# Rayat Shikshan Sanstha's

# Karmaveer Bhaurao Patil College Vashi, Navi Mumbai

# **Autonomous College**

# [University of Mumbai]

# **Syllabus for Approval**

Sr. No.	Heading	Particulars
1	Title of Course	MA II
2	Eligibility for Admission	Undergraduate Degree In Economics
3	Passing Marks	40%
4	Ordinances/Regulations (if any)	-
5	No. of Years/Semesters	One year/Two semesters
6	Level	P.G.
7	Pattern	Semester
8	Status	New
9	To be implemented from Academic year	2022-2023

AC- 25/10/ 2021

Item No-7.11





# Rayat Shikshan Sanstha's KARMAVEER BHAURAO PATIL COLLEGE, VASHI. NAVI MUMBAI Sector-15- A, Vashi, Navi Mumbai - 400 703

# (AUTONOMOUS COLLEGE) Syllabus for Economics Program: BA. Course: Undergraduate Economics

(Choice Based Credit System with effect from the academic year 2022-2023)

## **Preamble of the Syllabus:**

Bachelor of Arts (Economic) is a under graduation programme of Department of Economics, Karmaveer Bhaurao Patil College Vashi, Navi Mumbai [Autonomous College]

The Choice Based Credit and Grading System to be implemented through this curriculum would allow students to develop a strong footing in the fundamentals and specialize in the disciplines of his/her liking and abilities. The students pursuing this course would have to develop understanding of various aspects of Economics. The conceptual understanding, development of experimental skills, developing the aptitude for academic and professional skills, acquiring basic concepts and understanding of hyphenated techniques are among such important aspects.

# Rayat Shikshan Sanstha's KARMAVEER BHAURAO PATIL COLLEGE, VASHI. NAVI MUMBAI (Autonomous) Department of Economics BA Economics

	Program Outcomes (POs)									
Learn	ers are able to-									
PO-1	Disciplinary Knowledge	Build conceptual foundation and application skills in the area of Economics, English Literature, Geography, Psychology, and Philosophy seeking youth fit for employment as well as making appropriate/ rational decisions in their day-to-day personal and public life.								
PO-2	Communication Skills	Communicate effectively in Marathi, Hindi, and English to make meaning of the world by connecting people, ideas, books, media, and technology								
PO-3	Critical Thinking	Develop critical thinking towards current economic, social, cultural, philosophical, psychological, and environmental issues, to deal with impediments/hurdles in life with courage and a positive perspective.								
PO-4	Social Interaction and Social Justice	Elicit views of others, mediate disagreements and help to reach conclusions in the group, and contribute to social justice and inclusive growth.								
PO-5	Responsible Citizens	Inculcate human values, sense of social service, egalitarian, righteous conduct for self, family society and make responsible and dutiful citizens								
PO-6	Ethics	Recognize different value systems including your own, understand the moral dimensions of your decisions, and accept responsibility for them.								
PO-7	Research Skills	Identify the problems in different areas, select and execute appropriate research methodology, conduct research, write a meaningful report, and communicate it to the stakeholders.								
PO-8	Self-directed and Life-long Learning	Acquire the ability to engage in independent and life-long learning in the broadest context of socio-cultural and technological changes.								
PO-9	Environment and Sustainability	Understand the issues of environmental contexts along with awareness, needs, growth, and efforts taken at the national and international level through MDGs, SDGs, and other related policies for sustainable development.								

	P	Program Specific Outcomes (PSOs)
PSO1	Knowledge of Economic System	Understand economic problems, concepts, theories, policies, functioning of the economy and relations with rest of the world
PSO2	Acquaint Demographic Features	Variables, concepts, concerned policies and measures, tools and techniques for measuring different variables, related issues and future prospects.
PSO3	Research and Statistical Analysis Skills	Collection, organization, tabulation, coding, and analysis of empirical data. Its analysis interpretation and policy implications, report writing and presentation.
PSO4	Know Indian Economy	Structure, features, basic issues specially agriculture, industry, service sectors and latest developments.
PSO5	Determine Economic Variables	Inflation, unemployment, poverty, GDP, Balance of Payments, Foreign exchange rate etc
PSO6	Entrepreneur Skill	Enhancing skills required to be entrepreneur, know Government policies and financial sources available, principles and expectations of stakeholders.
PSO7	Aspects of International Trade	Theories, related concepts, composition, trends, policies, trading partners of India and economic relations with other countries.
PSO8	Financial Roles and Responsibilities of the Government	Constitutional provisions of taxes, changes, canons, effects, principles of expenditure and maximum social advantages of the society.

Г

	Rayat Shikshan Sanstha's KARMAVEER BHAURAO PATIL COLLEGE, VASHI. NAVI MUMBAI (Autonomous) (w.e.f. academic year 2022-23) Semester-III													
Course Code	Course Name	Teachin g Scheme (Hours/ Week)		nination S and Mark	Credit Scheme									
		Lecture	C I E	Sem End- Exam	Total									
		05	40	60	100	-								
PGBECO301	Economics of Growth and Development	05	40	60	100	06								
PGBECO302	International Trade and Finance	05	40	60	100	06								
PGBECO303	Public Economics	05	40	60	100	06								
PGBECO304A	Dissertation	05	40	60	100	06								
	OR				OR	•								
PGBECO304B	MOOCs	03	40	60	100	06								
PGBECO305	Mathematics for Business Economics	04	40	60	100	06								
	Total	27	240	360	600	36								

Semester-IV												
Course Code	Course Name	Teachi ng Schem e (Hours/ Week)		nination S and Marl		Credit Scheme						
		Lecture	C I E	Sem End- Exam	Total							
		5	40	60	100							
PGBECO401	Economics of Growth and Development	05	40	60	100	06						
PGBECO402	International Trade and Finance	05	40	60	100	06						
PGBECO403	Public Economics	05	40	60	100	06						
PGBECO404A	Internship	05	40	60	100	06						
	OR	1		I	OR	1						
PGBECO404B	MOOCs	03	40	60	100	06						
PGBECO405	Foreign Exchange Market	04	40	60	100	06						
	Total	23	240	360	600	34						

Note: All topics have to be covered with proof in details (unless mentioned otherwise) and examples.

