

# **CURRICULUM & SYLLABUS**

**SRM University Delhi-NCR, Sonapat, Haryana**

**Faculty of Science & Humanities**

**Department of Economics**



**FOUR YEAR UNDEGRADUATE PROGRAMME**

**IN THE DEPARTMENT OF ECONOMICS**

**IN ALIGNMENT WITH NEP-2020 (UGC Guidelines)**

**w.e.f. Academic Year 2025-26**

## **SRM UNIVERSITY DELHI-NCR, SONEPAT (HARYANA)**

### **VISION**

SRM University Haryana aims to emerge as a leading World Class Institution that creates and disseminates knowledge upholding the highest standards of instruction in Engineering & Technology, Science & Humanities, Commerce, Management, Hotel Management & Medicine & Health Science. Along with academic excellence, our curriculum imparts integrity and social sensitivity so that our graduates may best serve the Nation and the World.

### **MISSION**

- To create a diverse community campus that inspires freedom and innovation.
- Strengthen Excellence in educational & skill development processes
- Continue to build productive international alliances
- Explore optimal development opportunities available to students and faculty
- Cultivate an exciting and rigorous research environment

## **HUMANITIES GRADUATE EMPLOYABILITY ATTRIBUTES**

Successful completion of an undergraduate programme in Economics (H.) will endow the learners/aspirants with the following attributes:

- Sound knowledge and understanding of the domain
- Critical thinking, analytical mind and decision-making mindset
- Originality and creativity in formulating, evaluating and applying evidence-based arguments
- Ability to identify and draw synergy between/among events and/or aspects/theories to provide a wider, deeper and critical understanding and solution to problems
- Advanced communication skills – Reading, Writing, Speech & thoughts
- Thorough understanding of socio-political and historical context of significant events, theories and movements

### **DEPARTMENT OF ECONOMICS**

#### **Programme Educational Objectives (PEOs)**

1. To make students familiar with economic theories and their relevance, econometrics models, quantitative techniques and applied research in a wide variety of fields within economics.
2. To impart in-depth knowledge to students about economic theory regarding utilization and allocation of resources including labour, natural resources and capital.
3. To develop students' understanding about how market for goods and services function and how income is generated and distributed.
4. To know how the economy is influenced by economic policy, technological advances and demographic conditions and to keep them updated with current affairs including Economic Survey, Budget and RBI's Bi-monthly Monetary Policy.
5. To give students in-depth knowledge into special fields of choice like agricultural economics, industrial economics, health economics, financial market, development economics, international trade, urban economics, econometrics, mathematical economics etc.

## Programme Learning Outcomes (PLOs)

After having completed the 4-years undergraduate degree in B.A. (Hons.) in Economics, the students would be:

1. able to understand and demonstrate basic concepts and their relevance.
2. fluent with basics of statistical and econometrics tools and techniques to be further used in research.
3. comfortable with how markets work and to apply basic mathematical and optimization techniques.
4. understand structure of Indian economy, issues facing Indian economy and demography and be updated with current affairs.
5. well-versed with different domains of Economics and their key aspects and applications.

### PEO - PLO Mapping Matrix

Programme Learning Outcomes →	Learning	PLO-1	PLO-2	PLO-3	PLO-4	PLO-5
Programme Educational Objectives ↓	Educational					
PEO-1						
PEO-2						
PEO-3						
PEO-4						
PEO-5						

## PROGRAMME STRUCTURE

<b>4 Year UG Courses Programme Credit Structure in alignment with NEP-2020 in SRMUH w.e.f. Academic Year 2023-24</b>				
<b>Faculty of Science &amp; Humanities</b>				
<b>S. No.</b>	<b>Course Category</b>	<b>Abbreviation</b>	<b>Credit Requirement in SRMUH</b>	
			<b>3 Year UG</b>	<b>4 Year UG</b>
1	Major Courses	DSC/Interdisciplinary Courses (IDC)	72	96
2	Minor Stream Courses	Interdisciplinary Courses (IDC)/DSE	28	28+12*
3	Multidisciplinary Courses	MDC	9	9
4	Ability Enhancement Courses	AEC	8	8
5	Skill Enhancement Courses	SEC	10	10
6	Value Added Courses	VAC	6	6
7	Live Projects/Vocational Courses/Summer Internship	LP/VC/SIP*	12	12
8	Research Project/Dissertation	RP/Dissertation**	0	12**
	<b>TOTAL</b>		<b>145</b>	<b>181</b>
<p><b>*Students pursuing Honours will do 3 courses for 12 Credit in lieu of a Research Project/Dissertation.</b></p> <p><b>**Students pursuing Honours with Research would complete 12 Credits of Research/Dissertation.</b></p>				

## PROGRAMME CREDIT STRUCTURE

<b>Four Year Under Graduate Programme Credit Structure Semester wise in alignment with NEP-2020 in SRMUH w.e.f. Academic Year 2023-24</b>										
<b>Department of Economics</b>										
<b>Semester</b>	<b>Broad Category of Courses</b>								<b>Total Credits</b>	<b>Remarks</b>
	<b>Major</b>	<b>Minor</b>	<b>Multidisciplinary</b>	<b>AEC</b>	<b>SEC</b>	<b>VAC</b>	<b>RP/Dissertation</b>	<b>Live Projects/Vocational Courses/Summer Internship</b>		
<b>I</b>	8	4	3	2	2	2	*		21	<b>Certificate: 46 Credits</b>
<b>II</b>	8	4	3	2	2	2	*	4	25	
<b>III</b>	12	4	3	2	2	*	*		23	<b>Diplo ma: 95 Credits</b>
<b>IV</b>	12	4	*	2	2	2	*	4	26	
<b>V</b>	16	8	*	*	2	*	*		26	<b>Degree : 145 Credits</b>
<b>VI</b>	16	4	*	*	*	*	*	4	24	
<b>VII</b>	12	8*	*	*	*	*	6		18/20*	<b>Honours / Honours with Research: 181 Credits</b>
<b>VIII</b>	12	4*	*	*	*	*	6		18/16*	
<b>3 Years</b>	72	28	9	8	10	6	0	12	145	
<b>%</b>	49.65	19.31	6.2	6.16	5.51	4.13	0	8.27	100	
<b>4 Years</b>	96	28+12*	9	8	10	6	12**	12	181	
<b>%</b>	53.03	15.46	4.95	4.41	5.52	3.3	6.62	6.59	100	
<p><b>*Students pursuing Honours will do 3 courses for 12 Credit in lieu of a Research Project/Dissertation. (2 Courses of 8 Credit in 7th Sem and 1 Course of 4 Credit in 8th Sem)</b></p> <p><b>**Students pursuing Honours with Research would complete 12 Credits of</b></p>										

**Research/Dissertation (2 Credit RM & 4 Credit Minor Project in 7th Sem and 6 Credit Major Project in 8th Sem)**

**PROGRAMME COURSES STRUCTURE - SEMESTER-WISE  
SEMESTER-I**

<b>Course Code</b>	<b>Course Title</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>Credits</b>	<b>Course Category</b>
24ESBA101	Introductory Microeconomics	3	1	0	4	Major Course
24ESBA102	Mathematical Methods for Economics-I	3	1	0	4	Major Course
24ESBA103	Basic Microeconomics	3	1	0	4	Minor Course
	MDC#	3	0	0	3	Multidisciplinary Course
	Functional English-I	2	0	0	2	Ability Enhancement Course
23SS151	Effective Communication Skills	0	0	2	1	Skill Enhancement Course (Soft)
	Digital Literacy & IT Skills	0	0	2	1	Skill Enhancement Course (Tech)
	Indian Constitution & Polity	2	0	0	2	Value Added Course
<b>Total</b>					<b>21</b>	

## SEMESTER-II

<b>Course Code</b>	<b>Course Title</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>Credits</b>	<b>Course Category</b>
24ESBA201	Introductory Macroeconomics	3	1	0	4	Major Course
24ESBA202	Mathematical Methods for Economics-II	3	1	0	4	Major Course
24ESBA203	Basic Macroeconomics	3	1	0	4	Minor Course
	MDC#	3	0	0	3	Multidisciplinary Course
	Functional English-II	2	0	0	2	Ability Enhancement Course
	Advanced Excel Skills	0	0	2	1	Skill Enhancement Course (Soft)
23SS252	Teamwork & Interpersonal Skills	0	0	2	1	Skill Enhancement Course (Tech)
	Environment Protection & Sustainable Development	3	0	0	2	Value Added Course
	Live Projects/Vocational Courses/Summer Internship				4	Live Projects/Vocational Courses/Summer Internship
Total					25	

**SEMESTER-III**

<b>Course Code</b>	<b>Course Title</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>Credits</b>	<b>Course Category</b>
25ESBA301	Intermediate Microeconomics-I	3	1	0	4	Major Course
24ESBA302	Intermediate Macroeconomics-I	3	1	0	4	Major Course
25ESBA303	Statistical Methods for Economics-I	3	1	0	4	Major Course
25ESBA304	Public Economics	3	1	0	4	Minor Stream Course
	MDC#	3	0	0	3	Multidisciplinary Course
	Hindi-I/German-I/French-I	2	0	0	2	Ability Enhancement Course
23SS353	Presentation Skills	0	0	2	1	Skill Enhancement Course (Soft)
	Statistical Analysis with SPSS	0	0	2	1	Skill Enhancement Course (Tech)
<b>Total</b>					<b>23</b>	

**SEMESTER-IV**

<b>Course Code</b>	<b>Course Title</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>Credits</b>	<b>Course Category</b>
24ESBA401	Intermediate Microeconomics-II	3	1	0	4	Major Course
24ESBA402	Intermediate Macroeconomics-II	3	1	0	4	Major Course
25ESBA403	Statistical Methods for Economics-II	3	1	0	4	Major Course
24ESBA404	Aspects of Indian Economy	3	1	0	4	Minor Stream Course
23SS454	Professional Skills	0	0	2	1	Skill Enhancement Course (Soft)
	R Language Programming	0	0	2	1	Skill Enhancement Course (Tech)
	Sports, Yoga & Fitness	1	0	2	2	Value Added Courses
	Hindi-II/German-II/French-II	2	0	0	2	Ability Enhancement Course
	Live Projects/Vocational Courses/Summer Internship				4	Live Projects/Vocational Courses/Summer Internship
Total					26	

**SEMESTER-V**

<b>Course Code</b>	<b>Course Title</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>Credits</b>	<b>Course Category</b>
25ESBA501	Introductory Econometrics	3	1	0	4	Major Course
24ESBA502	Public Economics	3	1	0	4	Major Course
25ESBA503	Indian Economy-I	3	1	0	4	Major Course
24ESBA504	Development Economics-I	3	1	0	4	Major Course
24ESBA505	Environmental Economics	3	1	0	4	Minor Stream Course
23ESBA506	Growth and Development	3	1	0	4	Minor Stream Course
23AR555	Aptitude & Reasoning	0	0	2	1	Skill Enhancement Course (Soft)
	Programming with MATLAB	0	0	2	1	Skill Enhancement Course (Tech)
Total					26	

**SEMESTER-VI**

<b>Course Code</b>	<b>Course Title</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>Credits</b>	<b>Course Category</b>
25ESBA601	International Economics	3	1	0	4	Major Course
25ESBA602	Environmental Economics	2	1	1	4	Major Course
24ESBA603	Indian Economy-II	3	1	0	4	Major Course
24ESBA604	Development Economics-II	3	1	0	4	Major Course
24ESBA605	Monetary Economics	3	1	0	4	Minor Stream Course
	Live Projects/Vocational Courses/Summer Internship				4	Live Projects/Vocational Courses/Summer Internship
Total					24	

**SEMESTER-VII**

<b>Course Code</b>	<b>Course Title</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>Credits</b>	<b>Course Category</b>
24ESBA701	Health Economics	3	1	0	4	Major Course
24ESBA702	Money and Banking	3	1	0	4	Major Course
23ESBA703	Law and Economics	3	1	0	4	Major Course*
24ESBA704	Economics of Industry	3	1	0	4	Minor Course*
	Research Methodology**	2	0	0	2	Minor Course**
	Research Project/Dissertation				4	Research Project/Dissertation* *
Total					20*/18**	

**SEMESTER-VIII**

<b>Course Code</b>	<b>Course Title</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>Credits</b>	<b>Course Category</b>
23ESBA801	Welfare Economics	3	1	0	4	Major Course
23ESBA802	Game Theory	3	1	0	4	Major Course
25ESBA803	Agricultural Economics	3	1	0	4	Major Course
24ESBA804	Health Economics	3	1	0	4	Minor Course*
	Research Project/Dissertation				6	Research Project/Dissertation* *
Total					16*/18* *	

## EVALUATION SCHEME

The bifurcation of Continuous Evaluation (Internal) and End Semester Evaluation marks are as under:

<b>S. No.</b>	<b>Course Category</b>	<b>Continuous Evaluation</b>	<b>End Semester</b>
1	Major Courses	40	60
2	Minor Stream Courses	40	60
3	Multi-Disciplinary Courses	40	60
4	Ability Enhancement Courses	70	30
5	Skill Enhancement Courses	60	40
6	Value Added Courses	70	30
7	Summer Internship	-	-
8	Research Project/Dissertation	-	-

<b>INTRODUCTORY MICROECONOMICS</b>	
<b>Course Code:</b> 24ESBA101	Continuous Evaluation: 40 Marks
<b>Credits:</b> 4	End Semester Examination: 60 Marks
<b>L T P :</b> 31 0	Course Category: Major
<b>Prerequisite:</b> NIL	

### **COURSE OBJECTIVES**

1. To expose the students to the basic principles of microeconomic theory.
2. To highlight how the demand and supply forces work.
3. To illustrate how microeconomic concepts can be applied to analyze real-life situations.
4. To make students understand about different market structures.

### **COURSE LEARNING OUTCOMES**

The syllabus has been prepared in accordance with National Education Policy (NEP). After completion of course, students would be able to:

1. able to understand and highlight basic economic problems of an economy and basic principles of microeconomic theory
2. understand forces of demand and supply
3. put the theory learnt in daily-life situations
4. differentiate between different market structures

### **MAPPING BETWEEN COURSE OBJECTIVES AND COURSE LEARNING OUTCOMES**

<b>Course Objectives (COs)</b>	<b>Course Learning Outcomes (CLOs)</b>			
	<b>CLO 1</b>	<b>CLO 2</b>	<b>CLO 3</b>	<b>CLO 4</b>
<b>CO 1</b>				
<b>CO 2</b>				
<b>CO 3</b>				
<b>CO 4</b>				

### **COURSE CONTENTS**

#### **Unit-I**

#### **Exploring the subject matter of Economics**

Why study economics? Scope and method of economics; the economic problem: scarcity and choice; the question of what to produce, how to produce and how to distribute output; science of economics; opportunity sets; economic systems; reading and working with graphs.

#### **Unit-II**

#### **Supply and Demand:**

Markets and competition; determinants of individual demand/supply; demand/supply schedule and demand/supply curve; market versus individual demand/supply; shifts in the demand/supply curve, demand and supply together; elasticity and its application; controls on prices; taxes and the costs of taxation; consumer surplus; producer surplus and the efficiency

of the markets.

### **Unit-III**

#### **Consumption Theory**

The consumption decision - budget constraint, consumption and income/price changes, demand for all other goods and price changes; description of preferences (representing preferences with indifference curves); properties of indifference curves; consumer's optimum choice; income and substitution effects; labour supply and savings decision - choice between leisure and consumption.

### **Unit-IV**

#### **Production and Market Structures**

Behaviour of profit maximizing firms and the production process; short run costs and output decisions; costs and output in the long run. Features of different market structures: perfect competition, monopolistic competition, oligopoly, monopoly.

### **TEXT BOOKS**

1. Karl E. Case, Ray C. Fair and Sharon M. Oster, *Principles of Economics*, Pearson Education Inc., 10<sup>th</sup> Edition, 2012.
2. N. Gregory Mankiw, *Economics: Principles and Applications*, India edition by South Western, a part of Cengage Learning, Cengage Learning India Private Limited, 4<sup>th</sup> edition, 2008.
3. Joseph E. Stiglitz and Carl E. Walsh, *Economics*, W.W. Norton & Company, Inc. New York, International Student Edition, 4<sup>th</sup> Edition, 2007.
4. David Besanko and Ronald Braeutigam, *Microeconomics*, 4<sup>th</sup> Edition

<b>MATHEMATICAL METHODS FOR ECONOMICS - I</b>	
<b>Course Code:</b> 24ESBA102	Continuous Evaluation: 40 Marks
<b>Credits:</b> 4	End Semester Examination: 60 Marks
<b>L T P :</b> 3 1 0	Course Category: Major
<b>Prerequisite:</b> NIL	

### **COURSE OBJECTIVES**

1. To clear preliminary concepts of mathematics.
2. To transmit the body of basic mathematics that enables the study of economic theory at the undergraduate level, specifically the courses on microeconomic theory, macroeconomic theory, statistics and econometrics set out in this syllabus.
3. To enable students to learn the concepts of differentiation and integration.
4. To illustrate the method of applying mathematical techniques to economic theory in general.

### **COURSE LEARNING OUTCOMES**

The syllabus has been prepared in accordance with National Education Policy (NEP). After completion of course, students would be able to:

1. Comfortable with basic concepts of mathematics to be used in other courses also.
2. fluent with concept of differentiation
3. explain and interpret concept of integration
4. develop the mathematical skills

### **MAPPING BETWEEN COURSE OBJECTIVES AND COURSE LEARNING OUTCOMES**

<b>Course Objectives (COs)</b>	<b>Course Learning Outcomes (CLOs)</b>			
	<b>CLO 1</b>	<b>CLO 2</b>	<b>CLO 3</b>	<b>CLO 4</b>
<b>CO 1</b>				
<b>CO 2</b>				
<b>CO 3</b>				
<b>CO 4</b>				

### **COURSE CONTENTS**

#### **Unit-I**

##### **Preliminaries**

Logic and proof techniques; sets and set operations; relations; functions and their properties; number systems.

#### **Unit-II**

##### **Functions of one real variable**

Graphs; elementary types of functions: quadratic, polynomial, power, exponential, logarithmic; sequences and series: convergence, algebraic properties and applications; continuous functions: characterizations, properties with respect to various operations and applications; differentiable functions: characterizations, properties with respect to various operations and applications; second and higher order derivatives: properties and applications.

#### **Unit-III**

### **Single-variable optimization**

Geometric properties of functions: convex functions, their characterizations and applications; local and global optima: geometric characterizations, characterizations using calculus and applications.

