

Humanities, Economics, Arts and Rural Technologies

SL. No	New Course code		Name of Course	L-T-P-C	Proposed Level (UG/PG)
1.	HS 101	HS101O	1-Introduction to Fine Arts: Urban Dance in India: A Brief & Partial Introduction in Theory & Practice	0-0-1-1 (P/NP)	UG
2.	HS 102		1-Design thinking and Creativity	1-0-0-1	UG
3.	HS 103	HS102O	2-Introduction to Fine Arts: Urban Dance in India: A Brief & Partial Introduction in Theory & Practice	0-0-1-0 (P/NP)	UG
4.	HS 106	HS101T	2-Design thinking and Creativity	1-0-0-0	UG
5.	HS 201	HS201T	Economics	3-0-0-6	UG
6.	HS 202		Wellness Software's	1-0-0-2	UG
7.	HS 401	HS401T	Basics of Accounting & Financial Management	3-0-0-6	UG
8.	HS 402	HS402T	Technological Entrepreneurship	3-0-0-6	UG
9.	HS 403	HS403T	Happiness and Well-Being	2-1-0-6	UG
10.	HS 404	HS404T	Applied Ethics	3-0-0-6	UG
11.	HS 405	HS405T	Innovation and Social Entrepreneurship	3-0-0-6	UG
12.	HS 406	HS406T	Introduction to Game Theory	3-0-0-6	UG
13.	HS 407	HS407T	Macroeconomics	3-0-0-6	UG
14.	HS 408	HS408T	Introductory Psychology	0.5-0-0-1	UG
15.	HS 409	HS409T	Philosophy	3-0-0-6	UG
16.	HS 410	HS410T	Modernism and the 'Hero'	3-0-0-6	UG
17.	HS 420	HS411T	Introduction to Literature	3-0-0-6	UG
18.	HS 421	HS412T	Intellectual Property Management	3-0-0-6	UG
19.	HS 422	HS413T	Principles of Finance: Instruments & Investment	3-0-0-6	UG
20.	HS 423	HS414T	Introduction to Linguistics	3-0-0-6	UG
21.	HS 424	HS415T	Psychology	3-0-0-6	UG
22.	HS 425	HS416T	Sociology	3-0-0-6	UG
23.	HS 426	HS417T	Basic Econometrics	3-0-0-6	UG
24.	HS 427	HS418T	Visual Narratives	3-0-0-6	UG
25.	HS 428	HS419T	Indian Economy: An Analytical Perspective	3-0-0-6	UG

26.	HS 429	HS420T	International Finance	3-0-0-6	UG
27.	HS 430	HS421T	Critical Thinking	3-0-0-6	UG
28.	HS 431	HS422T	Energy Economics and Policy	3-0-0-6	UG
29.	HS 432	HS423T	Principles of Finance: Portfolio Theory and Financial Engineering	3-0-0-6	UG
30.	HS 601	HS601T	Communication Skills	P/NP	PG
31.	HS 602	HS602T	Literary Theory and Criticism	4-0-0-8	PG
32.	HS 603	HS603T	Interdisciplinary Approaches to Literary Research	4-0-0-8	PG
33.	HS 604	HS313T	Advanced Econometrics	3-1-0-8	PG
34.	HS 605	HS605T	History of Economic Thought	3-0-0-6	PG
35.	HS 606	HS606T	Meta-ethics	4-0-0-8	PG
36.	HS 607	HS607T	Research Methodology in Humanities and Social Sciences	4-0-0-8	PG
37.	HS 608	HS608T	Principles of Microeconomics	3-0-0-6	PG
38.	HS 609	HS609T	Applied Game Theory	3-0-0-6	PG
39.	HS 610	HS601S	Seminar on selected topics in Advanced Economic	2-0-0-4	PG
40.	HS 620	HS610T	Normative Ethics	4-0-0-8	PG
41.	HS 621	HS611T	Modernism: Theory and Literature	4-0-0-8	PG
42.	HS 622	HS612T	Postmodernism: Theory and Literature	3-0-1-8	PG
43.	HS 623	HS613T	Literature and Philosophy	4-0-0-8	PG
44.	HS 910	HS801S	Seminar	4 credits	-
45.	HS 433	HS424T	Introduction to Indian Knowledge systems-2 (IIKS-2)	3-0-0-6	UG
46.	HS 434	HS425T	Contemporary Indian Economy	3-0-07	UG
47.	HS 624		Research Methodology in Philosophy	3-0-0-6	PG
48.	HS 625	HS615T	Problems in Applied ethics	3-0-0-6	PG
49.	HS 435		Introduction to Industrial Organization	3-0-0-6	PG
50.	HS 911	HS802S	Seminar-II	0-0-4-4	-
51.	HS 902	HS801T	Macroeconomics	3-0-0-6	PG
52.	HS 436	HS426T	Introduction to Indian Knowledge systems-2 (IIKS-2)	3-0-0-6	UG
53.	-	HS308T	Money, Banking and Finance	3-0-0-6	PG
54.	-		Introduction to Sustainable Development	3-0-0-6	UG
55.	-		Shakespeare on Screen	3-0-0-6	UG
56.	-		Kannada-1	3-0-0-6	UG
57.	-		Marathi-1	3-0-0-6	UG