# **Syllabus**

		Semester III		
		Economics of Growth and Development I		
Course Code	Unit	Topics	Credits	L/Week

Ι	Introduction		
II	Theoris Of Development	6	5
III	Applications Of Demand And		
	Supply Analysis		
VI	Less Developed Countries And		
	Development		
I	International Trade and Finance		
Unit	Topics	Credits	L/Week
Ι	Classical Theories Of Trade		~
II	Modern Theories Of Trade	6	5
ш	Developments In Trade Theories		
111	Developments in Trade Theories		
VI	Trade Policy		
	Public Economics		
Unit	Topics	Credits	L/Week
Ι	Introduction	6	5
II	Public Revenue		-
III	Public Expenditure		
VI	Fiscal Policy		
	Mathematics for Business Economics		
Unit	Topics	Credits	L/Week
Ι	Set, Functions and limit	6	5
II	Continuity, Derivative and its applications		-
III	Determinants and Matrices		
VI	Linear Programming		
	II III VI Unit II III VI III III III III III III III	IITheoris Of DevelopmentIIIApplications Of Demand And Supply AnalysisVILess Developed Countries And DevelopmentIIILess Developed Countries And DevelopmentIIIClassical Theories Of Trade and FinanceIIIModern Theories Of TradeIIIDevelopments In Trade TheoriesIIIDevelopments In Trade TheoriesVITrade PolicyVITrade PolicyIIIPublic RevenueIIIPublic RevenueIIIPublic RevenueIIIPublic ExpenditureVIFiscal PolicyIIIPublic ExpenditureIIIPublic ExpenditureIIIDevelopmentis for Business EconomicsIIIIIntroduction and limitIIIDeterminants and Matrices	InIntervise Of Development6IIIApplications Of Demand And Supply Analysis6VILess Developed Countries And DevelopmentCreditsInternational Trade and FinanceUnitTopicsCreditsIClassical Theories Of Trade6IIModern Theories Of Trade6IIIDevelopments In Trade Theories6VITrade Policy6VITrade Policy6IIIPublic Revenue6IIIPublic Revenue6IIIPublic Revenue6IIIPublic Revenue6IIIPublic Revenue6IIIPolicy6IIIPublic Revenue6IIIPublic Revenue6IIIFiscal Policy6IIIFiscal Policy6IIIContinuity, Derivative and its applications6IIIDeterminants and Matrices6

		Economics of Growth and Development I	I	
Course Code	Unit	Topics	Credits	L/Week
	Ι	Macro Economic Policies And		
PGBECO401		Development	6	5
	II	Development And		
		Planning Models		
	III	Sectoral Contribution		
		And Development Strategies		
	VI	Indian Economic Planning, Trade And	_	
		Development		
	I	International Trade and Finance		
Course Code	Unit	Topics	Credits	L/Week
PGBECO402	Ι	Balance Of Payments		
PGDECO402	II	The Goods Market In The Open Economy	6	5
	III	Foreign Exchange Market And Exchange Rates		
	VI	International Capital Movements		
	1	Public Economics		
Course Code	Unit	Topics	Credits	L/Week
PGBECO403	Ι	Public Debt	6	5
r OBECO403	II	Impacts And Incidence Of Taxes		5
	III	Fiscal Federalism	_	
	VI	Recent Developments	_	
	1	Foreign Exchange Market		
Course Code	Unit	Topics	Credits	L/Week
PGBECO404	Ι	Introduction	6	5
	II	Exchange Rate Mechanism		
	III	Foreign Exchange Transactions		

VI	Risk Management	

## **Teaching Pattern**

1. For PGBECO301 to PGBECO304 and PGBECO401 to PGBECO404 five lectures per week per course. Each lecture should be of one-hour duration.

# SEMESTER III PGBECO301 Economics of Growth and Development I

**Total Marks: 100**(Theory 60 and CIE 40) **Workload:** 4 Lectures **Credit:** 6 **Duration:** 48 Hrs. **Examination:** 2 Hrs

Course Outcomes: Upon successful completion of this course, students will be able to:

- **CO1:** Evaluate theories of development and understand the concept economic growth and development. (5&2)
- CO2:Understand the concept of HDI and analyse importance of industry in economic Development. (2&4)
- **CO3:** Express the role of social policies and compare among the Government policies for economic growth and development. (2)
- **CO4:** Explain the need of economic growth in the economy. (4)
- **CO5:**Examine the role of monetary policies. (3)
- **CO6:** Identify the need of investment in less developed Countries.(1)
- CO7: Managing the model of complementary between Agriculture and industry. (6)

\*Note: [CO1]: Remembering, [CO2]: Understanding, [CO3]: Applying, [CO4]: Analyzing, [CO5]: Evaluating, [CO6]: Creating

# Module I: INTRODUCTION

- 1.1 Development and underdevelopment ñ perpetuation of under development absolute and relative
- 1.2 Human development index and other indices of development and quality of life Food security, education, health and nutrition
- 1.3 Human resource development ñ population problem and growth pattern of population. Population, poverty and environment

# Module II: THEORIS OF DEVELOPMENT

- 2.1 Theories of development ñ classical theory of development -Karl Marx's theory of developmenttheory of social change- Immutable laws of capitalist development ñ crisis in capitalism-
- 2.2 Schumpeter and capitalist development-
- 2.3 Kremer's O-ring theory of economic development

# Module III: APPLICATIONS OF DEMAND AND SUPPLY ANALYSIS

- 3.1 Importance of industry in economic development
- 3.2 The model of complementarities between agriculture and industry
- 3.3 Rationale and pattern of industrialization in developing countries
- 3.4 The choice of technology and appropriate technology infrastructure and its importance

## Module IV: LESS DEVELOPED COUNTRIES AND DEVELOPMENT

- 4.1 Need for investment criteria in less developed countries; present vs. future growth; Alternative investment criteria; cost ñ benefit analysis-
- 4.2 Role of monetary and fiscal policies in developing countries
- 4.3 WTO and developing countries.

## **REFERENCES:**

1) Adelman I. (1961) Theories of Economic development, Stanford University Press.

2) Behrman S. and T.N. Srinivasan (1965), Handbook of Development economics, Vol.3, Elsevier, Amesterdam.

3) Brown M. (1966), On the Theory and Measurement of Technical Change, Cambridge University, Press, Cambridger, Mass.

4) Chenary H.B. and T. N. Srinivasan, (Eds.), (1989), Handbook of Development Economics, Vol.1& 2,

5) Chenery, H. and T. N. Srinivasan (Eds.) (1989), Handbook of Development Economics, Vols. 1 & 2, Elsevier, Amsterdam.