### **Unit-IV**

#### **Integration**

Economic applications

#### **TEXT BOOKS**

1. K. Sydsaeter and P. Hammond, *Mathematics for Economic Analysis*, Pearson Educational Asia: Delhi, 2006.
2. K. Sydsaeter and P. Hammond, *Essential Mathematics for Economic Analysis*, 5th Edition, Pearson Educational Asia: Delhi, 2018
3. Anjan Mukherjee and Subrata Guha, *Mathematical Methods & Economic Theory*, Oxford University Press, 2011
4. M.C. Kemp and Y. Kimura, *Introduction to Mathematical Economics*, Springer, 2011

<b>INTRODUCTORY MACROECONOMICS</b>	
<b>Course Code:</b> 24ESBA201	Continuous Evaluation: 40 Marks
<b>Credits:</b> 4	End Semester Examination: 60 Marks
<b>L T P :</b> 31 0	Course Category: Major
<b>Prerequisite:</b> NIL	

### **COURSE OBJECTIVES**

1. To introduce the students to the basic concepts of Macroeconomics.
2. To discuss the preliminary concepts associated with the determination and measurement of aggregate macroeconomic variable like savings, investment, GDP.
3. To make students familiar with the concepts of money and inflation.
4. To make students understand the concept of balance of payments.

### **COURSE LEARNING OUTCOMES**

The syllabus has been prepared in accordance with National Education Policy (NEP). After completion of course, students would be able to:

1. learn basic concepts of Macroeconomics
2. acquire knowledge of how an economy works
3. develop the understanding about money and inflation
4. describe the outline of balance of payments

### **MAPPING BETWEEN COURSE OBJECTIVES AND COURSE LEARNING OUTCOMES**

Course Objectives (COs)	Course Learning Outcomes (CLOs)			
	CLO 1	CLO 2	CLO 3	CLO 4
CO 1				
CO 2				
CO 3				
CO 4				

### **COURSE CONTENTS**

#### **Unit-I**

##### **Introduction to Macroeconomics and National Income Accounting**

Basic issues studied in macroeconomics; measurement of gross domestic product; income, expenditure and output method, the circular flow; real versus nominal GDP.

#### **Unit-II**

##### **Money**

Functions of money; quantity theory of money; determination of money supply and demand; credit creation; tools of monetary policy.

#### **Unit-III**

##### **Inflation**

Inflation, types of inflation and its social costs; consequences of inflation; factors affecting demand-pull and cost-push inflation; costs of inflation; remedies to control inflation. price indices.

## **Unit-IV**

### **The Closed Economy in the Short Run**

Classical and Keynesian schools of thought; simple Keynesian model of income determination;

#### **TEXT BOOKS**

1. Paul A. Samuelson and William D. Nordhaus, *Macroeconomics*, Mc Graw Hill, 19<sup>th</sup> edition, 2010
2. Dornbusch, Fischer and Startz, *Macroeconomics*, McGraw Hill, 11<sup>th</sup> edition, 2010.
3. N. Gregory Mankiw. *Macroeconomics*, Worth Publishers, 7<sup>th</sup> edition, 2010.
4. Olivier Blanchard, *Macroeconomics*, Pearson Education, Inc., 5<sup>th</sup> edition, 2009.
5. Richard T. Froyen, *Macroeconomics*, Pearson Education Asia, 2<sup>nd</sup> edition, 2005.
6. Andrew B. Abel and Ben S. Bernanke, *Macroeconomics*, Pearson Education, Inc., 7<sup>th</sup> edition, 2011.
7. Errol D'Souza, *Macroeconomics*, Pearson Education, 2009.
8. Paul R. Krugman, Maurice Obstfeld and Marc Melitz, *International Economics*, Pearson Education Asia, 9<sup>th</sup> edition, 2012.

<b>MATHEMATICAL METHODS FOR ECONOMICS - II</b>	
<b>Course Code:</b> 24ESBA202	Continuous Evaluation: 40 Marks
<b>Credits:</b> 4	End Semester Examination: 60 Marks
<b>L T P :</b> 31 0	Course Category: Major
<b>Prerequisite:</b> NIL	

### **COURSE OBJECTIVES**

1. To clear preliminary concepts of linear algebra.
2. To transmit the body of basic mathematics that enables the study of economic theory at the undergraduate level, specifically the courses on microeconomic theory, macroeconomic theory, statistics and econometrics set out in this syllabus.
3. To enable students to learn the concepts of differentiation and integration.
4. To illustrate the method of concavity/ convexity and optimization.

### **COURSE LEARNING OUTCOMES**

The syllabus has been prepared in accordance with National Education Policy (NEP). After completion of course, students would be able to:

1. comfortable with basic concepts of mathematics to be used in other courses also.
2. learn about vectors, matrices and determinants
3. work upon convexity and concavity of functions
4. optimize a given constrained or unconstrained function

### **MAPPING BETWEEN COURSE OBJECTIVES AND COURSE LEARNING OUTCOMES**

Course Objectives (COs)	Course Learning Outcomes (CLOs)			
	CLO 1	CLO 2	CLO 3	CLO 4
CO 1				
CO 2				
CO 3				
CO 4				

### **COURSE CONTENTS**

#### **Unit-I**

##### **Linear algebra**

Linear transformations: properties, matrix representations and elementary operations; systems of linear equations: properties of their solution sets; determinants: characterization, properties and applications.

#### **Unit-II**

##### **Functions of several real variables**

Geometric representations: graphs and level curves; differentiable functions: characterizations, properties with respect to various operations and applications; second order derivatives: properties and applications; the implicit function theorem, and application to comparative statics problems; homogeneous and homothetic functions: characterizations and applications.

#### **Unit-III**

##### **Multi-variable optimization**

Convex sets; geometric properties of functions: convex functions, their characterizations, properties and applications; further geometric properties of functions: quasi convex functions, their characterizations, properties and applications, Unconstrained optimization: geometric characterizations, constrained optimization with equality constraints: geometric characterizations, Lagrange characterization using calculus and applications; properties of value function.

#### **Unit-IV**

##### **Linear Programming**

Assumptions, formulation and solution by graphic method, economic applications.

#### **TEXT BOOKS**

1. K. Sydsaeter and P. Hammond, *Mathematics for Economic Analysis*, Pearson Educational Asia: Delhi, 2006.
2. Essential Mathematics for Economic Analysis , 5th Edition, Pearson Educational Asia: Delhi, 2018
3. Anjan Mukherjee and Subrata Guha, *Mathematical Methods & Economic Theory*, Oxford University Press, 2011
4. M.C. Kemp and Y. Kimura, *Introduction to Mathematical Economics*, Springer, 2011

<b>INTERMEDIATE MICROECONOMICS-I</b>	
<b>Course Code:</b> 25ESBA301	Continuous Evaluation: 40 Marks
<b>Credits:</b> 4	End Semester Examination: 60 Marks
<b>L T P :</b> 3 1 0	Course Category: Major
<b>Prerequisite:</b> NIL	

### **COURSE OBJECTIVES**

1. To provide a sound training in microeconomic theory to formally analyze the behaviour of individual agents.
2. To enable to make decisions under risk and uncertainty.
3. Since students are already familiar with the quantitative techniques in the previous semesters, mathematical tools are used to facilitate understanding of the basic concepts.
4. To make students familiar with the behaviour of the consumers and the producers.
5. The students will learn about optimality and causes of market failure.

### **COURSE LEARNING OUTCOMES**

The syllabus has been prepared in accordance with National Education Policy (NEP). After completion of course, students would be able to:

1. learn about consumer and production theories
2. to make decisions under risk and uncertainty
3. know how decisions are made at consumer's end and at supplier's end
4. learn about optimality and market failures

### **MAPPING BETWEEN COURSE OBJECTIVES AND COURSE LEARNING OUTCOMES**

<b>Course Objectives (COs)</b>	<b>Course Learning Outcomes (CLOs)</b>			
	<b>CLO 1</b>	<b>CLO 2</b>	<b>CLO 3</b>	<b>CLO 4</b>
<b>CO 1</b>				
<b>CO 2</b>				
<b>CO 3</b>				
<b>CO 4</b>				
<b>CO 5</b>				

### **COURSE CONTENTS**

#### **Unit-I**

#### **Consumer Theory and Choice under Uncertainty**

Preference; utility; budget constraint; choice; demand; Slutsky equation. Choice under risk and intertemporal choice; and revealed preference.

#### **Unit-II**

#### **Production, Costs**

Technology; isoquants; production with one and more variable inputs; returns to scale; short run and long run costs; cost curves in the short run and long run

#### **Unit-III**

#### **Price and Output Determination under Perfect Competition and Monopoly**

Perfect Competition, Monopoly & Monopolistic Competition; pricing with market power; price discrimination; peak-load pricing; two-part tariff;

#### **Unit-IV**

##### **Price and Output determination under Oligopoly**

Oligopoly-Price and output determination – Non-Collusive: Cournot, Kink demand curve and price rigidity, Collusive: Price leadership, Cartels.

#### **TEXT BOOKS**

1. Hal R. Varian, *Intermediate Microeconomics, a Modern Approach*, W.W. Norton and Company/Affiliated East-West Press (India), 10<sup>th</sup> edition, 2024. The workbook by Varian and Bergstrom may be used for problems.
2. C. Snyder and W. Nicholson, *Fundamentals of Microeconomics*, Cengage Learning (India), 2011.
3. B. Douglas Bernheim and Michael D. Whinston, *Microeconomics*, Tata McGraw- Hill (India), 2009.
4. Steven Landsburg, *Price Theory and Applications*, South-Western College Publishing, 2013.
5. Martin J. Osborne, *An Introduction to Game Theory*, Oxford University Press, 2012

<b>INTERMEDIATE MACROECONOMICS-I</b>	
<b>Course Code:</b> 24ESBA302	Continuous Evaluation: 40 Marks
<b>Credits:</b> 4	End Semester Examination: 60 Marks
<b>L T P :</b> 3 1 0	Course Category: Major
<b>Prerequisite:</b> NIL	

### **COURSE OBJECTIVES**

1. To introduce the students to formal modeling of a macro-economy in terms of analytical tools.
2. To discuss various alternative theories of output and employment determination in a closed economy in the short run as well as medium run, and the role of policy in this context.
3. To highlight various theoretical issues related to an open economy.
4. To explain the theories of consumption and production.

### **COURSE LEARNING OUTCOMES**

The syllabus has been prepared in accordance with National Education Policy (NEP). After completion of course, students would be able to:

1. learn about aggregate demand and aggregate supply functions
2. establish relationship between inflation and unemployment
3. understand and replicate about consumption theories
4. explain different investment functions

### **MAPPING BETWEEN COURSE OBJECTIVES AND COURSE LEARNING OUTCOMES**

<b>Course Objectives (COs)</b>	<b>Course Learning Outcomes (CLOs)</b>			
	<b>CLO 1</b>	<b>CLO 2</b>	<b>CLO 3</b>	<b>CLO 4</b>
<b>CO 1</b>				
<b>CO 2</b>				
<b>CO 3</b>				
<b>CO 4</b>				

### **COURSE CONTENTS**

#### **Unit-I**

##### **Aggregate Demand and Aggregate Supply Curves**

IS-LM framework, derivation of aggregate demand and aggregate and supply curves; interaction of aggregate demand and supply, effective demand.

#### **Unit-II**

##### **Inflation, Unemployment and Expectations**

Phillips curve; adaptive and rational expectations; policy ineffectiveness debate.

#### **Unit-III**

##### **Open Economy Models**

Short-run open economy models; Mundell-Fleming model; exchange rate determination; purchasing power parity; Dornbusch's overshooting model.

## **Unit-IV**

### **Consumption Functions**

Consumption Function, Keynesian Psychological Law of Consumption and its Implications. Income – Consumption Relationship: Absolute and Relative Income Hypothesis and Permanent Income Hypothesis.

### **TEXT BOOKS**

1. Richard T. Froyen *Macroeconomics: Theories and Policies*, 10<sup>th</sup> edition, 2013.
2. Dornbusch, Fischer and Startz, *Macroeconomics*, McGraw Hill, 11<sup>th</sup> edition, 2010.
3. N. Gregory Mankiw. *Macroeconomics*, Worth Publishers, 7<sup>th</sup> edition, 2010.
4. Olivier Blanchard, *Macroeconomics*, Pearson Education, Inc., 5<sup>th</sup> edition, 2009.
5. Steven M. Sheffrin, *Rational Expectations*, Cambridge University Press, 2<sup>nd</sup> edition, 1996.
6. Andrew B. Abel and Ben S. Bernanke, *Macroeconomics*, Pearson Education, Inc., 7<sup>th</sup> edition, 2011.
7. Errol D'Souza, *Macroeconomics*, Pearson Education, 2009
8. Paul R. Krugman, Maurice Obstfeld and Marc Melitz, *International Economics*, Pearson Education Asia, 9<sup>th</sup> edition, 2012.

<b>STATISTICAL METHODS FOR ECONOMICS-I</b>	
<b>Course Code:</b> 25ESBA303	Continuous Evaluation: 40 Marks
<b>Credits:</b> 4	End Semester Examination: 60 Marks
<b>L T P :</b> 31 0	Course Category: Major
<b>Prerequisite:</b> NIL	

### **COURSE OBJECTIVES**

1. To develop the understanding of some basic concepts and terminology that are fundamental to statistical analysis and inference.
2. To develop the notion of measures of central tendency.
3. To discuss the concept of Dispersion, skewness and kurtosis.
4. To make students familiar with the concepts of correlation and regression.

### **COURSE LEARNING OUTCOMES**

The syllabus has been prepared in accordance with National Education Policy (NEP). After completion of course, students would be able to:

1. Differentiate between sample and population; sampling and non-sampling errors; primary and secondary data.
2. Develop skills to use quantitative techniques such as measure of central tendency, variability and correlation.
3. Understanding the concept of Dispersion, skewness and kurtosis.
4. Able to understand the concepts of correlation and regression and their relevance.

### **MAPPING BETWEEN COURSE OBJECTIVES AND COURSE LEARNING OUTCOMES**

<b>Course Objectives (COs)</b>	<b>Course Learning Outcomes (CLOs)</b>			
	<b>CLO 1</b>	<b>CLO 2</b>	<b>CLO 3</b>	<b>CLO 4</b>
<b>CO 1</b>				
<b>CO 2</b>				
<b>CO 3</b>				
<b>CO 4</b>				

### **COURSE CONTENTS**

#### **Unit-I**

##### **Introduction and Overview**

Basic concepts: Population, Sample, Parameter, Statistic, frequency distribution, Cumulative frequency distribution; Graphic and diagrammatic representation of data; Techniques of data collection. Census and Sampling method. Sampling and Non-Sampling Errors. Primary and secondary data.

#### **Unit-II**

##### **Measures of Central Tendency**

Measures of Central Tendency, Mean, Median, Mode, Geometric Mean, Harmonic Mean, Quartiles, Deciles, Percentiles, Mode.

#### **Unit-III**

##### **Measures of Dispersion**

Range, inter-quartile range, quartile deviation, mean deviation, variance, standard deviation, Lorenz curve, skewness and Kurtosis.

#### **Unit-IV**

##### **Correlation and Regression**

Simple Correlation: Type of correlation, Karl Pearson's Coefficient of correlation and Spearman's Rank correlation. Coefficient of determination. Regression analysis –Concept, fitting of regression lines (method of least squares). Properties of regression coefficients.

##### **TEXT BOOKS**

1. Jay L. Devore, *Probability and Statistics for Engineers*, Cengage Learning, 2010.
2. John E. Freund, *Mathematical Statistics*, Prentice Hall, 1992.
3. Richard J. Larsen and Morris L. Marx, *An Introduction to Mathematical Statistics and its Applications*, Prentice Hall, 2011.
4. Chandan Mukherjee and Howard White, *Econometrics and Data Analysis for Developing Countries*, Marc Wuyts, 1998
5. A.L.Nagar and R.K.Das, *Basic Statistics*, 1997
6. Dr. S.P. Gupta, *Statistical Methods*, Sultan Chand and Sons, 2018
7. Chiang, A.C. *fundamental Methods of Mathematical Economics*, McGraw Hill, New York

<b>INTERMEDIATE MICROECONOMICS-II</b>	
<b>Course Code:</b> 24ESBA401	Continuous Evaluation: 40 Marks
<b>Credits:</b> 4	End Semester Examination: 60 Marks
<b>L T P :</b> 3 1 0	Course Category: Major
<b>Prerequisite:</b> NIL	

### **COURSE OBJECTIVES**

1. This course is a sequel to Intermediate Microeconomics I. The emphasis will be on giving conceptual clarity to the student coupled with the use of mathematical tools and reasoning.
2. To cover general equilibrium and welfare, imperfect markets and topics under information economics.
3. To make students familiar with game theory.

### **COURSE LEARNING OUTCOMES**

The syllabus has been prepared in accordance with National Education Policy (NEP). After completion of course, students would be able to:

1. apply the mathematical tools in Economic theory
2. learn about equilibrium and welfare
3. determine price and output in imperfect markets
4. develop the base for Game theory

### **MAPPING BETWEEN COURSE OBJECTIVES AND COURSE LEARNING OUTCOMES**

<b>Course Objectives (COs)</b>	<b>Course Learning Outcomes (CLOs)</b>			
	<b>CLO 1</b>	<b>CLO 2</b>	<b>CLO 3</b>	<b>CLO 4</b>
<b>CO 1</b>				
<b>CO 2</b>				
<b>CO 3</b>				

### **COURSE CONTENTS**

#### **Unit-I**

#### **General Equilibrium, Efficiency and Welfare**

Equilibrium and efficiency under pure exchange and production; overall efficiency and welfare economics.

#### **Unit-II**

#### **Game Theory**

Nash equilibrium, dominant strategy, pareto optimality, zero-sum game.

#### **Unit-III**

#### **Market Failure**

Causes of market failure, externalities; public goods, markets with asymmetric information.

#### **Unit-IV**

#### **Theory of Factor Pricing**

Market for Factor Inputs (largely with reference to Labour): A Firms's and Market Demand

for a labour (with one and several variable inputs) and its determinations. Supply of labour to a firm and the Market, Under Competitive Factor and Product Market;

### **TEXT BOOKS**

1. Hal R. Varian, *Intermediate Microeconomics, a Modern Approach*, W.W. Norton and Company/Affiliated East-West Press (India), 10<sup>th</sup> edition, 2024. The workbook by Varian and Bergstrom may be used for problems.
2. C. Snyder and W. Nicholson, *Fundamentals of Microeconomics*, Cengage Learning (India), 2011.
3. B. Douglas Bernheim and Michael D. Whinston, *Microeconomics*, Tata McGraw- Hill (India), 2009.
4. Steven Landsburg, *Price Theory and Applications*, South-Western College Publishing. 2013.
5. Martin J. Osborne, *An Introduction to Game Theory*, Oxford University Press, 2012

<b>INTERMEDIATE MACROECONOMICS-II</b>	
<b>Course Code:</b> 24ESBA402	Continuous Evaluation: 40 Marks
<b>Credits:</b> 4	End Semester Examination: 60 Marks
<b>L T P :</b> 31 0	Course Category: Major
<b>Prerequisite:</b> NIL	

### **COURSE OBJECTIVES**

1. This course is a sequel to Intermediate Macroeconomics I. In this course, the students are introduced to the long run dynamic issues like growth and technical progress.
2. To provide the micro-foundations to the various aggregative concepts used in the previous course.
3. To introduce students to different economic theories
4. To make students familiar with concept of trade cycle

### **COURSE LEARNING OUTCOMES**

The syllabus has been prepared in accordance with National Education Policy (NEP). After completion of course, students would be able to:

1. learn about long run dynamic issues like growth and technical progress
2. understand how fiscal and monetary policies work
3. learn different economic theories and explain their relevance
4. interpret different trade cycles theories

### **MAPPING BETWEEN COURSE OBJECTIVES AND COURSE LEARNING OUTCOMES**

<b>Course Objectives (COs)</b>	<b>Course Learning Outcomes (CLOs)</b>			
	<b>CLO 1</b>	<b>CLO 2</b>	<b>CLO 3</b>	<b>CLO 4</b>
<b>CO 1</b>				
<b>CO 2</b>				
<b>CO 3</b>				
<b>CO 4</b>				

### **COURSE CONTENTS**

#### **Unit-I**

##### **Multipliers**

Keynesian Multiplier, Relation between Multiplier, MPC and MPS, Comparative Static and Dynamic Process, foreign-trade multiplier. Working of Multiplier in UDC's. Acceleration Principle and Concept of Super Multiplier. Fiscal and monetary multipliers

#### **Unit-II**

##### **Fiscal and Monetary Policy**

Active or passive; monetary policy objectives and targets; rules versus discretion: time consistency; the government budget constraint; government debt and Ricardian equivalence.