58.	HS 437	HS427T	Sanskrit-1	3-0-0-6	UG
59.	HS 438	HS428T	Introduction Music-1	3-0-0-6	UG
60.	-	HS429T	Introduction to Industrial Organization	3-0-0-6	UG
61.	-		National Cultural Appreciation (NCA)	-	UG
62.	-	HS316T	Introduction to Economics of Climate Change	3-0-0-6	UG
63.	-		Introduction to Environmental Economics.	3-0-0-6	UG
64.	-	HS431T	Economics of Climate Change: Theory and Practice	3-0-0-6	PG
65.	-	HS430T	Environmental Economics: Theory and Practice	3-0-0-6	PG
66.	HS 911	HS802S	Seminar II	0-0-4-4	PG
67.	HS 106	HS101T	Design thinking and Creativity	1-0-0-0	
68.	HS 433	HS424T	Introduction to Indian Knowledge Systems-I	3-0-0-6	UG
69.	HS 439	HS429T	Introduction to Industrial Orgnaization	3-0-0-6	UG
70.	HS 624	HS614T	Research Methodology in Philosophy	3-0-0-6	PG
71.	-	HS202T	Macroeconomics I	3-0-0-6	UG
72.	-	HS203T	Macroeconomics II	3-0-0-6	UG
73.	-	HS301T	International Trade	3-0-0-6	UG
74.	-	HS302T	Financial Economics	3-0-0-6	UG
75.	-	HS303T	Time Series Analysis	3-0-0-6	UG
76.	-	HS301L	Time Series Analysis Lab	0-0-3-3	UG
77.	-	HS204T	Statistics for Economics I	2-1-_-6	UG
78.	-	HS205T	Statistics for Economics II	3-0-0-6	UG
79.	-	HS304T	Econometrics	3-0-0-6	UG
80.	-	HS302L	Econometrics Lab	0-0-3-3	UG
81.	-	HS305T	Indian Economy	6-0-0-6	UG
82.	-	HS401P	Research Methodology	3-0-0-6	UG
83.	-	HS206T	Microeconomics I	3-----6	UG
84.	-	HS207T	Microeconomics II	3-----6	UG
85.	-	HS208T	Mathematics for Economics	3-0-0-6	UG
86.	-	HS406T	Introduction to Game Theory	3-----6	UG
87.	-	HS306T	Public Economics	3-----6	UG
88.	-	HS307T	Economic Growth Theory	3-0-0-6	UG
89.	-	HS308T	Money, Banking and Finance	3-0-0-6	UG
90.	-	HS309T	Introduction to Investment Banking	3-0-0-6	UG
91.	-	HS310T	Portfolio Management	3-0-0-6	UG