28

6) Dasgupta, P. (1993), An Enquiry into Well-being and Destitution, Clarendon Press, Oxford.7) Ghatak, S. (1986), An Introduction to Development Economics, Allen and Unwin, London.

8) Gilliis, M. D. H. Perkins, M. Romer and D. R. Snodgrass (1992), Economics of Development, (3rd Edition), W. W. Norton, New York.

9) Hogendorn, J. (1996), Economic Development, Addison, Wesley, New York.

10) Kindleberger, C.P. (1977), Economic Development, (3rd Edition), McGraw Hill, New York.

11) Meier, G. M. (1995), Leading Issues in Economic Development, (6th Edition), Oxford University Press, New Delhi.

12) Myint, H. (1971), Economic Theory and Underdeveloped Countries, Oxford University, New York.

13) Myint, Hla (1965), The Economics of Underdeveloped Countries, Preager, New York.

14) Thirwas, A. P. (1999), (6th Edition), Growth and Development, Macmillan, U.K.

15) Todaro, M. P. (1996), (6th Edition), Economic Development, Longman, London

#### PGBECO301 ECONOMICS OF GROWTH AND DEVELOPMENT I

Course Outcomes: Upon successful completion of this course, students will be able to:

**CO1:** Evaluate theories of development and understand the concept economic growth and development. (5&2)

**CO2:**Understand the concept of HDI and analyse importance of industry in economic Development.

(2&4)

**CO3:** Express the role of social policies and compare among the Government policies for economic

growth and development. (2)

CO4: Explain the need of economic growth in the economy. (4)

**CO5:**Examine the role of monetary policies. (3)

**CO6:** Identify the need of investment in less developed Countries.(1)

CO7: Managing the model of complementary between Agriculture and industry. (6)

\*Note: [CO1]: Remembering, [CO2]: Understanding, [CO3]: Applying, [CO4]: Analyzing,

[CO5]: Evaluating, [CO6]: Creating

ICT Tools Used: Videos, PPT, Pen-Tablet

Students Centric Methods: Problem Solving and Participative (Participative, Problem Solving) Links: SWAYAM / MOOCS:

	The CO-PO Mapping Matrix													
CO\P O	PO1	PO 2	PO3	PO4	PO5	PO6	PO7	PO8	PO9					
CO1	3	-	2	-	-	-	-	1	-					
CO2	2	-	3	1	-	-	3	1	-					
CO3	1	-	1	-	-	-	1	2	-					
CO4	1	-	1	-	-	-	1	2	-					
CO5	2	-	3	2	-	1	2	1	1					

CO6	2	1	1	1	-	-	-	-	-
<b>CO7</b>	2	-	3	2	-	-	-	1	-

\*In CO-PO Mapping Matrix: a correlation is established between COs and POs in the scale of 1 to 3, 1 being the slight (low), 2 being moderate (medium), 3 being substantial (high) and '-' indicate there is no correlation in respective CO and PO.

## PGBECO302 INTERNATIONAL TRADE AND FINANCE

Total Marks: 100 (Theory 60 and CIE 40)

Workload: 5 Lectures Credit: 6

Duration: 48 Hrs Examination: 2 Hrs

Course Outcomes: Upon successful completion of this course, students will be able to:

- CO1: Understand the concept of classical theory, Modern theory of international Trade. (2)
- CO2: Analyse Factor Price Equalization and outlining the Leontief's Paradox. (4&1)
- CO3: Analyse the Offer curve with Terms of Trade. (4)
- **CO4:** Distinguish the Technological Gap and Product Cycle and applying the Environmental Standards and Trade. (4&3)
- **CO5:** Understand the concept of Free Trade, its advantages & disadvantages.(2)
- **CO6:** Evaluating the various instruments of Trade policy and selecting the International Cartels for International Trade. (5&1)

\*Note: [CO1]: Remembering, [CO2]: Understanding, [CO3]: Applying, [CO4]: Analysing, [CO5]: Evaluating, [CO6]: Creating

# Module I: Classical Theories of trade

- 1.1 Adam Smith's Absolute Cost Difference Theory
- 1.2 Ricardo's Comparative Cost Difference Theory.
- 1.3 Haberler's Opportunity Cost version
- 1.4 Taussig's Comparative Cost doctrine expressed in terms of money.
- 1.5 Pro-Trade, Anti Trade and Neutral trade growth

# Module II Modern Theories of trade

- 2.1 Heckscher- Ohlin Theory- Factor Endowment Theory
- 2.2 Factor Price Equalization- Graphical demonstration
- 2.3 Lerner's Illustration of Factor, Price Equalisation
- 2.4 Leontief's Paradox
- 2.5 The Stolper- Samuelson Theorem
- 2.6 The Linder Theory-
- 2.7 Rybczynsik Theorem

# **Module III Developments in Trade Theories**

- 3.1 Offer Curve and Terms of Trade
- 3.2 Prebisch Singer Thesis
- 3.3 Product differentiation and trade;
- 3.4 Technological Gap and Product Cycle
- 3.5 Environmental Standards and Trade

# Module VI: Trade Policy

- 4.1 Free vs. protective trade policy-arguments in favor and against
- 4.2 Instruments of trade Policy: Tariffs- Meaning, types and effects 4.3Quotas-Meaning, types and effects- Tariffs and quotas comparison
- 4.3 Dumping and subsidies
- 4.4 International Cartels and VER

4.5 Technical standards, Administrative and other regulations.

# References

1) Bhagwati, J. (Ed.) (1981), International Trade, Selected Readings, Cambridge University Press, Massachusett

2) Carbough, R. J. (1999), International Economics, International Thompson Publishing, New York.

3) Chacholiades, M. (1990), International Trade: Theory and Policy, McGraw Hill Kogakusha, Japan.

4) Dana, M.S. (2000), International Economics: Study, Guide and work Book(5th Edition), Routledge Publishers ,London.