#### **Unit-III**

##### **Schools of Macroeconomic Thoughts**

Classical; Keynesian; New-Classical and New-Keynesian.

## **Unit-IV**

### **Trade Cycles**

Meanings & Features, Types, Phases and Theories of Trade Cycles (Hicks, Samuelson, Real Business Cycle theory, Hawtrey theory).

#### **TEXT BOOKS**

1. Rudiger Dornbusch, Stanley Fischer and Richard Startz, *Macroeconomics*, McGraw Hill, 11<sup>th</sup> edition, 2010.
2. N. Gregory Mankiw. *Macroeconomics*, Worth Publishers, 7<sup>th</sup> edition, 2010.
3. Olivier Blanchard, David R Johnson, *Macroeconomics*, Pearson Education, Inc., 5<sup>th</sup> edition, 2009.
4. Charles I. Jones, *Introduction to Economic Growth*, W.W. Norton & Company, 2<sup>nd</sup> edition, 2002.
5. Andrew B. Abel and Ben S. Bernanke, *Macroeconomics*, Pearson Education, Inc., 7<sup>th</sup> edition, 2011.
6. Errol. D'Souza, *Macroeconomics*, Pearson Education, 2009.
7. Robert J. Gordon, *Macroeconomics*, Prentice-Hall India Limited, 2011.
8. N. Gregory Mankiw, *Principles of Macroeconomics*, Cengage, 2015

<b>STATISTICAL METHODS FOR ECONOMICS-II</b>	
<b>Course Code:</b> 25ESBA403	Continuous Evaluation: 40 Marks
<b>Credits:</b> 4	End Semester Examination: 60 Marks
<b>L T P :</b> 31 0	Course Category: Major
<b>Prerequisite:</b> NIL	

### **COURSE OBJECTIVES**

1. To develop the understanding of random variables and Probability distribution.
2. To develop the notion of normal distribution and testing hypothesis.
3. To make students familiar with the concept of index numbers.
4. To make students familiar with the concepts of time series analysis.

### **COURSE LEARNING OUTCOMES**

The syllabus has been prepared in accordance with National Education Policy (NEP). After completion of course, students would be able to:

1. Make use of the techniques of the probability as a model in scientific theory.
2. Develop skills to use a normal distribution and testing hypothesis.
3. Able to understand the concepts of index numbers.
4. Learn about the concepts of time series analysis.

### **MAPPING BETWEEN COURSE OBJECTIVES AND COURSE LEARNING OUTCOMES**

<b>Course Objectives (COs)</b>	<b>Course Learning Outcomes (CLOs)</b>			
	<b>CLO 1</b>	<b>CLO 2</b>	<b>CLO 3</b>	<b>CLO 4</b>
<b>CO 1</b>				
<b>CO 2</b>				
<b>CO 3</b>				
<b>CO 4</b>				

### **COURSE CONTENTS**

#### **Unit-I**

Probability Theory: Sample spaces and Events; Probability Axioms and Properties; Counting techniques; Conditional Probability and Bayes' rule; Independence. Random Variables.

#### **Unit-II**

##### **Probability Distributions**

probability distributions; properties of commonly used discrete and continuous distributions (uniform, binomial, normal, Poisson and exponential random variables).

#### **Unit-III**

##### **Normal Distribution and Testing of Hypothesis**

Normal distribution; chi-square, t- and F-distributions; estimation of parameters; properties of estimators; testing of hypotheses: defining statistical hypotheses; distributions of test statistics; testing hypotheses related to population parameters; Type I and Type II errors; power of a test; tests for comparing parameters from two samples.

## **Unit-IV**

### **Index Numbers and Time Series**

Index numbers: Concept, price relative, quantity relative, Laspeyer's, Paasche's and Fister's indices, Family Budget Method, Problem in the construction and limitations of index numbers, test for ideal index numbers. Time series analysis: introduction and components; Methods for measuring trend, seasonal, cyclical and irregular variations.

### **TEXT BOOKS**

1. Jay L. Devore, *Probability and Statistics for Engineers*, Cengage Learning, 2010.
2. John E. Freund, *Mathematical Statistics*, Prentice Hall, 1992.
3. Richard J. Larsen and Morris L. Marx, *An Introduction to Mathematical Statistics and its Applications*, Prentice Hall, 2011.
4. Chandan Mukherjee and Howard White, *Econometrics and Data Analysis for Developing Countries*, Marc Wuyts, 1998
5. A.L.Nagar and R.K.Das, *Basic Statistics*, 1997
6. Dr. S.P. Gupta, *Statistical Methods*, Sultan Chand and Sons, 2018

<b>INTRODUCTORY ECONOMETRICS</b>	
<b>Course Code:</b> 25ESBA501	Continuous Evaluation: 40 Marks
<b>Credits:</b> 4	End Semester Examination: 60 Marks
<b>L T P :</b> 3 1 0	Course Category: Major
<b>Prerequisite:</b> NIL	

### **COURSE OBJECTIVES**

1. To provide a comprehensive introduction to basic econometric concepts and techniques.
2. To cover the concept of simple and multiple regression models.
3. To highlight the consequences of and tests for misspecification of regression models.
4. To make students learn about the consequences, detection and remedies when assumptions are violated.
5. To cover the concept of Estimation of functions

### **COURSE LEARNING OUTCOMES**

The syllabus has been prepared in accordance with National Education Policy (NEP). After completion of course, students would be able to:

1. Acquire knowledge of basic econometric concepts and techniques.
2. develop understanding of estimation and diagnostic testing of simple and multiple regression models
3. build base for application part
4. learn about consequences, detection and remedies when assumptions are violated
5. learn about Estimation of functions

### **MAPPING BETWEEN COURSE OBJECTIVES AND COURSE LEARNING OUTCOMES**

<b>Course Objectives (COs)</b>	<b>Course Learning Outcomes (CLOs)</b>				
	<b>CLO 1</b>	<b>CLO 2</b>	<b>CLO 3</b>	<b>CLO 4</b>	<b>CLO 5</b>
<b>CO 1</b>					
<b>CO 2</b>					
<b>CO 3</b>					
<b>CO 4</b>					
<b>CO 5</b>					

### **COURSE CONTENTS**

#### **Unit-I**

##### **Nature and Scope of Econometrics**

Definition, Scope, and Methodology of econometrics; Nature and sources of data for econometric analysis; Specification of an econometric model.

#### **Unit-II**

##### **Simple Linear Regression Model: Two Variable Case**

Estimation of model by method of ordinary least squares; properties of estimators; goodness of fit; tests of hypotheses; scaling and units of measurement; confidence intervals; Gauss-

Markov theorem.

### **Unit-III**

#### **Multiple Linear Regression Model**

Estimation of parameters; properties of OLS estimators; goodness of fit -  $R^2$  and adjusted  $R^2$ ; partial regression coefficients; testing hypotheses – individual and joint significance of regression.

### **Unit-IV**

#### **Violations of Classical Assumptions: Consequences, Detection and Remedies**

Multicollinearity; heteroscedasticity; serial correlation, Dummy variable Techniques.

### **TEXT BOOKS**

1. Jay L. Devore, *Probability and Statistics for Engineers*, 9<sup>th</sup> edition, Cengage Learning, 2016.
2. John E. Freund, *Mathematical Statistics*, 8<sup>th</sup> edition, Pearson, 2021.
3. D. N. Gujarati and D.C. Porter, *Essentials of Econometrics*, McGraw Hill, 4th edition, International Edition, 2009.
4. Christopher Dougherty, *Introduction to Econometrics*, Oxford University Press, 5th edition, Indian edition, 2016.
5. Jan Kmenta, *Elements of Econometrics*, Indian Reprint, Khosla Publishing House, 2nd edition, 2008.
6. Chandan Mukherjee and Howard White, *Econometrics and Data Analysis for Developing Countries*, Marc Wuyts, 1998
7. A. Koutsoyiannis, *Theory of Econometrics (2nd Ed.)*, The Macmillan Press Ltd., London, 2001.

<b>INDIAN ECONOMY-I</b>	
<b>Course Code:</b> 25ESBA503	Continuous Evaluation: 40 Marks
<b>Credits:</b> 4	End Semester Examination: 60 Marks
<b>L T P :</b> 31 0	Course Category: Major
<b>Prerequisite:</b> NIL	

### **COURSE OBJECTIVES**

1. To review major trends in economic indicators and policy debates in India in the post-Independence period, with particular emphasis on paradigm shifts and turning points.
2. To make students up-to-date with major economic indicators.
3. To explain in details about major economic developments since independence.

### **COURSE LEARNING OUTCOMES**

The syllabus has been prepared in accordance with National Education Policy (NEP). After completion of course, students would be able to:

1. learn about major trends in economic indicators and policy debates in India in the post-Independence period
2. review major trends in major economic indicators
3. acquire knowledge of major economic developments since independence

### **MAPPING BETWEEN COURSE OBJECTIVES AND COURSE LEARNING OUTCOMES**

<b>Course Objectives (COs)</b>	<b>Course Learning Outcomes (CLOs)</b>		
	<b>CLO 1</b>	<b>CLO 2</b>	<b>CLO 3</b>
<b>CO 1</b>			
<b>CO 2</b>			
<b>CO 3</b>			

### **COURSE CONTENTS**

#### **Unit-I**

#### **Economic Development since Independence**

Impact of colonialism, Major features of the economy at independence; growth and development under different policy regimes—goals, constraints, institutions and policy framework; an assessment of performance—sustainability and regional contrasts; structural change, savings and investment.

#### **Unit-II**

#### **Demography**

Malthusian and optimum theories of population, demographic transition, concepts and current status in India: life expectancy, birth rate, death rate, total fertility rate, sex composition, age composition, literacy rate, dependency ratio, infant mortality rate, maternal mortality ratio. Demographic dividend.

#### **Unit-III**

#### **Poverty, Inequality and Unemployment**

Trends and policies in poverty; inequality and unemployment: types and consequences.

## **Unit-IV**

### **International Comparisons**

Major indicators of economy within the regional groups (SAARC, ASEAN, BRICS)

#### **TEXT BOOKS**

1. Ashoka Mody, 2023 *India is broken A People Betrayed, Independence To Today*, Stanford University Press
2. Nikhil Menon, 2022 *Planning Democracy*, Penguin Audio
3. Aman Soni, 2020, *Indian Economy*, Disha Publications
4. Nithin Singhanian, 2025 *Indian Economy*, Sixth Edition, McGraw Hill
5. VK Puri and SK Mishra, *Indian Economy*, Latest edition, Himalaya Publishing House
6. Dutt & Sundaram, "Indian Economy", Latest edition, S. Chand Publication, New Delhi.
7. Jean Dreze and Amartya Sen, Jean Dreze and Amartya Sen, 2013. *An Uncertain Glory: India and its Contradictions*, Princeton University Press.
8. Pulapre Balakrishnan, 2007, The Recovery of India: Economic Growth in the Nehru Era, *Economic and Political Weekly*, November.
9. Rakesh Mohan, 2008, -Growth Record of Indian Economy: 1950-2008. A Story of Sustained Savings and Investment, *Economic and Political Weekly*, May.
10. Braj Bihari Kumar 2025, *Understanding India and its Problems (Vol I-II)* 2025, Macmillan Education

<b>PUBLIC ECONOMICS</b>	
<b>Course Code:</b> 24ESBA502	Continuous Evaluation: 40 Marks
<b>Credits:</b> 4	End Semester Examination: 60 Marks
<b>L T P :</b> 3 1 0	Course Category: Major
<b>Prerequisite:</b> NIL	

### **COURSE OBJECTIVES**

1. To study government policy from the points of view of economic efficiency and equity.
2. To deal with the nature of government intervention and its implications for allocation, distribution and stabilization.
3. To analyse government taxation and expenditures.

### **COURSE LEARNING OUTCOMES**

The syllabus has been prepared in accordance with National Education Policy (NEP). After completion of course, students would be able to:

1. learn public economic theories
2. learn about taxation and key function of public finance
3. analyse and differentiate between different types of deficits

### **MAPPING BETWEEN COURSE OBJECTIVES AND COURSE LEARNING OUTCOMES**

<b>Course Objectives (COs)</b>	<b>Course Learning Outcomes (CLOs)</b>		
	<b>CLO 1</b>	<b>CLO 2</b>	<b>CLO 3</b>
<b>CO 1</b>			
<b>CO 2</b>			
<b>CO 3</b>			

### **COURSE CONTENTS**

#### **Unit-I**

##### **Public Economic Theory**

Fiscal functions: an overview. Public Goods: definition, models of efficient allocation, pure and impure public goods, free riding.

#### **Unit-II**

##### **Externalities**

The problem and its solutions, taxes versus regulation, property rights, the Coase theorem. Public Utility Regulation Regulatory Process

#### **Unit-III**

##### **Taxation**

Its economic effects; dead weight loss and distortion, efficiency and equity considerations, tax incidence, optimal taxation. Tax System: structure and reforms;

#### **Unit-IV**

##### **Types of Government Budgets**

Economic and functional classification of Central Government Budgets. Revenue account, Capital Account and different concepts of budgetary deficits in the Indian context. Public Debt.

### TEXT BOOKS

1. J. Hindriks, G. Myles: *Intermediate Public Economics*, MIT Press, 2006.
2. H. Rosen, T. Gayer: *Public Finance*, 9<sup>th</sup> ed., McGraw-Hill/Irwin, 2009.
3. Joseph E. Stiglitz, *Economics of the Public Sector*, W.W. Norton & Company, 3<sup>rd</sup> edition, 2000.
4. R.A. Musgrave and P.B. Musgrave, *Public Finance in Theory & Practice*, McGraw Hill Publications, 5<sup>th</sup> edition, 1989.
5. John Cullis and Philip Jones, *Public Finance and Public Choice*, Oxford University Press, 1<sup>st</sup> edition, 1998.
6. M. Govinda Rao, *Changing Contours of Federal Fiscal Arrangements in India*, Amaresh Bagchi (ed.), *Readings in Public Finance*, Oxford University Press, 2005.
7. Paul Samuelson, 1955, -Diagrammatic Exposition of a theory of Public Expenditure, *Review of Economics and Statistics*, Volume 37.
8. Shankar Acharya, 2005, -Thirty Years of Tax Reform in India, *Economic and Political Weekly*, May 14-20.
9. Rangarajan and D.K. Srivastava, 2005, -Fiscal Deficit and Government Debt: Implications for Growth and Stabilization”, *Economic and Political Weekly*, July2-8.
10. M. Govinda Rao, 2011, -Goods and Services Tax: A Gorilla, Chimpanzee or a Genius like Primates?, *Economic and Political Weekly*, February 12-18.
11. Report of the 13<sup>th</sup> Finance Commission, 2010-15.
12. *Economic Survey*, Government of India (Latest).
13. *State Finances: A Study of Budgets*, Reserve Bank of India (Latest).
14. Burkhard Heer, 2019, *Public Economics The Macroeconomics Perspective*, Springer Publication
15. H L Bhatia, September 2024 *Public Finance: As per UGC and NEP 2020*(33<sup>rd</sup> Edition), Vikas Publication

<b>DEVELOPMENT ECONOMICS-I</b>	
<b>Course Code:</b> 24ESBA504	Continuous Evaluation: 40 Marks
<b>Credits:</b> 4	End Semester Examination: 60 Marks
<b>L T P :</b> 3 1 0	Course Category: Major
<b>Prerequisite:</b> NIL	

### **COURSE OBJECTIVES**

1. To discuss alternative conceptions of development and their justification.
2. Then to proceed to aggregate models of growth and cross-national comparisons of the growth experience that can help evaluate these models.
3. To explain measures of inequality and connections between growth and inequality.
4. To linking political institutions to growth and inequality by discussing the role of the state in economic development and the informational and incentive problems that affect state governance.

### **COURSE LEARNING OUTCOMES**

The syllabus has been prepared in accordance with National Education Policy (NEP). After completion of course, students would be able to:

1. understand the difference between growth and development
2. apply disciplinary knowledge of different growth models
3. learn about different approaches to development

### **MAPPING BETWEEN COURSE OBJECTIVES AND COURSE LEARNING OUTCOMES**

<b>Course Objectives (COs)</b>	<b>Course Learning Outcomes (CLOs)</b>		
	<b>CLO 1</b>	<b>CLO 2</b>	<b>CLO 3</b>
<b>CO 1</b>			
<b>CO 2</b>			
<b>CO 3</b>			
<b>CO 4</b>			

### **COURSE CONTENTS**

#### **Unit-I**

#### **Conceptualization of Growth and Development**

Difference between growth and development, sustainable development. Alternative measures of development, comparing development trajectories across nations and within them. Human development and Capabilities approach.

#### **Unit-II**

Dualism: Concepts and Definition; Theories of Dualism: Technical, economic, social, financial and structural.

#### **Unit-III**

#### **Economic Growth and Structural Change**

Structural Changes in the composition of gross domestic product, occupational structure, Structure of capital accumulation; and accumulation of human capital; exploring the relationship between economic development and income distribution (Kuznets' inverted U –

shaped curve and augmented Kuznets' curve).

### **Unit-III**

#### **Poverty and Inequality: Definitions, Measures and Mechanisms**

Inequality axioms; a comparison of commonly used inequality measures;

Measurement of Poverty: headcount ratio, poverty gap index, FGT index; Inequality measures: size distribution, Lorenz curve, Gini coefficients; Kuznets's Inverted-U Hypothesis; Growth and Poverty.

#### **TEXT BOOKS**

1. Debraj Ray, *Development Economics*, 2<sup>nd</sup> edition, Oxford University Press, 2012.
2. Partha Dasgupta, *Economics, A Very Short Introduction*, Oxford University Press, 2007.
3. Abhijit Banerjee, Roland Benabou and Dilip Mookerjee, *Understanding Poverty*, Oxford University Press, 2006.
4. Kaushik Basu, *The Oxford Companion to Economics in India*, 2<sup>nd</sup> edition, OUP, 2011.
5. Jeffrey D. Sachs, *The End of Poverty*, reprint edition, Penguin, 2006

<b>INDIAN ECONOMY-II</b>	
<b>Course Code:</b> 24ESBA603	Continuous Evaluation: 40 Marks
<b>Credits:</b> 4	End Semester Examination: 60 Marks
<b>L T P :</b> 3 1 0	Course Category: Major
<b>Prerequisite:</b> NIL	

### **COURSE OBJECTIVES**

1. To examine sector-specific policies and their impact in shaping trends in key economic indicators in India.
2. To highlight major policy debates and evaluate the Indian empirical evidence.
3. To keep students up-to-date with the current affairs of Indian economy.