92.	-	HS311T	Options and Futures Markets	3-0-0-6	UG
93.	-	HS312T	Machine Learning and Its Application in Economics	3-0-0-6	UG
94.	-	HS313T	Advanced Econometrics	3-0-0-6	UG
95.	-	HS314T	Behavioral Economics	3-0-0-6	UG
96.	-	HS315T	Development Economics	3-0-0-6	UG
97.	-	HS431T	Economics of Climate Change	6-0-0-6	UG
98.	-	HS317T	Corporate Finance	_ -0-0-6	UG
99.	-	HS318T	General Equilibrium and Welfare Economics	3-0-0-6	UG
100	-	HS319T	Institutional Economics	3-0-0-6	UG

1	Title of the course (L-T-P-C)	1-Introduction to Fine Arts: Urban Dance in India: A Brief & Partial Introduction in Theory & Practice (0-0-1-1)
2	Pre-requisite courses(s)	--
3	Course content	Body and Movement, Classical Dance in India, Contemporaneity: Modern & Postmodern Forms & Modes of Sustenance for a Dancer, Experimenting, Making Your Own Dance Work (Dance-pieces).
4	Texts/References	

1	Title of the course (L-T-P-C)	1-Design thinking and Creativity (1-0-0-1)
2	Pre-requisite courses(s)	Nil
3	Course content	<ol style="list-style-type: none"> 1. Problem Exploration- Students move around and find problems that need solutions. 2. They analyze the problem (not solution) and evolve a problem space. The problem space is converted into a story board and presented in a poster session. 3. Feedback at the poster session is used to refine the problem definition(s). 4. Solution Exploration: Creative solutions (solution space) are now explored and presented using story boards. 5. The solutions are converted into “embodiments”
4	Texts/References	<ol style="list-style-type: none"> 1. “Stuff Matters” Prof. Mark Miodownik, Penguin 2. “ Design and Technology” by James Garratt, Cambridge University Press. 3. How it works in the home: Walt Disney:9780894340482- Amazon.com. 4. How it works in the City (Walt Disney available on Amazon.com) 5. Change by design – Tim Brown There are some additional books in this “How it Works” series.

1	Title of the course (L-T-P-C)	2-Introduction to Fine Arts: Urban Dance in India: A Brief & Partial Introduction in Theory & Practice (0-0-1-0)
2	Pre-requisite courses(s)	--
3	Course content	Body and Movement, Classical Dance in India, Contemporaneity: Modern & Postmodern Forms & Modes of Sustenance for a Dancer, Experimenting, Making Your Own Dance Work (Dance-pieces)
4	Texts/References	--

1	Title of the course (L-T-P-C)	2-Design thinking and Creativity (1-0-0-0)
2	Pre-requisite courses(s)	Nil
3	Course content	<ol style="list-style-type: none"> 6. Problem Exploration- Students move around and find problems that need solutions. 7. They analyse the problem (not solution) and evolve a problem space. The problem space is converted into a story board and presented in a poster session. 8. Feedback at the poster session is used to refine the problem definition(s). 9. Solution Exploration: Creative solutions (solution space) are now explored and presented using story boards. 10. The solutions are converted into “embodiments”
4	Texts/References	<ol style="list-style-type: none"> 1. “Stuff Matters” Prof. Mark Miodownik, Penguin 2. “Design and Technology” by James Garratt, Cambridge University Press. 3. How it works in the home: Walt Disney :9780894340482- Amazon.com. 4. How it works in the City (Walt Disney available on Amazon.com) 5. Change by design – Tim Brown There are some additional books in this “How it Works” series.