5) Krugman, P. R. and M. Obstfeld (1994), International Economics Theory and Policy, Glenview Foresman

6) Salvatore, D. (1997), International Economics, Prentice Hall, Upper Saddle River N. J. New York

7) Soderstron, Bo (1991), International Economics, The Macmillan Press Ltd London

8) Mithani D.M. (1997), International Economics, Himalaya publishing House, Mumbai

# PGBECO302 INTERNATIONAL TRADE AND FINANCE

**Course Outcomes**: After successful completion of this course, students will be able to:

**CO1:** Understand the concept of classical theory, Modern theory of international Trade. (2)

CO2: Analyse Factor Price Equalization and outlining the Leontief's Paradox. (4&1)

CO3: Analyse the Offer curve with Terms of Trade. (4)

**CO4:** Distinguish the Technological Gap and Product Cycle and applying the Environmental Standards

and Trade. (4&3)

**CO5:** Understand the concept of Free Trade, its advantages & disadvantages.(2)

CO6: Evaluating the various instruments of Trade policy and selecting the International Cartels for

## International Trade. (5&1)

\*Note: [CO1]: Remembering, [CO2]: Understanding, [CO3]: Applying, [CO4]: Analysing, [CO5]: Evaluating, [CO6]: Creating

ICT Tools Used: Videos, PPT, Pen-Tablet

Students Centric Methods: Problem Solving and Participative (Participative, Problem Solving) Links: SWAYAM / MOOCS:

	The CO-PO Mapping Matrix												
CO\P O	PO1	PO 2	PO3	PO4	PO5	PO6	PO7	PO8	PO9				
CO1	3	1	2	1	1	1	1	1	-				
CO2	2	2	3	2	1	1	1	1	-				
CO3	3	2	2	1	1	1	1	1	-				
CO4	3	1	2	1	1	1	1	1	-				
CO5	3	2	3	2	1	1	1	1	-				
CO6	3	1	3	2	1	1	1	1	_				
CO7	3	2	3	2	2	1	1	1	_				

**In CO-PO Mapping Matrix:** a correlation is established between COs and POs in the scale of 1 to 3, 1 being the slight (low), 2 being moderate (medium), 3 being substantial (high) and '-' indicate there is no correlation in respective CO and PO.

## PGBECO303 Public Economics

Total Marks: 100 (Theory 60 and CIE 40)

Workload: 5 Lectures Credit: 6

**Duration:** 48 Hrs **Examination**: 2 Hrs

Course Outcomes: Upon successful completion of this course, students will be

**CO1:**Understand the concept of Public Finance, its functions, scope and its rational with respect to maximum social benefit.[2]\*

CO2: Analyse the concept of market failure, causes and measures [4]\*

CO3: Compare and analyse the private and public goods. [2&4]\*

CO4: Understand the concept of public revenue and its sources for various governments and

their utilization. [2]\*

**CO5:** Evaluate the Wagner's Law of Public Expenditure & Wiseman-Peacock Hypothesis.[5]\* **CO6:** Understand concept, objectives and instruments of the fiscal policy [2]\*

\*Note: [CO1]: Remembering, [CO2]: Understanding, [CO3]: Applying, [CO4]: Analysing, [CO5]: Evaluating, [CO6]: Creating

# Module I: INTRODUCTION

- 1.1 Public Finance: Introduction, Scope
- 1.2 Economic Rationale of the government: Fiscal Function of the government
- 1.3 Market failures: Meaning, Causes and Role of Government to correct market failure
- 1.4 Private Goods and Public Goods
- 1.5 Maximum Social Benefit Principle (Dalton and Musgrave's Approach)

# Module II: PUBLIC REVENUE

- 2.1 Revenues of the Central Government
- 2.2 Constitutional Provisions for Taxation
- 2.3 Tax Revenue and Non- Tax Revenue of the Central Government.
- 2.4 Revenue Sources and responsibilities of the Central Government.
- 2.5 Revenue Sources and responsibilities of the State Government.

# Module III: PUBLIC EXPENDITURE (12)

- 3.1 Public Expenditure: meaning and types, classical and modern views.
- 3.2 The Wagner's Law of Public Expenditure
- 3.3 Wiseman-Peacock Hypothesis
- 3.4 Structure and growth of Public expenditure in India.
- 3.5 Economic Effects of Public expenditure
- 3.6 Causes of increasing Public Expenditure in India

# Module VI: FISCAL POLICY (12)

- 4.1 Meaning and objectives of fiscal policy
- 4.2 Instruments of fiscal policy
- 4.3 Macroeconomic effects of fiscal deficits
- 4.4 The concepts of Fiscal deficit, Revenue deficit, Primary deficit and its trend since 1991, Fiscal Responsibility and Budget Management Act. 2003

## PGBECO303 Public Economics

Course Outcomes: After successful completion of this course, students will be able to:

**CO1:**Understand the concept of Public Finance, its functions, scope and its rational with respect to maximum social benefit.[2]\*

CO2: Analyse the concept of market failure, causes and measures [4]\*

CO3: Compare and analyse the private and public goods. [2&4]\*

- **CO4:** Understand the concept of public revenue and its sources for various governments and their utilization. [2]\*
- CO5: Evaluate the Wagner's Law of Public Expenditure & Wiseman-Peacock Hypothesis.[5]\*CO6: Understand concept, objectives and instruments of the fiscal policy [2]\*

\*Note: [1]: Remembering, [2]: Understanding, [3]: Applying, [4]: Analyzing, [5]: Evaluating, [6]: Creating

ICT Tools Used: Videos, PPT, Pen-Tablet

Students Centric Methods: Economic Problem Solving and Participative (Experimental, Participative, Problem Solving) Links: SWAYAM / MOOCS:

# **The CO-PO Mapping Matrix**

CO\P O	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	-	2	1	-	-	-	-	-
CO2	3	-	1	1	1	-	-	-	-
CO3	2	-	2	1	1	-	-	-	-
CO4	2	-	1	2	-	-	-	-	-
CO5	3	-	1	-	-	-	2	-	-

**\*In CO-PO Mapping Matrix:** a correlation is established between COs and POs in the scale of 1 to 3, 1 being the slight (low), 2 being moderate (medium), 3 being substantial (high) and '-' indicate there is no correlation in respective CO and PO.

## PGBECO305

#### **Mathematics for Business Economics**

Total Marks: 100 (Theory 60 and CIE 40)
Workload: 5 Lectures Credit: 6
Duration: 48 Hrs Examination: 2 Hrs
Course Outcomes: After successful completion of this course, learners will be able to:
CO1: Understand concept of Set function limit continuity and derivative.
CO2: Find the Cartisition product of sets and examine function.
CO3: Solves problems on Limit, Continuity and apply to Derivative.
CO4: Evaluate determinants and Matrices
CO5: Find optimization solution of LPP using different methods
CO6: Describe Differentiate types of Matrices.