### **COURSE LEARNING OUTCOMES**

The syllabus has been prepared in accordance with National Education Policy (NEP). After completion of course, students would be able to:

1. learn about trends and performances in agriculture, industry and services sectors.
2. acquire knowledge of economic reform policies.
3. up-to-date with the current affairs of Indian economy.

### **MAPPING BETWEEN COURSE OBJECTIVES AND COURSE LEARNING OUTCOMES**

Course Objectives (COs)	Course Learning Outcomes (CLOs)		
	CLO 1	CLO 2	CLO 3
CO 1			
CO 2			
CO 3			

### **COURSE CONTENTS**

#### **Unit-I**

##### **Macroeconomic Policies and Their Impact**

Fiscal policy and monetary policies; trade and investment policies;

#### **Unit-II**

##### **Policies and Performance in Agriculture and Industry**

Role and nature of Indian agriculture, Policies for agriculture and rural development, trends in agriculture production and productivity, causes of low productivity and measures to increase production and productivity, land reforms – latest farmers bill, industrial development during the planning period, small scale industries, Overview of Industrial policies – latest industrial policies.

#### **Unit-III**

##### **Trends and Performance in Services**

Banking Reforms since 1991, Service sector in Indian economy, India's foreign trade: value, composition and direction, Federal finance in India .

#### **Unit-IV**

##### **Economic Reforms**

Features of Economic reforms and structural adjustment programme: Liberalization, Privatization and Globalization, appraisal of Economic reform programme.

## TEXT BOOKS

1. VK Puri and SK Mishra, Indian Economy, Latest edition, Himalaya Publishing House
2. Dutt & Sundaram, "Indian Economy", Latest edition, S. Chand Publication, New Delhi.
3. Shankar Acharya, 2010, -Macroeconomic Performance and Policies 2000-8,| in Shankar Acharya and Rakesh Mohan, editors, *India's Economy: Performances and Challenges: Development and Participation*, Oxford University Press.
4. Rakesh Mohan, 2010, -India's Financial Sector and Monetary Policy Reforms,|in Shankar Acharya and Rakesh Mohan, editors, *India's Economy: Performances and Challenges: Development and Participation*, Oxford University Press.
5. Pulapre Balakrishnan, Ramesh Golait and Pankaj Kumar, 2008, -Agricultural Growth in India Since 1991, *RBI DEAP Study no. 27*.
6. Paul Samuelson, *Economics*, 2009, McGraw-Hill
7. John Maynard Keynes, *The General Theory of Employment, Interest and Money*, 1936, Palgrave Macmillan

<b>LAW AND ECONOMICS</b>	
<b>Course Code: 24ESBA602</b>	Continuous Evaluation: 40 Marks
<b>Credits: 4</b>	End Semester Examination: 60 Marks
<b>L T P : 3 1 0</b>	Course Category: Discipline Specific Elective
<b>Prerequisite: NIL</b>	

### **COURSE OBJECTIVES**

1. To familiarize students with the core topics of Law and Economics
2. Knowledge of the concepts and techniques of the economic analysis of law
3. Ability to apply the concepts and techniques of economic analysis to specific legal rules
4. Ability to draw policy implications of legal rules for economy and the public policy

### **COURSE LEARNING OUTCOMES**

The syllabus has been prepared in accordance with National Education Policy (NEP). After completion of course, students would be able to:

1. familiarize with the economic approach toward thinking about the Law and Public Policy.
2. to recognize law as an important organizing force that influences actions of the private citizens as well as the government agencies.
3. learn how the law can support and, at times, can conflict with the functioning of the market and the government, the other two important organizing forces of an economy.
4. enhance critical thinking and inter-disciplinary approach towards law, economics and policymaking. Thereby, the course will help develop inter-disciplinary approach and enhance the employability skills of the students.

### **MAPPING BETWEEN COURSE OBJECTIVES AND COURSE LEARNING OUTCOMES**

<b>Course Objectives (COs)</b>	<b>Course Learning Outcomes (CLOs)</b>			
	<b>CLO 1</b>	<b>CLO 2</b>	<b>CLO 3</b>	<b>CLO 4</b>
<b>CO 1</b>				
<b>CO 2</b>				
<b>CO 3</b>				
<b>CO 4</b>				

### **COURSE CONTENTS**

#### **Unit-I**

#### **Introduction**

Tools: Tools for Law and Economics: Efficiency criteria in Welfare Economics; Coase theorem; Prisoners' Dilemma  
Contracts: Legal contract; Role of Contracts for functioning of markets; Efficient contracts; Damages measures and their efficiency properties

## **Unit-II**

### **Property Rights**

Property: Property rights and their role in resource allocation; Coase theorem; Legal remedies for breach of property rights and their economic effects

## **Unit-III**

### **Liability and Litigation**

Liability: Liability for accidents and harms; product liability; efficiency of liability rules; efficiency-compensation trade-off.

Litigation: Litigation – its causes and consequences; Benefits of legal certainty

## **Unit-IV**

### **Intellectual Property Rights**

Patents, Copyright and Trademarks. Cost and benefits of private IPRs; Individual rights vs common good

## **TEXT BOOKS**

1. Robert Cooter and Thomas Ulen, 'Law and Economics', Pearson Series in
2. Economics, 8th edition or latest edition.
3. Miceli, Thomas J. 2012 'The Theory of Eminent Domain: Private Property, Public Use', Second Edition, Cambridge University Press.
4. Hart, Oliver (2003). Incomplete Contracts and Public Ownership: Application to Public-Private Partnerships, *The Economic Journal*, C69-C76. (this is a highly accessible reading the issues listed under item 7 above)

## **REFERENCE BOOK**

1. Singh, Ram and Leo, Utkarsh (2021) 'Covid-19 and Contractual Disputes in India: A Law and Economics Perspective,' *Economic and Political Weekly*, Vol. 56(16), 2021, pp. 37-43.
2. Singh, Ram (2012). 'Inefficiency and Abuse of Compulsory Land Acquisition: An enquiry into the way forward.' *Economic and Political Weekly*, 2012 Vol XLVII (19), pp. 46-53.
3. Singh, Ram (2007). "Liability Rules in India" in the Oxford Companion to Economics in India, Kaushik Basu (editor), Oxford University Press, Delhi.

<b>INTERNATIONAL ECONOMICS</b>	
<b>Course Code:</b> 25ESBA601	Continuous Evaluation: 40 Marks
<b>Credits:</b> 4	End Semester Examination: 60 Marks
<b>L T P :</b> 3 1 0	Course Category: Major
<b>Prerequisite:</b> NIL	

### **COURSE OBJECTIVES**

1. To develop a systematic exposition of models that try to explain the composition, direction, and consequences of international trade, and the determinants and effects of trade policy.
2. To build on the models of open economy macroeconomics focusing on national policies as well as international monetary systems. It concludes with an analytical account of the causes and consequences of the rapid expansion of international financial flows in recent years.
3. Although the course is based on abstract theoretical models, students will also be exposed to real-world examples and case studies.

### **COURSE LEARNING OUTCOMES**

The syllabus has been prepared in accordance with National Education Policy (NEP). After completion of course, students would be able to:

1. learn different trade theories
2. learn different levels of economic co-operation
3. comprehend real-world case studies

### **MAPPING BETWEEN COURSE OBJECTIVES AND COURSE LEARNING OUTCOMES**

<b>Course Objectives (COs)</b>	<b>Course Learning Outcomes (CLOs)</b>		
	<b>CLO 1</b>	<b>CLO 2</b>	<b>CLO 3</b>
<b>CO 1</b>			
<b>CO 2</b>			
<b>CO 3</b>			

### **COURSE CONTENTS**

#### **Unit-I**

#### **Importance of Trade and Trade Theories**

Importance of the study of international economics, Inter-regional and International Trade; Theories of absolute advantage, comparative advantage and opportunity cost: Hecksher-Ohlin theory of trade-its main features, assumptions and limitations.

#### **Unit-II**

#### **Balance of Trade and Balance of Payments**

Concepts and components of balance of trade and balance of payments; Equilibrium and disequilibrium in balance of payments: Various measures to correct deficit in the balance of payment; Devaluation- relative merits, demerits and limitations of devaluation; Concept and implications of Foreign Trade Multiplier.

### **Unit-III**

#### **International Monetary System and International Institutions**

Bretton wood systems and its breakdown, I.M.F., Forms of Economic Co-operation, Static and Dynamic Effects of Custom Union (Viner, Lipsey).

### **Unit-IV**

#### **International Macroeconomic Policy**

Fixed versus flexible exchange rates; international liquidity: Special drawing rights, international monetary systems; financial globalization and financial crises.

### **TEXT BOOKS**

1. Paul Krugman, Maurice Obstfeld, and Marc Melitz, *International Economics: Theory and Policy*, Addison-Wesley (Pearson Education Indian Edition), 12<sup>th</sup> edition, 2022.
2. Dominick Salvatore, *International Economics: Trade and Finance*, John Wiley International Student Edition, 13<sup>th</sup> edition, 2021.
3. Bo Södersten & Geoffrey Reed, *International Economics*, Palgrave Macmillan (London), 3rd Edition, 2008
4. James Gerber, *International Economics*, Sixth Edition, Pearson, 2017

<b>DEVELOPMENT ECONOMICS-II</b>	
<b>Course Code:</b> 24ESBA604	Continuous Evaluation: 40 Marks
<b>Credits:</b> 4	End Semester Examination: 60 Marks
<b>L T P :</b> 31 0	Course Category: Major
<b>Prerequisite:</b> NIL	

### **COURSE OBJECTIVES**

1. To introduce students to the basic demographic concepts and their evolution during the process of development.
2. To link the structure of markets and contracts to the particular problems of enforcement experienced in poor countries.
3. To link the governance of communities and organizations to questions of sustainable growth.
4. To reflect on the role of globalization and increased international dependence on the process of development.

### **COURSE LEARNING OUTCOMES**

The syllabus has been prepared in accordance with National Education Policy (NEP). After completion of course, students would be able to:

1. learn about demographic terms
2. understand different linkages
3. familiar with sustainable development and globalization

### **MAPPING BETWEEN COURSE OBJECTIVES AND COURSE LEARNING OUTCOMES**

<b>Course Objectives (Cos)</b>	<b>Course Learning Outcomes (CLOs)</b>		
	<b>CLO 1</b>	<b>CLO 2</b>	<b>CLO 3</b>
<b>CO 1</b>			
<b>CO 2</b>			
<b>CO 3</b>			
<b>CO 4</b>			

### **COURSE CONTENTS**

#### **Unit-I**

#### **Demography and Development**

Demographic concepts; birth and death rates, age structure, fertility and mortality; demographic transitions during the process of development; migration.

#### **Unit-II**

#### **Population Growth, Economic Development and environment:**

The Historical Changes in World Population, Demographic Transition, interrelation between population growth and economic development (from pessimism to optimism), Sustainable development (conceptualization., concerns, indicators, and remedial measures).

#### **Unit-III**

#### **Approaches to Development**

Vicious Circle of Poverty, Lewis dual economy model, Leibenstein critical minimum effort theory, balanced vs. unbalanced growth theories.

#### **Unit-IV**

##### **Growth Models and Empirics**

The Harrod-Domar model, the Solow model and its variants, endogenous growth models (Arrow/AK model, Romer model) and evidence on the determinants of growth.

#### **TEXT BOOKS**

1. Debraj Ray, *Development Economics*, 2<sup>nd</sup> edition, Oxford University Press, 2012.
2. Partha Dasgupta, *Economics, A Very Short Introduction*, Oxford University Press, 2007.
3. Abhijit Banerjee, Roland Benabou and Dilip Mookerjee, *Understanding Poverty*, Oxford University Press, 2006.
4. Thomas Schelling, *Micromotives and Macrobehavior*, W. W. Norton, 2006.
5. Albert O. Hirschman, *Exit, Voice and Loyalty: Responses to Decline in Firms, Organizations and States*, Harvard University Press, 2023.
6. Raghuram Rajan, *Fault Lines: How Hidden Fractures Still Threaten the World Economy*, 2011.
7. Elinor Ostrom, *Governing the Commons: The Evolution of Institutions for Collective Action*, Cambridge University Press, 2015.
8. Dani Rodrik, *The Globalization Paradox: Why Global Markets, States and Democracy Can't Coexist*, Oxford University Press, 2012.
9. Michael D. Bordo, Alan M. Taylor and Jeffrey G. Williamson (ed.), *Globalization in Historical Perspective*, University of Chicago Press, 2003.
10. Jeffrey D. Sachs, *The End of Poverty*, reprint edition, Penguin, 2006

<b>MONEY AND BANKING</b>	
<b>Course Code:</b> 24ESBA702	Continuous Evaluation: 40 Marks
<b>Credits:</b> 4	End Semester Examination: 60 Marks
<b>L T P :</b> 3 1 0	Course Category: Major
<b>Prerequisite:</b> NIL	

### **COURSE OBJECTIVES**

1. To expose students to the theory and functioning of the monetary and financial sectors of the economy.
2. To highlight the organization, structure and role of financial markets and institutions.
3. To discuss interest rates, monetary management and instruments of monetary control.
4. To cover financial and banking sector reforms and monetary policy with special reference to India are also covered.

### **COURSE LEARNING OUTCOMES**

The syllabus has been prepared in accordance with National Education Policy (NEP). After completion of course, students would be able to:

1. comprehend and understand theory and functioning of the monetary and financial sectors of the economy
2. learn about interest rate determination
3. stay updated regarding changes in financial and banking sector reforms and monetary policy

### **MAPPING BETWEEN COURSE OBJECTIVES AND COURSE LEARNING OUTCOMES**

Course Educational Objectives (Cos)	Course Learning Outcomes (CLOs)		
	CLO 1	CLO 2	CLO 3
CO 1			
CO 2			
CO 3			
CO 4			

### **COURSE CONTENTS**

#### **Unit-I**

##### **Money**

Concept, functions, types, measurement; theories of money supply determination. Basel - I, II and III norms.

#### **Unit-II**

##### **Financial Institutions, Markets, Instruments and Financial Innovations**

Role of financial markets and institutions; problem of asymmetric information – adverse selection and moral hazard; financial crises, Money and capital markets: organization, structure and reforms in India; role of financial derivatives and other innovations.

#### **Unit-III**

## **Interest Rates**

Determination; sources of interest rate differentials; theories of term structure of interest rates; interest rates in India.

## **Unit-IV**

### **Banking System**

Indian banking system: Changing role and structure; banking sector reforms, Central Bank: Functions and Goals, instruments of monetary control; current monetary policy of India.

### **TEXT BOOKS**

1. Rakesh Mohan, *Growth with Financial Stability- Central Banking in an Emerging Market*, Oxford University Press, 2012.
2. L. M. Bhole and J. Mahukud, *Financial Institutions and Markets*, Tata McGraw Hill, 6<sup>th</sup> edition, 2017.
3. M. Y. Khan, *Indian Financial System*, Tata McGraw Hill, 11<sup>th</sup> edition, 2019.
4. N. Jadhav, *Monetary Policy, Financial Stability and Central Banking in India*, Macmillan, 2006.
5. S. B. Gupta, *Monetary Economics: Institutions, Theory & Policy*, S. Chand & Company Ltd., 2013
6. R.B.I. – *Report of the Working Group: Money Supply Analytics and Methodology of Compilation*, 1998.
7. R.B.I. Bulletin, Annual Report and Report on Currency and Finance (latest).

<b>HEALTH ECONOMICS</b>	
<b>Course Code:</b> 24ESBA701	Continuous Evaluation: 40 Marks
<b>Credits:</b> 4	End Semester Examination: 60 Marks
<b>L T P :</b> 3 1 0	Course Category: Major
<b>Prerequisite:</b> NIL	

### **COURSE OBJECTIVES**

1. To make students familiar with the Sustainable Development Goals adopted by the United Nations member states, which include among other goals, achieving universal primary education, reducing child mortality, improving maternal health and combating diseases.
2. To provide a microeconomic framework to analyse, among other things, individual choice in the demand for health, government intervention and aspects of inequity and discrimination in both sectors.
3. To give an overview of health in India.

### **COURSE LEARNING OUTCOMES**

The syllabus has been prepared in accordance with National Education Policy (NEP). After completion of course, students would be able to:

1. understand and communicate Sustainable Development Goals
2. reply for microeconomic frameworks for health
3. comprehend India's health care

### **MAPPING BETWEEN COURSE OBJECTIVES AND COURSE LEARNING OUTCOMES**

<b>Course Objectives (COs)</b>	<b>Course Learning Outcomes (CLOs)</b>		
	<b>CLO 1</b>	<b>CLO 2</b>	<b>CLO 3</b>
<b>CO 1</b>			
<b>CO 2</b>			
<b>CO 3</b>			

### **COURE CONTENTS**

#### **Unit-I**

#### **Health and Related Terms**

Definitions: health, health care, health care costs, health expenditure, health as a merit good, health as an economic good, health: a necessity or luxury good, health as human capital.

#### **Unit-II**

## **Demand in Healthcare**

Utility and Health, Demand for Health care, Measuring price sensitivity with elasticities, The Grossman Model, The Grossman Model and Health Disparities

## **Unit-III**

### **Financing and Insurance in Health Care**

Financing Health care, Uncertainty and Risk - Health Insurance, Information Economics in Health: Moral Hazard, Information Economics in Health: Adverse Selection

## **Unit-IV**

### **Health Expenditure and Impoverishing Effects**

Catastrophic Health Expenditure and Its Measures: Headcount, Overshoot, Mean Positive Overshoot, Concentration Curve and Concentration Index  
Measuring Impoverishing Effects of Catastrophic Health Expenditure: Poverty Headcount, Poverty Gap

## **TEXT BOOKS**

- Bhattacharya, J., Hyde, T., & Tu, P. (2014). Health Economics. Palgrave Macmillan.
- Coelli, T. J., Rao, D. S. P., O'Donnell, C. J., & Battese, G. E. (2005). An introduction to efficiency and productivity analysis. Springer science & business media.
- Morris, S., Devlin, N., Parkin, D., & Spencer, A. (2012). Economic Analysis in Health Care (2nd ed.). Wiley.
- Zweifel, P., Breyer, F., & Kifmann, M. (2009). Health Economics (2nd ed.). Springer.
- Frank A. Sloan, Chee-Ruey Hsieh,(2017) Health Economics, The MIT Press
- Charles E.Phelps(2017)Health Economics(Sixth Edition)Harpercollins College Div

<b>ENVIRONMENTAL ECONOMICS</b>	
<b>Course Code:</b> 24ESBA703	Continuous Evaluation: 40 Marks
<b>Credits:</b> 4	End Semester Examination: 60 Marks
<b>L T P :</b> 3 1 0	Course Category: Major
<b>Prerequisite:</b> NIL	

### **COURSE OBJECTIVES**

1. To focus on economic causes of environmental problems. In particular, economic principles are applied to environmental questions and their management through various economic institutions, economic incentives and other instruments and policies.
2. To make students understand economic implications of environmental policy are also addressed as well as valuation of environmental quality, quantification of environmental damages, tools for evaluation of environmental projects such as cost-benefit analysis and environmental impact assessments.
3. To discuss selected topics on international environmental problems.

