanResourcePlanning
- 3.http://www.bambooweb.com/articles/h/u/Human_Resources.html

Course Outcomes

On completion of the course students should be able to

CO1:To know the determinants of Health Status

CO2:To find out the Ecological factors affecting the Health

CO3:To know the Importance of Health Education

CO4:To aware of the Functions of WHO

CO5:To Know the various programmes related to Health issues

CO /	PO					PSO				
PO										
	1	2	3	4	5	1	2	3	4	5
CO1	S	S	S	M	S	S	S	S	S	S
CO2	S	S	S	S	S	S	S	S	S	S
CO3	S	S	S	S	S	S	S	S	S	S
CO4	S	S	S	S	S	S	S	S	S	S
CO5	S	S	S	S	S	S	S	S	S	S