# Semester III Course –: Mathematics for Business Economics Course Code: PGBECO305

## **Contact Hours 48 + Notional Hours 12= Total hours 60**

#### Module- I: Set, Functions and limit 12 Hrs.

Sets, subsets, Set operations, the laws of set theory, and Venn diagrams. Examples of finite and infinite sets, Finite sets and counting principle, The empty set, properties of an empty set, Standard set operations, Cartesian product of sets, relation, the concept of functions. Limits of a function

# Module- II Continuity, Derivative and its applications 12 Hrs.

Continuity and slope of function, a derivative of one variable, notation of derivative and Rules derivatives, chain rule, higher-order derivatives. Meaning and rules of differentiation, Elasticity of demand and supply, Market equilibrium, Marginal cost and average cost functions, Marginal revenue and average revenue function Differential equations: Solution of first order and second order differential equations

#### Module- III Determinants and Matrices 12 Hrs.

Determinants: Introduction, properties of determinants, Cramer's rule. Matrices: Order of a matrix, Types of matrices, Addition of matrices, Multiplication of a matrix by a scalar, Transpose of a Matrix, inverse of matrix.

#### Module- IV Linear Programming 12 Hrs.

Linear programming: Basic concept, Nature of feasible, basic and optimal solution Solution of linear programming problem through graphical and simplex method. Concept of a game; Two-person Zero-sum game and value of a game Strategies- simple and mixed; Dominance rule; Solution of a game by linear programming. Forecasting methods: least square method, moving average.

## **References:**

1. Sheldon M. Ross, An Introduction to Mathematical Finance, Cambridge press – 1999

2. Mathematics for Economics by Michael Hoy etal, PHI, New Delhi.

3. Quantitative Methods for Business and Economics by Adil H. Mouhammed, PHI, New Delhi.

4. Quantitative Methods by D.R. Aggarwal

5. Basic Mathematics for Economists by R.C. Joshi, New Academic Publishing

6. Miller, R.E. and P.D. Blair Input-Output Analysis: Foundations and Extensions.

Prentice-Hall, Englewood Cliffs, New Jersey.

7. Proops, J., Faber, M. and Wagenhals, G. Reducing CO2 Emissions: A Comparative Input-Output Study for Germany and the UK, Springer-Verlag, Heidelberg.

8. Aggarwal, H.S.: Modren Micro -Economics, Konark, New Delh.

9. Taro Yamane, Mathematics for Economists, PHI.

10. Quantitative Techniques in Management by N.D. Vohra, TMH.

11. Operations Research by R. Wagnor

12. Operations Research by Hamdy A. Taha

13. Allen R.G.D., Mathematical Analysis for Economists, Macmillan Press, London.

14. Black, J. and J.F. Bradley, Essential Mathematics for Economists, John Wiley and Sons.

15. Chiang, A.C. Fundamental Methods of Mathematical

## UGECO305 Mathematics for Business EconomicsY

#### Course Outcomes: After successful completion of this course, learners will be able to:

**CO1:** Understand concept of Set function limit continuity and derivative.

**CO2:** Find the Cartisition product of sets and examine function.

**CO3:** Solves problems on Limit, Continuity and apply to Derivative.

**CO4:** Evaluate determinants and Matrices

CO5: Find optimization solution of LPP using different methods

**CO6:** Describe Differentiate types of Matrices.

\*Note: [1]: Remembering, [2]: Understanding, [3]: Applying, [4]: Analysing, [5]: Evaluating, [6]: Creating

**ICT Tools Used:** Videos, PPT, Pen-Tablet

<u>Students Centric Methods:</u> Economic Problem Solving and Participative (Experimental, Participative, Problem Solving) Links: SWAYAM / MOOCS:

**The CO-PO Mapping Matrix** 

CO\PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	1	-	1	-	-	-	2	1	-
CO2	1	-	2	-	-	-	1	1	-
CO3	1	-	3	-	-	-	3	1	-
CO4	1	-	2	-	-	-	2	1	-
CO5	1	-	3	-	-	-	2	1	-
CO6	1	-	2	-	-	-	3	1	-

\*In CO-PO Mapping Matrix: a correlation is established between COs and POs in the scale of 1 to 3, 1 being the slight (low), 2 being moderate (medium), 3 being substantial (high) and '-' indicate there is no correlation in respective CO and PO.

# Semester IV PGBECO401

# **Economics of Growth and Development**

Total Marks: 100 (Theory 60 and CIE 40) Workload: 5 Lectures Credit: 6 Duration: 48 Hrs Examination: 2 Hrs Course Outcomes: Upon successful completion of this course, students will be

CO1: Understand basic concepts and definition related to project and project management. (2)
CO2:Understand role, responsibility develop qualities required of project manager. (2)
CO3:Prepare project reports and evaluate the same. (3&5)
CO4: Understand ethics and environmental impacts of project. (2)

CO4: Understand ethics and environmental impacts of project.

**CO5**: Learn Project Costing Monitoring and Control. (2)

\*Note: [CO1]: Remembering, [CO2]: Understanding, [CO3]: Applying, [CO4]: Analysing, [CO5]: Evaluating, [CO6]: Creating

# Module I: MACRO ECONOMIC POLICIES AND DEVELOPMENT (12)

- 1.1 Monetary policy and development
- 1.2 Fiscal Policy and development
- 1.3 Internal and External sources of finance and development
- 1.4 IMF, IBRD and development of developing countries

# Module II: DEVELOPMENT AND PLANNING MODELS (12)

2.1 Arthur Lewis, Fei-Rani's, Structuralist models,

- 2.2 Rostow's stages of growth
- 2.3 Feldman, Mahalanobis, Vahit Brahmananda, Raj-Sen, Chakravarthy, Leontief's Input-Output Model
- 2.4 Planning Techniques; Investment Criteria

#### Module III: SECTORAL CONTRIBUTION AND DEVELOPMENT STRATEGIES (12)

- 3.1 Role of Agricultural in Economic development.
- 3.2 Role of Service sector in Economic development.
- 3.3 Role of Physical Infrastructures in Economic development.
- 3.4 Neumann's growth model and modifications
- 3.5 Active and passive variables- Choice of goods and Techniques
- 3.6 Mathur's Wage Goods, Light and Heavy Strategies

## Module IV: INDIAN ECONOMIC PLANNING, TRADE AND DEVELOPMENT (12)

- 4.1 Meaning, Nature and Objectives of Indian economic planning
- 4.2 Evaluation of Planning in India.
- 4.3 12th Five year plan and recent changes.
- 4.4 Internal trade and economic development

## REFERENCES

1) Adelman I. (1961) Theories of Economic development, Stanford University Press.