### **COURSE LEARNING OUTCOMES**

The syllabus has been prepared in accordance with National Education Policy (NEP). After completion of course, students would be able to:

1. learn about valuation of environment
2. learn about sustainable development and international agreements
3. comprehend international environmental problems

### **MAPPING BETWEEN COURSE OBJECTIVES AND COURSE LEARNING OUTCOMES**

<b>Course Objectives (COs)</b>	<b>Course Learning Outcomes (CLOs)</b>		
	<b>CLO 1</b>	<b>CLO 2</b>	<b>CLO 3</b>
<b>CO 1</b>			
<b>CO 2</b>			
<b>CO 3</b>			

### **COURSE CONTENTS**

#### **Unit-I**

##### **Introduction**

Key environmental issues and problems, economic way of thinking about these problems, basic concepts from economics; Pareto optimality and market failure in the presence of externalities; property rights.

#### **Unit-II**

##### **The Design and Implementation of Environmental Policy**

Overview, Pigouvian taxes and effluent fees, tradable permits, implementation of environmental policies in India and international experience; transboundary environmental problems; economics of climate change.

### **Unit-III**

#### **Environmental Valuation Methods and Applications**

Valuation of non-market goods and services--theory and practice; measurement methods; cost-benefit analysis of environmental policies and regulations. Users and non-users values, option value. Valuation Methods: Stated and revealed preference methods.

### **Unit-IV**

#### **Sustainable Development AND International agreements**

Concepts; measurement; Green GDP. Sustainable Development Goals, 2030. International environmental agreements, RIO Conventions. Kyoto protocol, UNFCCC, Bali Action Plan. Climate change and its problems, Carbon trading.

### **TEXT BOOKS**

1. Charles Kolstad, *Intermediate Environmental Economics*, Oxford University Press, 2<sup>nd</sup> edition, 2010.
2. Robert N. Stavins (ed.), *Economics of the Environment: Selected Readings*, W.W. Norton, 5<sup>th</sup> edition, 2005.
3. Roger Perman, Yue Ma, James McGilvray and Michael Common, *Natural Resource and Environmental Economics*, Pearson Education/Addison Wesley, 3<sup>rd</sup> edition, 2003.
4. Maureen L. Cropper and Wallace E. Oates, 1992, -Environmental Economics: A Survey, *Journal of Economic Literature*, Volume 30:675-740.
5. P Leelakrishnan, *Environmental Law in India*, 2025, 7<sup>th</sup> Edition, LexisNexis

<b>AGRICULTURAL ECONOMICS</b>	
<b>Course Code:</b> 25ESBA803	Continuous Evaluation: 40 Marks
<b>Credits:</b> 4	End Semester Examination: 60 Marks
<b>L T P :</b> 3 1 0	Course Category: Major
<b>Prerequisite:</b> NIL	

### **COURSE OBJECTIVES**

1. To provide a detailed treatment of issues in Agricultural Economics to those intending to specialize in this area
2. To introduce students to the with basic Agricultural Models and Economic Though
3. To familiarize students with Indian Agriculture
4. To familiarize students with policy issues that are relevant to Indian Agricultural Economics
5. To enable them to analyze the issues using basic micro-economic concepts.

### **COURSE LEARNING OUTCOMES**

The syllabus has been prepared in accordance with National Education Policy (NEP-2020).

After completion of course, students would be able to:

1. Acquire knowledge of issues in Agricultural Economics
2. understand about basic Agricultural Models and Economic Though
3. aware about the features of Indian Agriculture
4. review policy issues that are relevant to Indian Agricultural Economics
5. able them to analyze the issues using basic micro-economic concepts.

### **MAPPING BETWEEN COURSE OBJECTIVES AND COURSE LEARNING OUTCOMES**

<b>Course Objectives (COs)</b>	<b>Course Learning Outcomes (CLOs)</b>				
	<b>CLO 1</b>	<b>CLO 2</b>	<b>CLO 3</b>	<b>CLO4</b>	<b>CLO5</b>
<b>CO 1</b>					
<b>CO 2</b>					
<b>CO 3</b>					
<b>CO4</b>					
<b>CO5</b>					

### **COURSE CONTENTS**

#### **Unit-I**

#### **Introduction Agricultural Economics**

Definition, Nature and Scope; Agriculture in India - Problems & Prospects; Role of Agriculture in Economic Development; Inter- Sectoral Linkages of Agriculture (Backward and Forward Linkages and Feedback Effects), Role of Agriculture in Haryana and Indian Economy, Farming as a business or way of life, Risks and Uncertainties in Agriculture.

## **Unit-II**

### **Production Function Analysis**

Factor-Product, Factor-Factor and Product-Product relationships. Types of farm organisations and their comparative production efficiency.

## **Unit-III**

### **Transformation of Agriculture**

Schultz thesis of transformation of traditional agriculture and Green Revolution in Indian agriculture. Agricultural Markets: Aim, Types and Functions of agricultural markets, Criteria for judging efficiency of agricultural market systems.

## **Unit-IV**

### **Agricultural Credit**

Importance of credit, Need for Government intervention, agricultural credit system in India. Agricultural Price Policy: Need, Objectives, and instruments of agricultural price policy; Agricultural price policy in India.

## **TEXT BOOKS**

1. Black, J.D. (1945), *Introduction to Economics of Agriculture*. MacMillan, New York.
2. Bruce L., Gardener and Gordon C., Rausser (Eds.), 2001, *Handbook of Agricultural Economics*, Vol.1A, Agricultural Production, Amersterdam, Elsevier Science B.V.
3. Dantwala, M.L. et. al (1991), *Indian Agricultural Development Since Independence*, Oxford & IBH, New Delhi.
4. Nicholls, W.H. (1964), "*The Place of Agriculture in Economics Development*", in Eicher, C. and Witt, L.(ed) 1964, *Agriculture in Economics Development*, Vora & Co. Publishers Pvt. Ltd, Bombay.
5. Ojala, E.M.(1952), *Agriculture and Economic Progress*, Oxford University Press, London.

<b>GAME THEORY</b>	
<b>Course Code:</b> 23ESBA802	Continuous Evaluation: 40 Marks
<b>Credits:</b> 4	End Semester Examination: 60 Marks
<b>L T P :</b> 3 1 0	Course Category: Major
<b>Prerequisite:</b> NIL	

### **COURSE OBJECTIVES**

1. To introduce the students to elementary game theory under complete information.
2. introduces the students to optimal decision making in interactive settings
3. To familiarize students with Simultaneous move games with incomplete information
4. To introduce the basic concepts of game theory in a way that allows students to use them in solving simple problems.
5. To deal with the solution concepts for normal form and extensive form games along with a variety of economic applications.

### **COURSE LEARNING OUTCOMES**

The syllabus has been prepared in accordance with National Education Policy (NEP). After completion of course, students would be able to:

1. build base for game theory
2. learn how to model multi-person decision making in an interactive setting
3. Able to understand Simultaneous move games with incomplete information
4. learn about making decisions under uncertainty
5. develop decision-making skills

### **MAPPING BETWEEN COURSE OBJECTIVES AND COURSE LEARNING OUTCOMES**

<b>Course Objectives (COs)</b>	<b>Course Learning Outcomes (CLOs)</b>				
	<b>CLO 1</b>	<b>CLO 2</b>	<b>CLO 3</b>	<b>CLO4</b>	<b>CLO5</b>
<b>CO 1</b>					
<b>CO 2</b>					
<b>CO 3</b>					
<b>CO4</b>					
<b>CO5</b>					

### **COURSE CONTENTS**

#### **Unit-I**

#### **Normal form games**

The normal form; dominant and dominated strategies; dominance solvability; mixed strategies; Nash equilibrium; symmetric single population games; applications.

## **Unit-II**

### **Extensive form games with perfect information**

The game tree; strategies; subgame perfection; backward induction in finite games; commitment; bargaining; other applications.

## **Unit-III**

### **Simultaneous move games with incomplete information**

Simultaneous move games with incomplete information Strategies; Bayesian Nash equilibrium; applications

## **Unit-IV**

### **Markets with asymmetric information**

Issues of hidden characteristics/actions and adverse selection/moral hazards in insurance and labour markets.

## **TEXT BOOKS**

1. Martin J. Osborne, *An Introduction to Game Theory*, Oxford University Press, Delhi, 2012
2. Graham Romp, *Game theory: Introduction and Application*, Oxford University and Press, 1997

<b>WELFARE ECONOMICS</b>	
<b>Course Code:</b> 23ESBA801	Continuous Evaluation: 40 Marks
<b>Credits:</b> 4	End Semester Examination: 60 Marks
<b>L T P :</b> 3 1 0	Course Category: Major
<b>Prerequisite:</b> NIL	

### **COURSE OBJECTIVES**

1. To expose the students to the basic principles of Welfare Economics.
2. To make student understand the concept Marshallian Consumer's Surplus.
3. To develop the knowledge of Hicks Consumer's surplus.
4. To highlight how equilibrium can be achieved with optimality.
5. To make students understand about different welfare functions.

### **COURSE LEARNING OUTCOMES**

The syllabus has been prepared in accordance with National Education Policy (NEP). After completion of course, students would be able to:

1. Able to understand and highlight basic welfare functions of an economy and basic principles of welfare economics.
2. put the theory learnt in daily-life situations
3. Able to understand about Hicks Consumer's surplus.
4. Learn about equilibrium and welfare
5. differentiate between different welfare functions

### **MAPPING BETWEEN COURSE OBJECTIVES AND COURSE LEARNING OUTCOMES**

Course Objectives (COs)	Course Learning Outcomes (CLOs)				
	CLO 1	CLO 2	CLO 3	CLO 4	CLO 5
CO 1					
CO 2					
CO 3					
CO 4					
CO 5					

### **COURSE CONTENTS**

#### **Unit-I**

##### **Introduction to Welfare Economics**

Scope and Purpose of Welfare Economics; Benthamite Approach to Aggregate Welfare; Assumption of Uniform Income – Utility Function of Individuals; Questions of Income Distribution

#### **Unit-II**

##### **Marshallian and Hick's concept of Consumer's Surplus**

Marshallian Welfare Economics; Consumer's Surplus- Measurement, Difficulties involved and Criticism, Hicks's Surpluses- Concept of Consumer's Surplus, Principle of

Compensating Variation; Consumer's Surplus

### **Unit-III**

#### **Welfare Economics and Optimality**

Pigovian welfare economics; Optimum Resource Allocation and Welfare Maximization, Pareto optimality – Optimum exchange conditions, Compensation criteria – Contributions of Kaldor and Hicks, The Scitovsky double criterion.

### **Unit-IV**

#### **Welfare Functions**

Samuelson's utility possibility curve; Choice Functions and Revealed Preference, Value judgements and welfare economics: Bergson's social welfare function, Arrow's impossibility theorem; Second-best optima.

### **TEXT BOOKS**

1. Boadway, R.W. and Neil,B. (1984), reprint 1991, *Welfare Economics*, Basil Blackwell, Oxford.
2. Little, I.M.D. (1958), *A critique of Welfare Economics*, Oxford University Press.
3. Scitovsky, T. (1958), *Welfare and Competition*, GOERGE ALLEN AND UNWIN LTD.
4. Sen, A., *Choice, Welfare and Measurement*, Basil Blackwell, 1997
5. Johansson(1991),*An Introduction to Modern Welfare Economics*, Cambridge University Press

### List of Minor Courses Offered by Department of Economics

<b>S.No.</b>	<b>Courses</b>	<b>Semester</b>	<b>Code</b>	<b>Credits</b>
1	Basic Microeconomics	I	24ESBA103	4
2	Basic Macroeconomics	II	24ESBA203	4
3	Public Economics	III	24ESBA304	4
4	Aspects of Indian Economy	IV	24ESBA404	4
5	Environmental Economics	V	24ESBA505	4
6	Growth and Development	V	23ESBA506	4
7	Monetary Economics	VI	24ESBA605	4
8	Economics of Industry	VII	24ESBA704	4
9	Health Economics	VIII	24ESBA804	4

<b>BASIC MICROECONOMICS</b>	
<b>Course Code:</b> 24ESBA103	Continuous Evaluation: 40 Marks
<b>Credits:</b> 4	End Semester Examination: 60 Marks
<b>L T P :</b> 31 0	Course Category: Minor
<b>Prerequisite:</b> NIL	

### **COURSE OBJECTIVES**

1. To expose the students to the basic principles of microeconomic theory.
2. To illustrate how microeconomic concepts can be applied to analyse real-life situations.
3. To highlight how the demand and supply forces work.
4. To make students understand about different market structures.

### **COURSE LEARNING OUTCOMES**

The syllabus has been prepared in accordance with National Education Policy (NEP). After completion of course, students would be able to:

1. able to understand and highlight basic economic problems of an economy and basic principles of microeconomic theory
2. put the theory learnt in daily-life situations
3. understand forces of demand and supply
4. differentiate between different market structures

### **MAPPING BETWEEN COURSE OBJECTIVES AND COURSE LEARNING OUTCOMES**

Course Objectives (COs)	Course Learning Outcomes (CLOs)			
	CLO 1	CLO 2	CLO 3	CLO 4
CO 1				
CO 2				
CO 3				
CO 4				

### **COURSE CONTENTS**

#### **Unit-I**

##### **Exploring the subject matter of Economics**

Why study economics? Scope and method of economics; the economic problem: scarcity and choice; the question of what to produce, how to produce and how to distribute output; science of economics;

#### **Unit-II**

##### **Supply and Demand:**

Markets and competition; determinants of individual demand/supply; demand/supply schedule and demand/supply curve; market versus individual demand/supply; shifts in the demand/supply curve, demand and supply together; elasticity and its application; controls on prices

#### **Unit-III**

##### **Consumption Theory**

The consumption decision - budget constraint, consumption and income/price changes, demand for all other goods and price changes;

description of preferences (representing preferences with indifference curves); properties of indifference curves; consumer's optimum choice

#### **Unit-IV**

##### **Production and Market Structures**

Behaviour of profit maximizing firms and the production process; short run costs and output decisions; costs and output in the long run.. Features of different market structures: perfect competition, monopolistic competition, oligopoly, monopoly.

##### **TEXT BOOKS**

1. Karl E. Case and Ray C. Fair, *Principles of Economics*, Pearson Education Inc., 8<sup>th</sup> Edition, 2007.
2. N. Gregory Mankiw, *Economics: Principles and Applications*, India edition by South Western, a part of Cengage Learning, Cengage Learning India Private Limited, 4<sup>th</sup> edition, 2007.
3. Joseph E. Stiglitz and Carl E. Walsh, *Economics*, W.W. Norton & Company, Inc. New York, International Student Edition, 4<sup>th</sup> Edition, 2007.
4. David Besanko and Ronald Braeutigam, *Microeconomics*, 4<sup>th</sup> Edition, Wiley Publication, 2020

<b>INTRODUCTORY MACROECONOMICS</b>	
<b>Course Code:</b> 24ESBA203	Continuous Evaluation: 40 Marks
<b>Credits:</b> 4	End Semester Examination: 60 Marks
<b>L T P :</b> 31 0	Course Category: Minor
<b>Prerequisite:</b> NIL	

### **COURSE OBJECTIVES**

1. To introduce the students to the basic concepts of Macroeconomics.
2. To discuss the preliminary concepts associated with the determination and measurement of aggregate macroeconomic variable like savings, investment, GDP.
3. To make students familiar with the concepts of money and inflation.
4. To make students understand the concept of balance of payments.

### **COURSE LEARNING OUTCOMES**

The syllabus has been prepared in accordance with National Education Policy (NEP). After completion of course, students would be able to:

1. learn basic concepts of Macroeconomics
2. acquire knowledge of how an economy works
3. develop the understanding about money and inflation
4. describe the outline of balance of payments

### **MAPPING BETWEEN COURSE OBJECTIVES AND COURSE LEARNING OUTCOMES**

<b>Course Objectives (COs)</b>	<b>Course Learning Outcomes (CLOs)</b>			
	<b>CLO 1</b>	<b>CLO 2</b>	<b>CLO 3</b>	<b>CLO 4</b>
<b>CO 1</b>				
<b>CO 2</b>				
<b>CO 3</b>				
<b>CO 4</b>				

### **COURSE CONTENTS**

#### **Unit-I**

##### **Introduction to Macroeconomics and National Income Accounting**

Basic issues studied in macroeconomics; measurement of gross domestic product; income, output and expenditure method, the circular flow; real versus nominal GDP; price indices.

#### **Unit-II**

##### **Money**

Functions of money; quantity theory of money; determination of money supply and demand; credit creation; tools of monetary policy.

#### **Unit-III**

##### **Inflation**

Inflation, types and its social costs; consequences of inflation; factors affecting demand-pull and cost-push inflation; costs of inflation; remedies to control inflation. Price indices.

#### **Unit-IV**

## **The Closed Economy in the Short Run**

Classical and Keynesian schools of thought simple Keynesian model of income determination;

### **TEXT BOOKS**

1. Dornbusch, Fischer and Startz, *Macroeconomics*, McGraw Hill, 11<sup>th</sup> edition, 2010.
  2. N. Gregory Mankiw. *Macroeconomics*, Worth Publishers, 7<sup>th</sup> edition, 2010.
  3. Olivier Blanchard, *Macroeconomics*, Pearson Education, Inc., 5<sup>th</sup> edition, 2009.
  4. Richard T. Froyen, *Macroeconomics*, Pearson Education Asia, 2<sup>nd</sup> edition, 2005.
  5. Andrew B. Abel and Ben S. Bernanke, *Macroeconomics*, Pearson Education, Inc., 7<sup>th</sup> edition, 2011
  6. Errol D'Souza, *Macroeconomics*, Pearson Education, 2009.
- Paul R. Krugman, Maurice Obstfeld and Marc Melitz, *International Economics*, Pearson Education Asia, 9<sup>th</sup> edition, 2012.
7. Paul A. Samuelson, William D. Nordhaus, *Macroeconomics*, 19<sup>th</sup> edition, McGraw Hill, 2021

<b>PUBLIC ECONOMICS</b>	
<b>Course Code:</b> 25ESBA304	Continuous Evaluation: 40 Marks
<b>Credits:</b> 4	End Semester Examination: 60 Marks
<b>L T P :</b> 3 1 0	Course Category: Minor
<b>Prerequisite:</b> NIL	

### **COURSE OBJECTIVES**

1. To study government policy from the points of view of economic efficiency and equity.
2. To deal with the nature of government intervention and its implications for allocation, distribution and stabilization.
3. To analyse government taxation and expenditures.

### **COURSE LEARNING OUTCOMES**

The syllabus has been prepared in accordance with National Education Policy (NEP). After completion of course, students would be able to:

1. learn public economic theories
2. learn about taxation and key function of public finance
3. analyse and differentiate between different types of deficits

### **MAPPING BETWEEN COURSE OBJECTIVES AND COURSE LEARNING OUTCOMES**

<b>Course Objectives (COs)</b>	<b>Course Learning Outcomes (CLOs)</b>		
	<b>CLO 1</b>	<b>CLO 2</b>	<b>CLO 3</b>
<b>CO 1</b>			
<b>CO 2</b>			
<b>CO 3</b>			

### **COURSE CONTENTS**

#### **Unit-I**

##### **Public Economic Theory**

Fiscal functions: an overview. Public Goods: definition, models of efficient allocation, pure and impure public goods, free riding. Public Utility Regulation; Regulatory Process

#### **Unit-II**

##### **Externalities**

The problem and its solutions, taxes versus regulation, property rights, the Coase theorem.

#### **Unit-III**

##### **Taxation**

Its economic effects; dead weight loss and distortion, efficiency and equity considerations, tax incidence, optimal taxation. Tax System: structure and reforms

#### **Unit-IV**

##### **Types of Government Budgets**

Revenue account, Capital Account and different concepts of budgetary deficits in the Indian context. Economic and functional classification of Central Government Budgets.

## TEXT BOOKS

1. H. Rosen, T. Gayer: *Public Finance*, 9<sup>th</sup> ed., McGraw-Hill/Irwin, 2009.
2. Joseph E. Stiglitz, *Economics of the Public Sector*, W.W. Norton & Company, 3<sup>rd</sup> edition, 2000.
3. R.A. Musgrave and P.B. Musgrave, *Public Finance in Theory & Practice*, McGraw Hill Publications, 5<sup>th</sup> edition, 1989.
4. John Cullis and Philip Jones, *Public Finance and Public Choice*, Oxford University Press, 1<sup>st</sup> edition, 1998.
5. M. Govinda Rao, *Changing Contours of Federal Fiscal Arrangements in India*, Amaresh Bagchi (ed.), *Readings in Public Finance*, Oxford University Press, 2005.
6. Shankar Acharya, 2005, -Thirty Years of Tax Reform in India, *Economic and Political Weekly*, May 14-20.
7. Rangarajan and D.K. Srivastava, 2005, -Fiscal Deficit and Government Debt: Implications for Growth and Stabilization”, *Economic and Political Weekly*, July 2-8.
8. M. Govinda Rao, 2011, -Goods and Services Tax: A Gorilla, Chimpanzee or a Genius like Primates?, *Economic and Political Weekly*, February 12-18.
9. Report of the 13<sup>th</sup> Finance Commission, 2010-15.
10. Burkhard Heer, 2019, *Public Economics The Macroeconomic Perspective*, Springer

<b>ASPECTS OF INDIAN ECONOMY</b>	
<b>Course Code:</b> 24ESBA404	Continuous Evaluation: 40 Marks
<b>Credits:</b> 4	End Semester Examination: 60 Marks
<b>L T P :</b> 31 0	Course Category: Minor
<b>Prerequisite:</b> NIL	

### **COURSE OBJECTIVES**

1. To review major trends in economic indicators and policy debates in India in the post-Independence period, with particular emphasis on paradigm shifts and turning points.
2. To make students up-to-date with major economic indicators.
3. To explain in details about major economic developments since independence.

### **COURSE LEARNING OUTCOMES**

The syllabus has been prepared in accordance with National Education Policy (NEP). After completion of course, students would be able to:

1. learn about major trends in economic indicators and policy debates in India in the post-Independence period
2. review major trends in major economic indicators
3. acquire knowledge of major economic developments since independence

### **MAPPING BETWEEN COURSE OBJECTIVES AND COURSE LEARNING OUTCOMES**

<b>Course Objectives (COs)</b>	<b>Course Learning Outcomes (CLOs)</b>		
	<b>CLO 1</b>	<b>CLO 2</b>	<b>CLO 3</b>
<b>CO 1</b>			
<b>CO 2</b>			
<b>CO 3</b>			

### **COURSE CONTENTS**

#### **Unit-I**

##### **Economic Development since Independence**

Major features of the economy at independence; growth and development under different policy regimes—goals, constraints, institutions and policy framework.

#### **Unit-II**

##### **Demography**

Malthusian and optimum theories of population, demographic transition, concepts and current status in India: life expectancy, birth rate, death rate, total fertility rate, sex composition, age composition, literacy rate, dependency ratio, infant mortality rate, maternal mortality ratio. Demographic dividend.

#### **Unit-III**

##### **Poverty, Inequality and Unemployment**

Trends and policies in poverty; inequality and unemployment: types and consequences, Programs for eradication of poverty and unemployment with special reference to the post – reform era.

## **Unit-IV**

### **International Comparisons**

Major indicators of economy within the regional groups (SAARC, ASEAN, BRICS)

#### **TEXT BOOKS**

1. VK Puri and SK Mishra, Indian Economy, Latest edition, Himalaya Publishing House
2. Dutt & Sundaram, "Indian Economy", Latest edition, S. Chand Publication, New Delhi.
3. Jean Dreze and Amartya Sen, Jean Dreze and Amartya Sen, 2013. *An Uncertain Glory: India and its Contradictions*, Princeton University Press.
4. Pulapre Balakrishnan, 2007, The Recovery of India: Economic Growth in the Nehru Era, *Economic and Political Weekly*, November.
5. Rakesh Mohan, 2008, -Growth Record of Indian Economy: 1950-2008. A Story of Sustained Savings and Investment, *Economic and Political Weekly*, May.
6. R.Nagaraj, 2006, *Aspects of India's Economic Growth and Reforms*

<b>ENVIRONMENTAL ECONOMICS</b>	
<b>Course Code:</b> 24ESBA505	Continuous Evaluation: 40 Marks
<b>Credits:</b> 4	End Semester Examination: 60 Marks
<b>L T P :</b> 3 1 0	Course Category: Minor
<b>Prerequisite:</b> NIL	

### **COURSE OBJECTIVES**

1. To focus on economic causes of environmental problems. In particular, economic principles are applied to environmental questions and their management through various economic institutions, economic incentives and other instruments and policies.
2. To make students understand economic implications of environmental policy are also addressed as well as valuation of environmental quality, quantification of environmental damages, tools for evaluation of environmental projects such as cost-benefit analysis and environmental impact assessments.
3. To discuss selected topics on international environmental problems.

### **COURSE LEARNING OUTCOMES**

The syllabus has been prepared in accordance with National Education Policy (NEP). After completion of course, students would be able to:

1. learn about valuation of environment
2. learn about sustainable development and international agreements
3. comprehend international environmental problems

### **MAPPING BETWEEN COURSE OBJECTIVES AND COURSE LEARNING OUTCOMES**

<b>Course Objectives (COs)</b>	<b>Course Learning Outcomes (CLOs)</b>		
	<b>CLO 1</b>	<b>CLO 2</b>	<b>CLO 3</b>
<b>CO 1</b>			
<b>CO 2</b>			
<b>CO 3</b>			

### **COURSE CONTENTS**

#### **Unit-I**

##### **Introduction**

Key environmental issues and problems, economic way of thinking about these problems, basic concepts from economics.

#### **Unit-II**

##### **The Design and Implementation of Environmental Policy**

Overview, Pigouvian taxes and effluent fees, tradable permits, implementation of environmental policies in India and international experience; transboundary environmental problems.

#### **Unit-III**

##### **Environmental Valuation Methods and Applications**

Valuation of non-market goods and services--theory and practice; measurement methods; cost-

benefit analysis of environmental policies and regulations. Users and non-users values, option value. Valuation Methods: Stated and revealed preference methods.

#### **Unit-IV**

##### **Sustainable Development and International agreements**

Concepts; measurement; Green GDP. Sustainable Development Goals, 2030. International environmental agreements, RIO Conventions. Kyoto protocol, UNFCCC, Bali Action Plan. Climate change and its problems. Carbon trading

#### **TEXT BOOKS**

1. Charles Kolstad, *Intermediate Environmental Economics*, Oxford University Press, 2<sup>nd</sup> edition, 2010.
2. Robert N. Stavins (ed.), *Economics of the Environment: Selected Readings*, W.W. Norton, 5<sup>th</sup> edition, 2005.
3. Roger Perman, Yue Ma, James McGilvray and Michael Common, *Natural Resource and Environmental Economics*, Pearson Education/Addison Wesley, 3<sup>rd</sup> edition, 2003.
4. Maureen L. Cropper and Wallace E. Oates, 1992, -Environmental Economics: A Survey, *Journal of Economic Literature*, Volume 30:675-740.
5. Steven N. Durlauf and Lawrence E. Blume, *The New Palgrave Dictionary of Economics*: Volume 7, Palgrave-Macmillan (2008)

<b>GROWTH AND DEVELOPMENT</b>	
<b>Course Code:</b> 23ESBA506	Continuous Evaluation: 40 Marks
<b>Credits:</b> 4	End Semester Examination: 60 Marks
<b>L T P :</b> 3 1 0	Course Category: Minor
<b>Prerequisite:</b> NIL	

### **COURSE OBJECTIVES**

1. To discuss alternative conceptions of development and their justification.
2. Then to proceed to aggregate models of growth and cross-national comparisons of the growth experience that can help evaluate these models.
3. To explain measures of inequality and connections between growth and inequality.
4. To linking political institutions to growth and inequality by discussing the role of the state in economic development and the informational and incentive problems that affect state governance.

### **COURSE LEARNING OUTCOMES**

The syllabus has been prepared in accordance with National Education Policy (NEP). After completion of course, students would be able to:

1. understand the difference between growth and development
2. apply disciplinary knowledge of different growth models
3. learn about different approaches to development

### **MAPPING BETWEEN COURSE OBJECTIVES AND COURSE LEARNING OUTCOMES**

<b>Course Objectives (COs)</b>	<b>Course Learning Outcomes (CLOs)</b>		
	<b>CLO 1</b>	<b>CLO 2</b>	<b>CLO 3</b>
<b>CO 1</b>			
<b>CO 2</b>			
<b>CO 3</b>			
<b>CO 4</b>			

### **COURSE CONTENTS**

#### **Unit-I**

#### **Conceptualization of Growth and Development**

Difference between growth and development. Alternative measures of development, documenting the international variation in these measures.

#### **Unit-II**

#### **Growth Models and Empirics**

The Harrod-Domar model, the Solow model and its variants

#### **Unit-III**

#### **Poverty and Inequality: Definitions, Measures and Mechanisms**

Inequality axioms; a comparison of commonly used inequality measures; connections between inequality and development; poverty measurement; characteristics of the poor

#### **Unit-IV**

#### **Approaches to Development**

Vicious Circle of Poverty, Lewis dual economy model, Leibenstein critical minimum effort theory, balanced vs. unbalanced growth theories.

### **TEXT BOOKS**

1. Debraj Ray, *Development Economics*, Oxford University Press, 12th edition, 2012.
2. Partha Dasgupta, *Economics, A Very Short Introduction*, Oxford University Press, 2007.
3. Abhijit Banerjee, Roland Benabou and Dilip Mookerjee, *Understanding Poverty*, Oxford University Press, 2006.
4. Kaushik Basu, *The Oxford Companion to Economics in India*, OUP, 2022.
5. Amartya Sen, *Development as Freedom*, OUP, 2001.

<b>MONETARY ECONOMICS</b>	
<b>Course Code:</b> 24ESBA605	Continuous Evaluation: 40 Marks
<b>Credits:</b> 4	End Semester Examination: 60 Marks
<b>L T P :</b> 3 1 0	Course Category: Minor
<b>Prerequisite:</b> NIL	

### **COURSE OBJECTIVES**

1. To expose students to the theory and functioning of the monetary and financial sectors of the economy.
2. To highlight the organization, structure and role of financial markets and institutions.
3. To discuss interest rates, monetary management and instruments of monetary control.
4. To cover financial and banking sector reforms and monetary policy with special reference to India are also covered.

### **COURSE LEARNING OUTCOMES**

The syllabus has been prepared in accordance with National Education Policy (NEP). After completion of course, students would be able to:

1. comprehend and understand theory and functioning of the monetary and financial sectors of the economy
2. learn about interest rate determination
3. stay updated regarding changes in financial and banking sector reforms and monetary policy

### **MAPPING BETWEEN COURSE OBJECTIVES AND COURSE LEARNING OUTCOMES**

Course Educational Objectives (COs)	Course Learning Outcomes (CLOs)		
	CLO 1	CLO 2	CLO 3
CO 1			
CO 2			
CO 3			
CO 4			

### **COURSE CONTENTS**

#### **Unit-I**

##### **Money**

Concept, functions, measurement; theories of money supply determination. Basel - I, II and III norms.

#### **Unit-II**

##### **Financial Institutions, Markets, Instruments and Financial Innovations**

Role of financial markets and institutions; problem of asymmetric information – adverse selection and moral hazard; financial crises, Money and capital markets: organization, structure and reforms in India; role of financial derivatives and other innovations.

#### **Unit-III**

## **Interest Rates**

Determination; sources of interest rate differentials; theories of term structure of interest rates; interest rates in India.

## **Unit-IV**

### **Banking System**

Indian banking system: Changing role and structure; banking sector reforms, Central Banking: Functions and goals, instruments of monetary control; monetary management in an open economy; current monetary policy of India.

### **TEXT BOOKS**

1. Rakesh Mohan, *Growth with Financial Stability- Central Banking in an Emerging Market*, Oxford University Press, 2011.
2. L. M. Bhole and J. Mahukud, *Financial Institutions and Markets*, Tata McGraw Hill, 5<sup>th</sup> edition, 2011.
3. M. Y. Khan, *Indian Financial System*, Tata McGraw Hill, 7<sup>th</sup> edition, 2011.
4. N. Jadhav, *Monetary Policy, Financial Stability and Central Banking in India*,
5. Macmillan, 2006.
6. R.B.I. – *Report of the Working Group: Money Supply Analytics and Methodology of Compilation*, 1998.
7. R.B.I. Bulletin, Annual Report and Report on Currency and Finance (latest)
8. R.R.Paul, *Monetary Economics*, Kalyani Publishers, 12<sup>th</sup> edition, 2018

<b>ECONOMICS OF INDUSTRY</b>	
<b>Course Code:</b> 24ESBA704	Continuous Evaluation: 40 Marks
<b>Credits:</b> 4	End Semester Examination: 60 Marks
<b>L T P :</b> 3 1 0	Course Category: Minor
<b>Prerequisite:</b> NIL	

### **COURSE OBJECTIVES**

1. To provide students with a comprehensive understanding of firm ownership, control, and objectives.
2. able to critically assess and explain various aspects of market structure
3. To equip students with knowledge of product-pricing theories and their real-world applications.
4. able to analyze and evaluate different patterns of industrialization
5. To familiarize students with industrial finance, including various sources of funds such as internal and external components.

### **COURSE LEARNING OUTCOMES**

The syllabus has been prepared in accordance with National Education Policy (NEP). After completion of course, students would be able to:

1. Will have a deep understanding of firm ownership, control, and objectives.
2. assess different market structures by analyzing seller's concentration, product differentiation, entry and exit conditions, and economies of scale.
3. critically evaluate and apply various product-pricing theories and evidence.
4. analyze and compare different patterns of industrialization.
5. analyze the components of industrial finance.

### **MAPPING BETWEEN COURSE OBJECTIVES AND COURSE LEARNING OUTCOMES**

<b>Course Objectives (COs)</b>	<b>Course Learning Outcomes (CLOs)</b>				
	<b>CLO 1</b>	<b>CLO 2</b>	<b>CLO 3</b>	<b>CLO 4</b>	<b>CLO5</b>
<b>CO 1</b>					
<b>CO 2</b>					
<b>CO 3</b>					
<b>CO 4</b>					
<b>CO 5</b>					

## **COURSE CONTENTS**

### **Unit-I**

#### **Introduction**

Scope and methods of Industrial Economics; Basic concepts of firm, industry and market; organizational forms. Separation of ownership from management and control. Alternative goals of firm: Neo-classical and contributions of R Marris and Williamson.

### **Unit-II**

#### **Elements of Market Structure**

Sellers' and buyers' concentration, product differentiation, conditions of entry. Determinants and measurement of sellers's concentration. Herfindahl–Hirschman index

### **Unit-III**

Evolution of Market structure – conduct - performance paradigm. Economics of Advertisement: concepts, market structure and advertisement. Economics of R & D: Concepts, measurement and market structure and innovation.

### **Unit-IV**

Allocative efficiency: Market structure and profitability. Productive efficiency: Degree of sub optimal capacity. Theory of industrial location, contribution of Weber and Sargent Florence.

## **TEXT BOOKS**

1. Tirole, Jean (2007), 'The Theory of Industrial Organization', Prentice Hall India Learning Private Limited (PHI).
2. Martin, Stephen (2001), 'Advance Industrial Economics', 2nd Revised Edition, Blackwell Publisher.
3. Cabral, Luis, M.B. (2001), 'Introduction to Industrial Organization', MIT Press.
4. Barthwal R.R. (2010), 'Industrial Economics: An Introductory Textbook', New Age International Publisher.
5. Mary Palcy Marshall and Alfred Marshall (2008), *The Economics of Industry*, Bibliobazaar

<b>HEALTH ECONOMICS</b>	
<b>Course Code:</b> 24ESBA804	Continuous Evaluation: 40 Marks
<b>Credits:</b> 4	End Semester Examination: 60 Marks
<b>L T P :</b> 3 1 0	Course Category: Major
<b>Prerequisite:</b> NIL	

### **COURSE OBJECTIVES**

4. To make students familiar with the Sustainable Development Goals adopted by the United Nations member states, which include among other goals, achieving universal primary education, reducing child mortality, improving maternal health and combating diseases.
5. To provide a microeconomic framework to analyse, among other things, individual choice in the demand for health, government intervention and aspects of inequity and discrimination in both sectors.
6. To give an overview of health in India.

### **COURSE LEARNING OUTCOMES**

The syllabus has been prepared in accordance with National Education Policy (NEP). After completion of course, students would be able to:

1. understand and communicate Sustainable Development Goals
2. reply for microeconomic frameworks for health
3. comprehend India's health care

### **MAPPING BETWEEN COURSE OBJECTIVES AND COURSE LEARNING OUTCOMES**

<b>Course Objectives (COs)</b>	<b>Course Learning Outcomes (CLOs)</b>		
	<b>CLO 1</b>	<b>CLO 2</b>	<b>CLO 3</b>
<b>CO 1</b>			
<b>CO 2</b>			
<b>CO 3</b>			

### **COURE CONTENTS**

#### **Unit-I**

#### **Health and Related Terms**

Definitions: health, health care, health care costs, health expenditure, health as a merit good, health as an economic good, health: a necessity or luxury good, health as human capital.