2) Behrman S. and T.N. Srinivasan (1965), Handbook of Development economics, Vol.3, Elsevier, Amesterdam.

3) Brown M. (1966), On the Theory and Measurement of Technical Change, Cambridge University, Press, Cambridger, Mass.

4) Chenary H.B. and T. N. Srinivasan, (Eds), (1989), Handbook of Development Economics, Vol.1& 2,

5) Chenery, H. and T. N. Srinivasan (Eds.) (1989), Handbook of Development Economics, vols. 1 & 2, Elsevier, Amsterdam.

6) Dasgupta, P. (1993), An Enquiry into Well-being and Destitution, Clarendon Press, Oxford.

7) Ghatak, S. (1986), An Introduction to Development Economics, Allen and Unwin, London.

8) Gilliis, M. D. H. Perkins, M. Romer and D. R. Snodgrass (1992), Economics of Development, (3rd Edition), W. W. Norton, New York.

9) Hogendorn, J. (1996), Economic Development, Addison, Wesley, New York.

#### PGBECO401 ECONOMICS OF GROWTH AND DEVELOPMENT I

Course Outcomes: Upon successful completion of this course, students will be able to:

**CO1:** Understand basic concepts and definition related to project and project management. (2) **CO2:**Understand role, responsibility develop qualities required of project manager. (2)

**CO3**:Prepare project reports and evaluate the same. (3&5)

**CO4**: Understand ethics and environmental impacts of project. (2)

**CO5**: Learn Project Costing Monitoring and Control. (2)

\*Note: [CO1]: Remembering, [CO2]: Understanding, [CO3]: Applying, [CO4]: Analysing, [CO5]: Evaluating, **[CO6]**: Creating

**ICT Tools Used:** Videos, PPT, Pen-Tablet

**CO5** 

**Students Centric Methods:** Problem Solving and Participative (Participative, Problem Solving) Links: SWAYAM / MOOCS:

	The CO-PO Mapping Matrix												
CO\P O	PO1	PO 2	PO3	PO4	PO5	PO6	PO7	PO8	PO9				
CO1	3	-	2	-	-	-	-	1	-				
CO2	2	2	3	1	-	-	3	1	-				
CO3	1	-	1	-	-	-	1	2	-				
CO4	1	-	1	-	-	-	1	2	-				
CO5	2	-	3	2	-	1	2	1	1				

\*In CO-PO Mapping Matrix: a correlation is established between COs and POs in the scale of 1 to 3, 1 being the slight (low), 2 being moderate (medium), 3 being substantial (high) and '-' indicate there is no correlation in respective CO and PO.

# PGBECO402 **INTERNATIONAL TRADE AND FINANCE**

Total Marks: 100 (Theory 60 and CIE 40) Workload: 5 Lectures Credit: 6 **Duration:** 48 Hrs **Examination**: 2 Hrs Course Outcomes: Upon successful completion of this course, students will be able to: CO1:Understand the concept, structure, types, causes and disequilibrium in Balance of Payment. (2)
CO2: Analyse the Process Exchange Rate determination, hedging, speculation and arbitrage. (4)
CO3:Arguing the Import Export Functions and managing the Foreign Trade Multiplier. (5&6)
CO4: Identify the Various Economic Integration with their Benefit and Limitations.(1)
CO5:Analysis the Principles and Functions of IMF and WTO with special reference to India.(5)
CO6:Evaluate Types and Trends of International Capital Flows. (5)
CO7: Understand the concept and compare Financial Crisis, its causes and measures undertaken. (2)

\*Note: [CO1]: Remembering, [CO2]: Understanding, [CO3]: Applying, [CO4]: Analysing, [CO5]: Evaluating, [CO6]: Creating

# **Module I:Balance of Payments**

- 1.1 Balance of Payments- Meaning, Structure and Importance
- 1.2 Disequilibrium in the Balance of Payments- Kinds, Causes
- 1.3 Adjustment Process to Disequilibrium in Balance of Payments -Expenditure switching and Expenditures changing measures
- 1.4 Direct Measures
- 1.5 Rate of Exchange determination
- 1.6 Hedging, Speculation and Arbitrage

# Module II The Goods Market in the Open Economy

- 2.1 Import and Export Function
- 2.2 Foreign Trade Multiplier.
- 2.3 Equilibrium output and the trade Balance
- 2.4 The Real exchange Rate, Trade Balance and output
- 2.5 Fiscal and exchange rate policy with a fixed Exchange Rate

# Module III Economics of Integration and International Institutions

- 3.1 Forms and Benefits of Economic Integration;
- 3.2Theory of Customs Union; Regional Trade Agreements- EU and BREXIT, SAARC,BRICS, OPEC, ASEAN-
- 3.3 Multilateral Institutions-IMF and WTO

# Module VI:INTERNATIONAL CAPITAL MOVEMENTS

- 4.1 International Capital Flows: Types and Trends.
- 4.2 Motives for capital flows.
- 4.3 Effects of international Capital Flows
- 4.4 Dutch disease. Advantages and Disadvantages of MNC- transfer pricing

Asian crisis-Global Financial Crisis-Euro Crisis.

## **BASIC READING LIST:**

 Bhagwati, J. (Ed.) (1981), International Trade, Selected Readings, Cambridge University Press, Massachusetts
 Carbough, R. J. (1999), International Economics, International Thompson Publishing, New York.
 Chacholiades, M. (1990), International Trade: Theory and Policy, McGraw Hill Kogakusha, Japan
 Dana, M.S. (2000), International Economics: Study, Guide and work Book (5th Edition), Routledge Publishers, London.
 Krugman, P. R. and M. Obstfeld (1994), International Economics Theory and Policy, Glenview Foresman
 Salvatore, D. (1997), International Economics, Prentice Hall, Upper Saddle River N. J. New

6) Salvatore, D. (1997), International Economics, Prentice Hall, Upper Saddle River N. J. New York

7) Soderstron, Bo (1991), International Economics, The Macmillan Press Ltd London

8) Mithani D.M. (1997), International Economics, Himalaya publishing House, Mumbi

# PGBECO302 INTERNATIONAL TRADE AND FINANCE

**Course Outcomes**: After successful completion of this course, students will be able to:

CO1:Understand the concept, structure, types, causes and disequilibrium in Balance of Payment. (2)