#### **Unit-II**

#### **Demand in Healthcare**

Utility and Health, Demand for Health care, Measuring price sensitivity with elasticities, The Grossman Model, The Grossman Model and Health Disparities

### **Unit-III**

#### **Financing and Insurance in Health Care**

Financing Health care, Uncertainty and Risk - Health Insurance, Information Economics in Health: Moral Hazard, Information Economics in Health: Adverse Selection

### **Unit-IV**

#### **Health Expenditure and Impoverishing Effects**

Catastrophic Health Expenditure and Its Measures: Headcount, Overshoot, Mean Positive Overshoot, Concentration Curve and Concentration Index

Measuring Impoverishing Effects of Catastrophic Health Expenditure: Poverty Headcount, Poverty Gap

### **TEXT BOOKS**

- Bhattacharya, J., Hyde, T., & Tu, P. (2014). Health Economics. Palgrave Macmillan.
- Coelli, T. J., Rao, D. S. P., O'Donnell, C. J., & Battese, G. E. (2005). An introduction to efficiency and productivity analysis. Springer science & business media.
- Morris, S., Devlin, N., Parkin, D., & Spencer, A. (2012). Economic Analysis in Health Care (2nd ed.). Wiley.
- Zweifel, P., Breyer, F., & Kifmann, M. (2009). Health Economics (2nd ed.). Springer.
- Dr. Seozy Bhatia (2014) Public Health Expenditure & Health Status (1<sup>st</sup> ed.) Regal publications

## Multidisciplinary Course Offered by Department of Economics

<b>INTRODUCTORY ECONOMICS</b>	
<b>Course Code:</b>	Continuous Evaluation: 40 Marks
<b>Credits: 3</b>	End Semester Examination: 60 Marks
<b>L T P : 3 0 0</b>	Course Category: MDC
<b>Prerequisite: NIL</b>	

### **COURSE OBJECTIVES**

1. To introduce the fundamental concepts and scope of economics
2. To provide a comprehensive understanding of microeconomic principles.
3. To familiarize students with the fundamental concepts of macroeconomics.

### **COURSE LEARNING OUTCOMES**

The syllabus has been prepared in accordance with National Education Policy (NEP). After completion of course, students would be able to:

1. able to define and explain the scope of economics
2. able to understand and analyze the principles of microeconomics
3. able to comprehend key macroeconomic concepts

### **MAPPING BETWEEN COURSE OBJECTIVES AND COURSE LEARNING OUTCOMES**

<b>Course Objectives (COs)</b>	<b>Course Learning Outcomes (CLOs)</b>		
	<b>CLO 1</b>	<b>CLO 2</b>	<b>CLO 3</b>
<b>CO 1</b>			
<b>CO 2</b>			
<b>CO 3</b>			

### **COURE CONTENTS**

#### **Unit I: Introduction**

Definition and Scope of economics; Microeconomics and Macroeconomics; Positive and Normative Economics; Central Problems of an Economy; Economic Systems

#### **Unit II: Introduction to Microeconomics**

Demand: meaning, law of demand, schedule and demand curve, determinants of demand, Supply: meaning, law of supply, schedule and supply curve, determinants of supply, Market equilibrium.

#### **Unit III: Introduction to Macroeconomics**

National Income – Concepts; real versus nominal GDP, Price Indices – WPI, CPI and GDP deflator; Money – Types and Functions; Measures of Money Supply; Inflation – Meaning and Types.

#### Text Books

1. Mankiw, N (2020). Economics: Principles and Applications, 9 th Ed. Cengage Learning.

2. Samuelson, P. & Nordhaus, W (2010). Principles of Economics. 9 th McGraw-Hill, New York.
3. Bernheim, B. Douglas, and Michael Dennis Whinston. 2014. Microeconomics. New York, NY: McGraw-Hill/Irwin.
4. Ahuja H.L. (2020), Advanced Economic Theory— Microeconomic Analysis, 20th Edition, S. Chand & Company, New Delhi.
5. Ahuja, H. L (2020), “Macroeconomic -theory and Policy, 20th Edition, S. Chand and Company Ltd. New Delhi.

## LIVE PROJECTS

<b>LIVE PROJECTS</b> (Faculty of Science , Humanities & Social Science)	
<b>Course Code:</b>	Continuous Evaluation:
<b>Credits: 4</b>	End Semester Examination:
<b>Duration : Continuous</b>	Course Type:
Prerequisite: Nil	

### LIVE PROJECT COURSE OBJECTIVES

- To provide qualitative enhancements to the UG students of FSH.
- Offered live projects serve to enhance students employability attributes to make them job-ready.
- To provide experiential learning to students for an ability to work in a real-life work situation.
- To provide a learning ground for students to get an opportunity to apply what they have learned in classes to real-world scenarios. An opportunity to work in real constraints of resources, people factors and other organizational constraints. Classroom projects are primarily focused on singular concepts whereas live projects allow integrating knowledge across various functions.
- Live projects develop employment abilities in students and provide industry experience and insights.

### LIVE PROJECT OUTCOMES

On completion of the live project(s), students will be

- Capable enough to exhibit strong foundation knowledge of domain area.
- Students can take a challenge and place better career development scenario in professional life.
- It gives a strong boost for experienced to take their career into next stage.
- Successfully completion of live projects shows a better stand and technical expertise in domain area.

### ASSESSMENT DETAILS

Assessment of Live Project(s) & Industrial visit include the following:

- Formative & submissive assessment.
- During the final assessment students have to submit a hard copy of the project, the presentation has to be given by the students.
- Prototype or Working Model, in case of Live Project is taken up for it.
- Report on Project.
- Viva Voce.
- Final Presentation in front evaluation team.

## PERIODIC MONITORING

<b>DURATION→</b>	<b>Continuous Monitoring throughout the Project</b>
<b>EVALUATION PROCESS</b>	<ol style="list-style-type: none"><li>1. Student will prepare the report on the work done.</li><li>2. Student will prepare the presentation on the learning outcomes.</li><li>3. Student will give presentation about the learning achieved.</li></ol>
<b>EVALUATION</b>	<ul style="list-style-type: none"><li>❖ <b>Formative/Continuous Evaluation : 60 %</b></li><li>❖ <b>End Semester Evaluation : 40 %</b></li></ul>

## SIGNIFICANCE OF LIVE PROJECTS

Live projects play a significant role in providing real-time education to the students. During live projects, students are encouraged to identify the domain they want to work in and select the relevant project. They also get to meet working professionals or organizations and discuss with them about the project. In some institutions, live projects are considered as assignments and students get points for it. This is important as it helps the students during their placements.

<b>INTERNSHIP</b> (Faculty of Science, Humanities & Social Science)	
<b>Course Code:</b>	Continuous Evaluation: 60 Marks
<b>Credits: 4</b>	End Semester Examination: 40 Marks
<b>Duration : 3 / 4 Weeks</b>	Course Type:
Prerequisite: Nil	

### **COURSE EDUCATIONAL OBJECTIVES**

- To have qualitative improvements in the UG students of FSH.
- To provide experiential learning to students to work in the real life situation.
- Expose the student to professional role models or mentors who will provide the student with support in the early stages of the internship and provide an example of the behaviours expected in the intern's workplace.
- Assist the student's development of employer-valued skills such as teamwork, communications and attention to detail.

### **COURSE LEARNING OUTCOMES**

On completion of course, students will be

- Able to demonstrate various aspects of theory as well as practical.
- Able to build and expand network of professional relationships and contacts.
- Develop a solid work ethic and professional demeanour, as well as a commitment to ethical conduct and social responsibility.
- At the end of the course, a student will be competent in their domain area.

### **PROJECT IDENTIFICATION**

- The internships will be conducted after examination of the 4 semesters.
- The Internship will be of 4 credits.
- Projects will be undertaken by the students in collaboration with Student-Faculty, NGO, Government Departments and Industries.
- Projects will be identified keeping in mind application of knowledge & skills, relevance of project in terms of expectation of society.
- Allocation of the project to the students with active participation of students, faculty and concern authorities.

### **MONITORING OF THE PROJECTS**

- Project should be supervised by faculty mentor and place where students is undertaking the project.
- Effective monitoring of project progress undertaken by the students through by digital technologies.
- Active involvement of industry & faculty supervisor.
- Weekly monitoring of the project through Faculty mentor & Industry person.
- All the project have to analyze in-depth and the outcome of the project should be identified

### **ASSESSMENT DETAILS**

Assessment of SIP include the following:

- Formative & submissive assessment three times during the internship.
- During the final assessment students have to submit a hard copy of the project, the

presentation has to be given by the students.

- Report on Project taken up.
- Viva Voce.
- Final Presentation in front of the industry experts and Faculty mentor.

### PERIODIC MONITORING

Student will be monitored on periodic basis, both by the In-charge at the Industry and the Faculty In-charge. The Industry In-charge will submit the Mid-Term and End-Term Evaluation report. However, the faculty In-charge will take periodic presentation to keep a check on the progress.

<b>DURATION→</b>	<b>3 to 4 Weeks (After 4<sup>th</sup> Semester End Semester Examination)</b>
<b>EVALUATION PROCESS</b>	<ol style="list-style-type: none"> <li>1. Student will prepare the report on the work done.</li> <li>2. Student will prepare the presentation on the learning outcomes.</li> <li>3. Student will give presentation about the learning achieved.</li> </ol>

<b>EVALUATION</b>	<ul style="list-style-type: none"> <li>❖ <b>Formative/Continuous Evaluation : 60 %</b></li> <li>❖ <b>End Semester Evaluation : 40 %</b></li> </ul>
-------------------	--

### EVALUATION PARAMETER FOR SUMMER INTERNSHIP PROJECT (SIP)

#### 1. Evaluation Parameter for Formative Assessment (Summer Internship Project)

Continuous Assessment will perform by respective faculty & Industry coordinators within stipulated time period. Evaluation Parameter classified as follows:

S. No.	Basis of Evaluation Parameter with Time frame	Marks
1.	Synopsis Presentation (Week 1 <sup>st</sup> )	15
2.	Relevance and linkage of the Identify issue with functional area of discipline (Week 1 <sup>st</sup> )	10
3.	Survey of Literature (Week 2 <sup>nd</sup> )	10
4.	Research Methodology & Data collection(3 <sup>rd</sup> to 4 <sup>th</sup> Week)	15
5.	Overall understanding of the area of study(3 <sup>rd</sup> to 4 <sup>th</sup> Week onwards)	10
<b>Total Marks</b>		<b>60</b>

#### 2. Evaluation Parameter for End Term Assessment (Summer Internship Project)

S. No.	Basis of Evaluation Parameter	Marks
1.	Quality Of Content Design	10
2.	Identification of Contemporary Issue	10
3.	Innovation in learning Process	10
4.	Presentation of Content & Delivery Mechanism	10
<b>Total Marks</b>		<b>40</b>

<b>DISSERTATION</b>	
<b>Course Code:</b>	Continuous Evaluation: 40 Marks
<b>Credits: 6</b>	End Semester Examination: 60 Marks
<b>L T P : 5 1 0</b>	Course Category:
<b>Prerequisite: NIL</b>	

### **COURSE OBJECTIVES**

1. To enable students to design and conduct an original and ethical research

### **COURSE LEARNING OUTCOMES**

The syllabus has been prepared in accordance with National Education Policy (NEP). After completion of course, students would be able to:

1. design and conduct an original and ethical research.
2. able to write a dissertation in the APA format. The research done can either be empirical/data based (quantitative, qualitative, or mixed-methods) or it can be in the form of a critical review of research and theory.
3. apply statistical tools to research problems

### **MAPPING BETWEEN COURSE OBJECTIVES AND COURSE LEARNING OUTCOMES**

<b>Course Objectives (COs)</b>	<b>Course Learning Outcomes (CLOs)</b>		
	<b>CLO 1</b>	<b>CLO 2</b>	<b>CLO 3</b>
<b>CO 1</b>			

## Value Added Course

<b>Department of Environmental Sciences</b>			
<b>Programme: Undergraduate program</b>			
<b>Year/Semester</b>	<b>1<sup>ST</sup>/I or II</b>	<b>Course Category</b>	<b>Value Added Course (VAC)</b>
<b>Course Code</b>	<b>23VAC101/23VAC201</b>	<b>Course Title</b>	Environmental Protection & Sustainable development
<b>Continuous Evaluation: 70</b>		<b>End Semester Examination: 30</b>	
<b>Prerequisite: Nil</b>		<b>L T P : 2 0 0</b>	<b>Credits: 2</b>

**Course Objectives (CO)** - The Course is designed with the following objectives:

1. To provide a comprehensive understanding of the relationship between humans and the environment.
2. Aims to introduce students to the different components of the environment.
3. To develop the understanding of pollution, its causes, and their effects
4. To gain the knowledge of climate change and the contemporary issues

**Course Learning Outcomes (CLO)** – The Syllabus has been prepared in accordance with the NEP-2020 and based on the UGC curriculum framework. Upon completion of this course, learners will be able to:

1. Demonstrate to safeguard the Earth’s environment and its resources.
2. Explain sustainable development, its goals, challenges, and global strategies.
3. Analyse the environmental pollution and sensitize themselves to adverse health impacts of pollution.
4. Appraise the concept of climate change, its science and response measures.

### MAPPING COURSE OBJECTIVES (COs) & COURSE LEARNING OUTCOMES (CLOs)

COURSE OBJECTIVES (COs)	COURSE LEARNING OUTCOMES (CLOs)			
	CLO1	CLO2	CLO3	CLO4
<b>CO1</b>	√			
<b>CO2</b>		√		
<b>CO3</b>			√	
<b>CO4</b>				√

### COURSE CONTENTS

#### Unit-1 Human and Environment

Introduction to earth environment, Scope and importance. Components of environment: Lithosphere, Hydrosphere, Biosphere, Atmosphere. The man- environment interaction,

Population growth and natural resource exploitation, Industrial revolution, and impact on the environment, Global environmental challenges at global, regional and local level.

## **Unit-2**

### **Natural Resources, Sustainable Development & Sustainable living**

Overview of natural resources: Definition of resource; Classification of natural resources-, renewable, and non-renewable. Resources: Forests, wetlands, Status and challenges. Water resources: Types of water resources, issues and challenges; Soil and mineral resources: Important minerals; Environmental problems due to extraction of minerals, Soil as a resource and its degradation. Energy resources: renewable and non-renewable sources of energy. Introduction to sustainable development: Sustainable Development Goals (SDGs)- targets and indicators, challenges, and strategies for SDGs. Ways to live in sustainable manner- Conservation of energy, water at home, plantation, waste segregation, kitchen gardening.

## **Unit-3**

### **Conservation of Biodiversity and Ecosystems**

Biodiversity and its distribution: Biodiversity as a natural resource; Levels and types of biodiversity; Biodiversity in India and the world; Biodiversity hotspots; Major ecosystem types in India and their basic characteristics, forests, wetlands, grasslands, agriculture, coastal and marine; Ecosystem services- classification and their significance. Threats to biodiversity and ecosystems. Major conservation policies: in-situ and ex-situ conservation approaches; Major protected areas; National and International instruments for biodiversity conservation: The role of traditional knowledge, community-based conservation. Major International Environmental Agreements: Convention on Biological Diversity (CBD); Cartagena Protocol on Biosafety, Ramsar Convention on Wetlands of International Importance, The Wildlife (Protection) Act, 1972, The Biological Diversity Act, 2002.

## **Unit-4**

### **Environmental Pollution and Health**

Understanding of pollutant and pollution; Types of Pollution, Air pollution: Sources of air pollution; Primary and secondary pollutants; Criteria pollutants, Indoor air pollution; Adverse health impacts of air pollutants, National Ambient Air Quality Standards. Water pollution: Sources of water pollution; River, lake and marine pollution, groundwater pollution; water quality Water quality parameters and standards; adverse health impacts of water pollution on human and aquatic life. Soil pollution and solid waste: Soil pollutants and their sources; Solid and hazardous waste; Impact on human health. Noise pollution: Definition of noise; Unit of measurement of noise pollution; Sources of noise pollution; Noise standards; adverse impacts of noise on human health. Thermal and Radioactive pollution: Sources and impact on human health and ecosystems.

## **Unit-5**

### **Climate Change: Impacts, Adaptation and Mitigation**

Understanding climate change: Natural variations in climate, Anthropogenic climate change from greenhouse gas emissions– past, present and future; Projections of global climate change

with special reference to temperature, rainfall, climate variability and extreme events, Climate change projections for the Indian sub-continent. Observed impacts of climate change on ocean and land systems; Sea level rise, changes in marine and coastal ecosystems; Impacts on forests and natural ecosystems; Impacts on animal species, agriculture, health. the concept of vulnerability, adaptation and resilience, Synergies between adaptation and mitigation measures, Concept of carbon neutrality, net zero targets, Carbon capture and storage, National climate action plan and Intended Nationally Determined Contributions (INDCs).

## **Unit 6**

### **Case Studies and Field Work**

The students are expected to be engaged in one of the following or similar identified activities.

Field visits to identify local issues, make observations including data collection and prepare a brief report, or Documentation of campus biodiversity or Campus environmental management activities such as solid waste disposal, water management, and sewage treatment.

### **RECOMMENDED TEXT BOOKS:**

1. Masters, G. M., & Ela, W. P. (2008). Introduction to environmental engineering and science Englewood Cliffs, NJ: Prentice Hall.
2. Jackson, A. R., & Jackson, J. M. (2000). Environmental Science: The Natural Environment and Human Impact. Pearson Education.
3. Rajagopalan, R. (2011). Environmental Studies: From Crisis to Cure. India: Oxford University Press
4. Environmental Studies for Undergraduate Courses by Erach Bharucha, UGC New Delhi

### **REFERENCE BOOKS:**

1. A.K De Environmental Chemistry New age Publisher, 2016.
2. "Ecology & Environment" P D Sharma, Rastogi Publications, 2009.
3. [www.ipcc.org](http://www.ipcc.org); <https://www.ipcc.ch/report/sixth-assessment-report-cycle/>.
4. Central Pollution Control Board Web page for various pollution standards. <https://cpcb.nic.in/standards/>

SOFT SKILLS TRAINING MODULES/COURSES STRUCTURE  
SEMESTERWISE IN FACULTY OF SCIENCE & HUMANITIES  
(UG COURSES)

**SEMESTER – I**

Department Of Training & Placement			
Training Cell			
Programme	Faculty of Science & Humanities		
Year / Semester	1 / 1	Course Category	SEC
Course Code	23SS151	Course Title	Effective Communication Skills
Continuous Evaluation: 70		End Term Examination: 30	
Prerequisite: Nil		L T P: 0 0 2	Credits: 1

a. Training Objectives (TO): -

- TO1. To define and understand communication and its process.
- TO2. To make student practice on communication skills via LSRW approach via instructing,engaging, assessing and re engaging.
- TO3. To enhance the confidence and motivation of a student by honing his communicationskills.

b. Training Learning Outcomes (TLO): -

**After the completion of the training, the student will have ability:**

- TLO1. To communicate effectively and interact with people with confidence.
- TLO2. To demonstrate and differentiate between various forms of communication.
- TLO3. To apply effective communication skills confidently which a student need to get ahead in joband life.

Mapping Matrix of Training Objectives (TO) & Training Learning Outcomes (TLO)			
TRAINING LEARNING OUTCOMES (TLO) □	TLO1	TLO2	TLO 3
TRAINING OBJECTIVES (TO) □			
TO			

1			
TO 2			
TO 3			

Unit	Course Contents	Student Engagement Activity
<b>Unit-I</b>	<b>Verbal Communication Skills</b> <ul style="list-style-type: none"> <li>• Communication Process &amp; its importance</li> <li>• 7 C's of Communication</li> <li>• Formal &amp; Informal Conversation</li> </ul>	Conversation Cards Activity

	<ul style="list-style-type: none"> <li>Requirements of effective verbal communication</li> </ul>	
<b>Unit-II</b>	<b>Nonverbal Communication Skills</b> <ul style="list-style-type: none"> <li>Importance of nonverbal skills in effective communication</li> <li>Types of nonverbal (body language) skills</li> <li>Barriers to nonverbal communication</li> </ul>	Power of Body Language Activity
<b>Unit-III</b>	<b>Listening Skills</b> <ul style="list-style-type: none"> <li>Role of listening skills in effective communication</li> <li>Barriers to listening</li> <li>Overcoming listening barriers</li> <li>Empathetic listening &amp; avoiding selective listening</li> </ul>	Chinese Whisper Activity
<b>Unit-IV</b>	<b>Reading &amp; Writing Skills</b> <ul style="list-style-type: none"> <li>Types of reading strategies to enhance improve reading skills</li> <li>Types of written communication</li> </ul>	The What IF Activity
<b>Unit- V</b>	<b>Visual Communication</b> <ul style="list-style-type: none"> <li>Types of visual communication</li> <li>Importance of visual communication</li> <li>Picture narration/description technique</li> </ul>	Interpret The Picture Activity

<b>Learning Resources</b>	
<b>Text Book</b>	<i>Communication Skills</i> by Sanjay Kumar & Pushp Lata: Oxford University Press, 2019.
<b>Suggested Reference Book</b>	<i>Personality Development &amp; Communication Skills-1</i> by C B Gupta: Scholar Tech Press, 2019.

### Pedagogy

- The training will be based on the concept of learning by practice.
- The training will involve 30% of the training time on briefing and demonstration & the remaining 70% will be focusing on student's engagement in training activities.
- The training will follow a circular approach where students are engaged, evaluated, given feedback and then re engaged.

Internal (Continuous Assessment & Evaluation) & End Term (Assessment & Evaluation) for Effective Communication Skills Course

Unit No.	Unit Name	Internal Assessment Parameter	Internal Marks (70)	End Term Assessment Parameters	End Term Marks (30)
I	Verbal Communication Skills	Speech Activity	15	Written Test	10
II	Non Verbal Communication Skills	Role Play	15		
III	Listening Skills	Oral Assessment / Written Assessment	10		
IV	Reading & Writing Skills		20	Viva	20
V	Visual Communication		10		

## SEMESTER –II

<b>Department Of Training &amp; Placement</b>			
<b>Training Cell</b>			
<b>Programme</b>	<b>Faculty of Science &amp; Humanities</b>		
<b>Year / Semester</b>	<b>1 / 2</b>	<b>Course Category</b>	<b>SEC</b>
<b>Course Code</b>	<b>23SS252</b>	<b>Course Title</b>	<b>Teamwork &amp; Interpersonal Skills</b>
<b>Continuous Evaluation: 70</b>		<b>End Term Examination: 30</b>	
<b>Prerequisite: Nil</b>		<b>L T P: 0 0 2</b>	<b>Credits: 1</b>

c. Training Objectives (TO): -

- TO1. To make the students learn & demonstrate effective teamwork, leadership & interpersonal skills.
- TO2. To equip the students with capability of handling stress and utilization of work time effectively.
- TO3. To make the students understand the importance and application of Emotional Quotient, Critical Thinking & Problem Solving Skills.

d. Training Learning Outcomes (TLO): -

**After the completion of the training, the student will have ability:**

- TLO1. To be confident working in a team and leading it as well.
- TLO2. To categorize the work and achieve expected performance within the time frame & will be able to adapt himself to work under various kinds of stress and re-energies himself to bounce back from such situations.
- TLO3. To get benefitted from Emotional Quotient in building stronger professional relationships and achieving career and personal goals.
- TLO4. To face complex problems and effectively deal with it in the job due to Critical Thinking & Problem Solving Skills.

<b>Mapping Matrix of Training Objectives (TO) &amp; Training Learning Outcomes (TLO)</b>				
<b>Training Learning Outcomes (TLO) □</b>	TLO1	TLO2	TLO3	TLO4
<b>Training Objectives (TO) □</b>				

TO 1				
TO 2				
TO 3				

Unit	Course Contents	Student Engagement Activity
Unit - I	<b>Team Management</b> <ul style="list-style-type: none"> <li>• Team communication &amp; team conflict resolution</li> <li>• Role of a team leader</li> <li>• Team goal setting &amp; understanding team development</li> <li>• Team dynamics &amp; multicultural team activity</li> <li>• Johari Window Model</li> </ul>	Collaborative Working Game Activity
Unit-II	<b>Time Management</b> <ul style="list-style-type: none"> <li>• Time management matrix</li> <li>• Pareto Principle (80/20 rule)</li> <li>• Development process of plan of action</li> </ul>	What You Did Yesterday Activity
Unit-III	<b>Leadership</b> <ul style="list-style-type: none"> <li>• Difference between leadership &amp; management</li> <li>• Types of leadership style</li> <li>• Core leadership skills</li> </ul>	Lead The Blindfolded Activity
Unit-IV	<b>Stress Management</b> <ul style="list-style-type: none"> <li>• Sign of stress &amp; its impact</li> <li>• Types of stress</li> <li>• Techniques of handling stress</li> </ul>	Keeping Cool Activity
Unit - V	<b>Emotional Intelligence</b> <ul style="list-style-type: none"> <li>• Emotional intelligence &amp; emotional competence</li> <li>• Components &amp; behavioral skills of emotional intelligence</li> </ul>	Guess The Emotion Game Activity
Unit - VI	<b>Critical Thinking</b> <ul style="list-style-type: none"> <li>• Types of thinking &amp; Characteristics</li> <li>• Critical thinking standards</li> <li>• Barriers to critical thinking</li> </ul>	Think Pair Share Activity

Learning Resources	
Text Book	<i>Communication Skills</i> by Sanjay Kumar & Pushp Lata: Oxford University Press, 2019.
Suggested Reference Book	<i>Personality Development &amp; Communication Skills-1</i> by C B Gupta: Scholar Tech Press, 2019.(ISBN No. – 9382209131)

### Pedagogy

- The training will be based on the concept of learning by practice.
- The training will involve 30% of the training time on briefing and demonstration & the remaining 70% will be focusing on student's engagement in training activities.
- The training will follow a circular approach where students are engaged, evaluated, given feedback and then re engaged.

**Internal (Continuous Assessment & Evaluation) & End Term (Assessment & Evaluation) for  
Teamwork & Interpersonal Skills**

Unit No.	Unit Name	Internal Assessment Parameter	Internal Marks (70)	End Term Assessment Parameters	End Term Marks (30)
I	Team Management	Role Play / Group Activity	10	Written Test	10
II	Time Management		10		
III	Leadership		10		
I V	Stress Management	Assignment	10	Viva	20
V	Emotional Intelligence	Written Test	10		
V I	Critical Thinking		20		

<b>Department Of Training &amp; Placement</b>			
<b>Training Cell</b>			
<b>Programme</b>	<b>Faculty of Science &amp; Humanities</b>		
<b>Year / Semester</b>	<b>2 / 3</b>	<b>Course Category</b>	<b>SEC</b>
<b>Course Code</b>	<b>23SS353</b>	<b>Course Title</b>	<b>Presentation Skills</b>
<b>Continuous Evaluation: 70</b>		<b>End Term Examination: 30</b>	
<b>Prerequisite: Nil</b>		<b>L T P: 0 0 2</b>	<b>Credits: 1</b>

e. Training Objectives (TO):-

- TO1. To develop the public speaking skills in the student.
- TO2. To make the students learn and adapt to the necessary etiquettes required working and growing in corporate culture.
- TO3. To make the students learn to speak in a debate session by putting his arguments and making others accept his viewpoint convincingly.

f. Training Learning Outcomes (TLO): -

**After the completion of the training, the student will have ability:**

- TLO1. To be confident in presenting himself in front of audience.
- TLO2. To become professional in his approach towards work culture.
- TLO3. To enhance the level communication skills while interacting with others.

<b>Mapping Matrix of Training Objectives (TO) &amp; Training Learning Outcomes (TLO)</b>			
<b>Training Learning Outcomes (TLO) □ Training Objectives (TO) □</b>	TLO1	TLO2	TLO3
TO1			
TO2			
TO3			

<b>Unit</b>	<b>Course Contents</b>	<b>Student Engagement Activity</b>
<b>Unit-I</b>	<b>Importance of Presentation Skills</b> <ul style="list-style-type: none"> <li>• 4 P's of presentation skills – plan, prepare, practice &amp; present</li> <li>• Guidelines for effective presentation</li> </ul>	PPT Presentation Activity
<b>Unit-II</b>	<b>Storytelling Skills</b> <ul style="list-style-type: none"> <li>• 4 P's of storytelling skills – people, place, plot &amp; purpose</li> <li>• Types of storytelling techniques</li> <li>• Importance of storytelling skills</li> </ul>	Start From Where I Stopped Activity
<b>Unit-III</b>	<b>Corporate Culture Etiquettes</b> <ul style="list-style-type: none"> <li>• Importance of professional behavior at work place</li> <li>• Understand &amp; implementation of etiquettes at work place</li> <li>• Importance of values &amp; ethics</li> <li>• Types of professional / corporate etiquettes</li> </ul>	Etiquettes Role Play Activity
<b>Unit-IV</b>	<b>Debate / Extempore</b> <ul style="list-style-type: none"> <li>• Difference between debate, extempore &amp; group discussion</li> <li>• Learning argument / counter argument in debate</li> </ul>	Current Affair Topic Speech Activity
<b>Unit-V</b>	<b>Art of Creating Impression</b> <ul style="list-style-type: none"> <li>• Importance of creating first impression</li> <li>• 6 ways to master the art of creating impression</li> </ul>	Speech Activity
<b>Unit-VI</b>	<b>Problem Solving</b> <ul style="list-style-type: none"> <li>• Types of problems &amp; its solutions</li> <li>• Problem solving process &amp; tools</li> </ul>	Think Pair Share Activity

<b>Text Book</b>	<i>Communication Skills</i> by Sanjay Kumar & Pushp Lata: Oxford University Press, 2019.
<b>Suggested Reference Book</b>	<i>Personality Development &amp; Communication Skills-1</i> by C B Gupta: Scholar Tech Press, 2019.(ISBN No. – 9382209131)

## Pedagogy

- The training will be based on the concept of learning by practice.
- The training will involve 30% of the training time on briefing and demonstration & the remaining 70% will be focusing on student's engagement in training activities.
- The training will follow a circular approach where students are engaged, evaluated, given feedback and then re engaged.

□

### Internal (Continuous Assessment & Evaluation) & End Term (Assessment & Evaluation) for Presentation Skills

Unit No.	Unit Name	Internal Assessment Parameter	Internal Marks (70)	End Term Assessment Parameters	End Term Marks (30)
I	Importance of Presentation Skills	Presentation Activity	20	Written Test	10
II	Storytelling Skills	Speech Activity	15		
III	Corporate Culture Etiquettes	Assignment	10		
IV	Debate/Extempore	Speech Activity / Written Activity	15	Viva	20
V	Art of Creating Impression		10		
VI	Problem Solving				

<b>Department Of Training &amp; Placement</b>			
<b>Training Cell</b>			
<b>Programme</b>	<b>Faculty of Science &amp; Humanities</b>		
<b>Year / Semester</b>	<b>2 / 4</b>	<b>Course Category</b>	<b>SEC</b>
<b>Course Code</b>	<b>23SS454</b>	<b>Course Title</b>	<b>Professional Skills</b>
<b>Continuous Evaluation: 70</b>		<b>End Term Examination: 30</b>	
<b>Prerequisite: Nil</b>		<b>L T P: 0 0 2</b>	<b>Credits: 1</b>

g. Training Objectives (TO): -

- TO1. To encourage students to learn and apply the effective writing skills.
- TO2. To make the students learn various types of business correspondence letters, cover letters & resume.
- TO3. To encourage students to learn as to how to talk and convince people in GD & interview.
- TO4. To make the students learn to build rapport for building positive relationships professionally at workplace.

h. Training Learning Outcomes (TLO): -

**After the completion of the training, the student will have ability:**

- TLO1. To understand the importance of professional writing required in workplace.
- TLO2. To explore different formats in resume, cover letters & other business related letters.
- TLO3. To develop knowledge, skills and understanding people in-group and individually.
- TLO4. To apply communication strategies either in-group or one on one basis and will be confident to lead the discussion among them.

<b>Mapping Matrix of Training Objectives (TO) &amp; Training Learning Outcomes (TLO)</b>				
<b>Training Learning Outcomes (TLO) □ Training Objectives(TO)□</b>	TLO1	TLO2	TLO3	TLO4
TO1				
TO2				
TO3				
TO4.				

<b>Unit</b>	<b>Course Contents</b>	<b>Student Engagement Activity</b>
<b>Unit-I</b>	<b>Email Writing</b> <ul style="list-style-type: none"> <li>• Importance of email communication skills</li> <li>• Basic rules of effective email writing</li> <li>• Structure of email – address, subject, message text, attachments, signature</li> </ul>	Email Practice Activity
<b>Unit-II</b>	<b>Resume Writing</b> <ul style="list-style-type: none"> <li>• Difference between Resume, CV &amp; Bio data</li> <li>• Guidelines of resume writing</li> <li>• Resume preparation of the student</li> </ul>	Resume Making Activity
<b>Unit-III</b>	<b>Letter Writing</b> <ul style="list-style-type: none"> <li>• Types of Letter Writing – Application, Leave, etc.</li> <li>• Cover letter</li> </ul>	Letter Writing Activity
<b>Unit-IV</b>	<b>Group Discussion (GD)</b> <ul style="list-style-type: none"> <li>• Characteristics of GD &amp; subject knowledge</li> <li>• Do's &amp; Don'ts in GD</li> <li>• Strategies of GD</li> <li>• Types of GD</li> </ul>	Group Discussion Practice Activity

<b>Unit-V</b>	<b>Interview Skills</b> <ul style="list-style-type: none"> <li>• Preparation of the interview &amp; company details information</li> <li>• Do's &amp; Don'ts in interview</li> <li>• Types of Interviews</li> <li>• Strategies of interview</li> </ul>	Mock Interview Practice Activity
<b>Unit-VI</b>	<b>Negotiation Skills</b> <ul style="list-style-type: none"> <li>• Importance of negotiation skills</li> <li>• Four phases of negotiation skills</li> <li>• Barriers to negotiation &amp; overcoming it</li> <li>• Win-win negotiation</li> </ul>	Win-Win Activity

<b>Learning Resources</b>	
<b>Text Book</b>	<i>Communication Skills</i> by Sanjay Kumar & Pushp Lata: Oxford University Press, 2019.
<b>Suggested Reference Book</b>	<i>Personality Development &amp; Communication Skills-1</i> by C B Gupta: Scholar Tech Press, 2019.(ISBN No. – 9382209131)

### Pedagogy

- The training will be based on the concept of learning by practice.
- The training will involve 30% of the training time on briefing and demonstration & the remaining 70% will be focusing on student's engagement in training activities.
- The training will follow a circular approach where students are engaged, evaluated, given feedback and then re engaged.

### Internal (Continuous Assessment & Evaluation) & End Term (Assessment & Evaluation) for Professional Skills

Unit No.	Unit Name	Internal Assessment Parameter	Internal Marks (70)	End Term Assessment Parameters	End Term Marks (30)
I	Email Writing	Written Assignment	10	Written Test	10
II	Resume Writing		10		
III	Letter Writing		10		
IV	Group Discussion	Group Discussion Activity	15	Viva	20
V	Interview Skills	Mock Interview Activity	15		
VI	Negotiation Skills	Role Play	10		

## SEMESTER – V

<b>Department Of Training &amp; Placement</b>			
<b>Training Cell</b>			
<b>Programme</b>	<b>Faculty of Science &amp; Humanities</b>		
<b>Year / Semester</b>	<b>3 / 5</b>	<b>Course Category</b>	<b>SEC</b>
<b>Course Code</b>	<b>23AR555</b>	<b>Course Title</b>	<b>Aptitude &amp; Reasoning</b>
<b>Continuous Evaluation: 70</b>		<b>End Term Examination: 30</b>	
<b>Prerequisite: Nil</b>		<b>L T P: 0 0 2</b>	<b>Credits: 1</b>

i. Training Objectives (TO): -

- TO1. To understand the basic concepts of quantitative ability and logical reasoning.
- TO2. To make student practice on the concepts of quantitative ability and logical reasoning.
- TO3. To prepare the students for aptitude and reasoning round in placement selection process & other competitive exams.

j. Training Learning Outcomes (TLO): -

**After the completion of the training, the student will have ability:**

- TLO1. To understand the basic concepts of quantitative ability.
- TLO2. To solve campus placements aptitude papers covering Quantitative Ability.
- TLO3. To Compete in various competitive exams like CAT, CMAT, GATE, GRE, GATE, UPSC, GPSC etc.

<b>Mapping Matrix of Training Objectives (TO) &amp; Training Learning Outcomes (TLO)</b>			
<b>TRAINING LEARNING OUTCOMES (TLO) □</b>	<b>TLO1</b>	<b>TLO2</b>	<b>TLO3</b>
<b>TRAINING OBJECTIVES (TO) □</b>			
<b>TO1</b>			
<b>TO2</b>			
<b>TO3</b>			

### A-Quantitative Ability

k. UNIT - I

- Number System
- Percentage

- Profit, Loss and Discount
- Simple Interest and Compound Interest

l. UNIT – II

- Allegation and Mixture
- Average
- Ratio, Proportion and Variation, Problem on Ages and Numbers
- Time and Work
- Time, Speed and Distance

m. UNIT – III

- Permutation and Combination
- Probability
- Data Interpretation
- Geometry and Menstruations
- Sequence, Series & Progression and Logarithmic

B- Logical Reasoning

n. UNIT - IV

- Number Series and Alphabet Series
- Direction Sense Test
- Coding -Decoding
- Blood Relation

o. UNIT – V

- Syllogism
- Dice, Cube and Cuboids
- Seating Arrangement

p. UNIT – VI

- Clock and Calendar
- Critical Reasoning
- Order and Ranking, Ven diagram, Analogy

Learning Resources	
Text Books	<i>Quantitative Aptitude for Competitive Examinations</i> by R S Aggarwal: S Chand Publishing, 2022.
	<i>A Modern Approach to Logical Reasoning</i> by R S Aggarwal: S Chand Publishing, 2022.

Pedagogy-

- The training will be based on the concept of learning by doing and practice.
- The training will involve 50% of the training time on teaching the concepts and the remaining 50% will be focusing on practice.
- The training will follow a circular approach where students are taught, evaluated and given the feedback