CO2: Analyse the Process Exchange Rate determination, hedging, speculation and arbitrage. (4)

CO3: Arguing the Import Export Functions and managing the Foreign Trade Multiplier. (5&6)

**CO4:** Identify the Various Economic Integration with their Benefit and Limitations.(1)

CO5: Analysis the Principles and Functions of IMF and WTO with special reference to India.(5)

CO6: Evaluate Types and Trends of International Capital Flows. (5)

CO7: Understand the concept and compare Financial Crisis, its causes and measures undertaken. (2)

\*Note: [CO1]: Remembering, [CO2]: Understanding, [CO3]: Applying, [CO4]: Analysing, [CO5]: Evaluating, [CO6]: Creating

**ICT Tools Used:** Videos, PPT, Pen-Tablet

Students Centric Methods: Problem Solving and Participative (Participative, Problem Solving)

Links: SWAYAM / MOOCS:

	The CO-PO Mapping Matrix											
CO\P O	PO1	PO 2	PO3	PO4	PO5	PO6	PO7	PO8	PO9			
CO1	3	1	2	1	1	1	-	-	-			
CO2	2	2	3	2	1	1	-	-	-			
CO3	3	2	2	1	1	1	-	-	-			
CO4	3	1	2	1	1	1	-	-	-			
CO5	3	2	3	2	1	1						
CO6	3	1	3	2	1	1						
<b>CO7</b>	3	2	3	2	2	1						

**\*In CO-PO Mapping Matrix:** a correlation is established between COs and POs in the scale of 1 to 3, 1 being the slight (low), 2 being moderate (medium), 3 being substantial (high) and '-' indicate there is no correlation in respective CO and PO

# PGBECO403 Public Economics

Total Marks: 100 (Theory 60 and CIE 40)

Workload: 5 Lectures Credit: 6

**Duration:** 48 Hrs **Examination**: 2 Hrs

Course Outcomes: Upon successful completion of this course, students will be

**CO1:**Understand the concept of public debt, sources, burden, classical and modern views on Public debt.[2]\*

**CO2:**Analyse the relationship between public borrowing and inflation. [4]\*

**CO3:**Analyse the concepts of Impact, shifting and incidence of taxes [4]

**CO4:** Understand and evaluate the concentration theory, diffusion theory and the modern theories of shifting.  $[2 \& 5]^*$ 

CO5: Arguing the concepts of fiscal federalism and vertical imbalance. [5]\*

CO6: Evaluate the working of fincance commission and their recommendations. [5]\*

CO7: Evaluate and compare recent features of Indian economy [5&2]\*

\*Note: [CO1]: Remembering, [CO2]: Understanding, [CO3]: Applying, [CO4]: Analysing, [CO5]: Evaluating, [CO6]: Creating

## Module I: PUBLIC DEBT (12)

- 1.1 Classical and modern views on Public debt
- 1.2 Sources and types of Public debt
- 1.3 Burden of public debt
- 1.4 Public borrowings and price level
- 1.5 Principles of public debt management and repayment

# Module II: IMPACTS AND INCIDENCE OF TAXES (12)

- 2.1 Meaning of Impact, shifting and incidence of taxes
- 2.2 Distinction between Impact and Incidence of taxation
- 2.3 Theories of shifting:
  - A. The concentration theory
  - B. The diffusion theory
  - C. The modern theory

2.4 The factors affecting on incidence of tax- Elasticity of demand and supply and market conditions

# Module III: FISCAL FEDERALISM (12)

- 3.1 Fiscal federalism in India
- 3.2 Vertical and horizontal imbalance
- 3.3 Finance commission: Fourteenth Finance Commission, central state conflicts on finances
- 3.4 Overview of Local Finances: Municipal Corporations, Municipalities and Nagar Panchyats
- 3.5 Finances of Village Panchyats, Panchyat Samities and Zila Parishads

# Module VI: RECENT DEVELOPMENTS (12)

- 4.1 Goods and Services Tax:
- 4.2 An analysis
- 4.3 Salient Features of Indian Economy (Latest Economic Survey GOI)
- 4.4 NITI Aayog
- 4.5 Perspective on Universal Basic Income
- 4.6 Current Union Budget

## PGBECO403 Public Economics

Course Outcomes: After successful completion of this course, students will be able to:

**CO1:**Understand the concept of public debt, sources, burden, classical and modern views on Public debt.[2]\*

**CO2:**Analyse the relationship between public borrowing and inflation. [4]\*

CO3: Analyse the concepts of Impact, shifting and incidence of taxes [4]

CO4: Understand and evaluate the concentration theory, diffusion theory and the modern theories of

shifting. [ 2 & 5]\*
CO5: Arguing the concepts of fiscal federalism and vertical imbalance. [5]\*
CO6: Evaluate the working of fincance commision and their recommendations. [5]\*
CO7: Evaluate and compare recent features of Indian economy [5&2]\*

\*Note: [1]: Remembering, [2]: Understanding, [3]: Applying, [4]: Analyzing, [5]: Evaluating, [6]: Creating

**ICT Tools Used:** Videos, PPT, Pen-Tablet

Students Centric Methods: Economic Problem Solving and Participative (Experimental, Participative, Problem Solving)

# Links: SWAYAM / MOOCS:

The CO-PO Mapping Matrix										
CO\P O	PO1	PO2	PO3	PO4	PO5	PO6	PO 7	PO8	PO9	
CO1	2	-	2	1	-	-	-	-	-	
CO2	3	-	1	1	1	-	-	-	-	
CO3	2	-	2	1	1	-	-	-	-	
CO4	2	-	1	2	-	-	-	-	-	
CO5	3	-	1	-	-	-	2	-	-	
CO6	2	-	1	2	-	-	-	-	-	
CO7	3	-	1	1	1	-	-	-	-	

**\*In CO-PO Mapping Matrix:** a correlation is established between COs and POs in the scale of 1 to 3, 1 being the slight (low), 2 being moderate (medium), 3 being substantial (high) and '-' indicate there is no correlation in respective CO and PO.

# UGECO405 FOREIGN EXCHANGE MARKET

**Total Marks: 100**(Theory 60 and CIE 40) **Workload:** 4 Lectures (Per week per Batch) **Credit:** 4 **Duration:**48 Hrs. **Examination:** 2 Hrs. **Course Outcomes:** After successful completion of this course, students will be able to:

**CO1:** Understand foreign exchange market and related concepts, market structure, transactions and its use.

**CO2**: Analyse and demonstrate knowledge of the foreign exchange market transactions, exchange rate mechanism and exchange risk in economics.

CO3: Evaluate repercussions of changes in foreign exchange rate on economy.

CO4: Identify risks associated & amp; ways to minimize it.

\*Note: [1]: Remembering, [2]: Understanding, [3]: Applying, [4]: Analysing, [5]: Evaluating, [6]: Creating

# MODULE I Introduction

1.1 Foreign Exchange Market - Definitions and Functions.

- 1.2 Structure Of Foreign Exchange Market: Market Segments & Market Players
- 1.3 Features & Significance of Foreign Exchange Market
- 1.4 Constituents Of Foreign Exchange Market- Central Bank, Commercial Banks, Non-Bank Financial Institutions, Individuals & Firms, Speculators, Arbitrageurs, Forex Dealers, Forex Brokers

# **MODULE II: Exchange Rate Mechanism**

- 2.1 Determination Of Equilibrium Rate of Exchange: Introduction, Equilibrium Exchange Rate, Demand, Supply, Changes in Exchange Rate Factors Affecting Responsible for Change In Exchange Rate.
- 2.2 Purchasing Power Parity: Absolute and Relative Version, Balance of Payments and Forex Rate, International Capital Movements and Its Effects On BOP, Fixed and Flexible Exchange Rate, Managed Flexible Exchange Rate System,
- 2.3 Exchange Rates, Official and Free Market Rates
- 2.4 Relation Between Rate of Interest and Foreign Exchange Rate, Covered and Uncovered Interest Rate, Convertibility of Rupees on Current and Capital Account

# **MODULE III: Foreign Exchange Transactions**

- 2.1 Spot And Forward Transactions- Meaning & Features
- 2.2 Financial Derivatives- Swaps, Options and Futures
- 2.3 Hedging- Meaning, Types, Strategies & It's Working
- 2.4 Arbitrage- Meaning, Types, Working and Necessary Conditions
- 2.5 Speculations Meaning, Types and Transactions

# **MODULE VIRisk Management**

- 4.1 Nature of Risk in Foreign Exchange Market
- 4.2 Foreign Exchange Settlement Exposure and Foreign Exchange Settlement Risk
- 4.3 Types of Risks in Foreign Exchange Market –Market Risk, Credit Risk, Liquidity Risk, Replacement Risk, Interest Rate Risk, Operational Risk, Systemic Risk, Legal Risk, Sovereign Risk.

4.5 Role of RBI In Foreign Exchange Market in India; Developments Since 1991

# References

- 1. Anthony Steve (2002) 'Foreign Exchange in Practice: the New Environment' Palgrave
- 2. Brandl Michael (2019) 'Money, Banking, Financial Markets and Institutions' Cengage Learning
- 3. Bhole, L. M., Jitendra Mahakud (2017) 'Financial Institutions and Markets' Tata McGraw Hill, ND

# (12 Hours)

# (12 Hours)

# (12 Hours)

- 4. Fabozzi Frank J., Steven V. Mann, Moorad Choudhry (2002) 'The Global Money Markets' John Wiley & Sons
- 5. Frederic Mishkin and Stanley Eakins (2006) 'Financial Markets and Institutions', Pearson 5th Edition
- 6. Frederic Mishkin (2019) 'The Economics of Money, Banking and Financial Markets' Pearson Education India, 11th edition
- 7. Luca Cornelius (2007) 'Trading in Global Currency Markets' Penguin, USA
- 8. Madura Jeff (2014) 'Financial Institutions and Markets' Cengage
- 9. Gupta SL (2017) 'Financial Derivatives- Theory, Concept and Problems' PHI Learning
- 10. Srivastava Rajeev (2014) 'Derivatives and Risk Manag

# UGECO404 Foreign Exchange Market

Course Outcomes: After successful completion of this course, students will be able to:

**CO1:** Understand foreign exchange market and related concepts, market structure,

transactions and its use.

**CO2**: Analyse and demonstrate knowledge of the foreign exchange market transactions, exchange rate mechanism and exchange risk in economics.

**CO3:** Evaluate repercussions of changes in foreign exchange rate on economy.

CO4: Identify risks associated & amp; ways to minimize it.

\*Note: [1]: Remembering, [2]: Understanding, [3]: Applying, [4]: Analysing, [5]: Evaluating, [6]: Creating

**<u>ICT Tools Used:</u>** Videos, PPT, Pen-Tablet

<u>Students Centric Methods:</u> Economic Problem Solving and Participative (Experimental, Participative, Problem Solving) <u>Links: SWAYAM / MOOCS</u>:

	The CO-PO Mapping Matrix										
CO\PO	PO1	PO2	PO3	PO 4	PO5	PO6	PO7	PO8	PO9		
CO1	3	-	1	-	-	-	2	-	-		
CO2	3	-	2	-	1	-	1	-	-		
CO3	3	-	2	-	1	1	3	-	-		
CO4	3	-	1	-	-	-	2	-	-		

**\*In CO-PO Mapping Matrix:** a correlation is established between COs and POs in the scale of 1 to 3, 1 being the slight (low), 2 being moderate (medium), 3 being substantial (high) and '-' indicate there is no correlation in respective CO and PO.

## SCHEME OF EXAMINATION

# For UGECO301 to UGECO305 and UGECO401 to UGECO405 (Semester V & VI) Scheme of Examination:

The performance of the learners shall be evaluated in to two parts. The learner's performance shall be assessed by Internal Assessment with 40% marks in the first part by conducting the Semester End Examinations with 60% marks in the second part. The allocation of marks for the Internal Assessment and Semester End Examinations are as shown below: -

## A) Continues Internal Evaluation: 40 Marks (40%)

Sr. No	Evaluation type	Marks
1	Test	20
2	Open book test/online test/Project/survey	10
3	Assignment/case studies/Viva-Voce/Presentation	10

#### B) Semester End Examination: 60 Marks (60%)

#### **Question Paper Pattern Semester End Examination**

Note:	1. All questions are <b>COMPULSORY</b>						
3. ]	Each question carries 15 marks. Draw neat diagrams wherever necessary ny Two of the following [Module 1]	15					
A B C							
<b>Q.2</b> Answer Any Two of the following [Module 2]							
A B C							
Q.3 Answer A	ny Two of the following [Module 3]	15					
A B C							
Q.4 Answer A	ny Two of the following [Module 4]	15					