1	Title of the course (L-T-P-C)	Economics (2-1-0-6)
2	Pre-requisite courses(s)	--
3	Course content	<p>Basic economic problems. resource constraints and Welfare maximizations. Nature of Economics: Positive and normative economics; Micro and macroeconomics, Basic concepts in economics. The role of the State in economic activity; market and government failures; New Economic Policy in India. Theory of utility and consumer choice. Theories of demand, supply and market equilibrium. Theories of firm, production and costs. Market structures.</p> <p>Perfect and imperfect competition, oligopoly, monopoly. An overview of macroeconomics, measurement and determination of national income. Consumption, savings, and investments. Commercial and central banking. Relationship between money, output and prices. Inflation - causes, consequences and remedies. International trade, foreign exchange and balance payments, stabilization policies : Monetary, Fiscal and Exchange rate policies.</p>
4	Texts/References	<ol style="list-style-type: none"> 1. P. A. Samuelson & W. D. Nordhaus, Economics, McGraw Hill, NY, 1995. 2. A. Koutsoyiannis, Modern Microeconomics, Macmillan, 1975. R. Pindyck and D. L. Rubinfeld, Microeconomics, Macmillan publishing company, NY, 1989. 3. R. J. Gordon, Macroeconomics 4th edition, Little Brown and Co., Boston, 1987. 4. William F. Shughart II, The Organization of Industry, Richard D. Irwin, Illinois, 1990. 5. R.S. Pindyck and D.L. Rubinfeld. Microeconomics The (7th Edition), Pearson Prentice Hall, New Jersey, 2009. 6. R. Dornbusch, S. Fischer, and R. Startz. Macroeconomics (9th Edition), McGraw-Hill Inc. New York, 2004.

1	Title of the course (L-T-P-C)	Wellness Software's (1-0-0-2)
2	Pre-requisite courses(s)	Calculus I
3	Course content	<p>SELF AWARENESS: Understanding, feelings, thoughts, sensations & behavior, Understanding Mind Body Connection Yoga & Meditation</p> <p>MANAGING ENVIRONMENTS EFFECTIVELY: Building Interpersonal skills, Team building Skills</p> <p>Student-Teacher Relationships MANAGING LIFE STYLES Understanding & Managing Relationships, Managing Break ups, Understanding and Managing Family Relationships, Life Skills & Resilience Building</p> <p>GADGET HYGIENE, ADDICTIONS, MENTAL ILLNESS Managing Screen Time, Addictive Substances & Life Gadget hygiene, Awareness of Mental illness & Suicide Prevention</p>
4	Texts/References	<ol style="list-style-type: none"> 1. Daniel Goleman, Emotional Intelligence, Published by Bloomsbury, 1995 Edition (ISBN: 9780747528302, 0747528306) 2. Scott Peck, the road less travelled, Published by Penguin, 1996 Edition (ISBN:9780099727408, 0099727404) 3. Mitch Albom, Tuesdays with Morrie, published by Hachette, (ISBN: 9780751527377, 0751527378) 4. Frankl Viktor E., Man's search for meaning, Published by Penguin, 2008 edition, (ISBN: 9781846041242, 1846041244) 5. Clifford T Morgan, Richard A King, John R Weisz and John Shopler, Introduction to Psychology, Published by McGrawhill, 7th Edition, 2004, (ISBN: 9780074622506, 0074622501)

1	Title of the course (L-T-P-C)	Basics of Accounting & Financial Management (3-0-0-6)
2	Pre-requisite courses(s)	None
3	Course content	Basics of financial accounting like accounting principles, understanding balance sheet, profit and loss account, cash flow statements, analysis of financial performance. Basics of Managerial Accounting cover introduction to managerial accounting, cost classifications, C-V-P Analysis, use of cost information for decision making; Evolution of finance as an independent subject; operating environment of finance manager, fundamental concepts of finance: Risk & Return and Time value of money: Capital budgeting techniques: the concept of working capital and working capital policy: management of current assets and current liabilities.
4	Texts/References	<ol style="list-style-type: none"> 1. James Jambalvo, Managerial Accounting, Wiley India Edition 2. R Narayanaswamy, Financial Accounting-A Managerial Perspective, PHI Learning 3. Prasanna Chandra, Fundamentals of Financial Management, Tata McGraw Hill Education Pvt Ltd Principles of Corporate Finance-Richard A Brealey & Steward C Myers (McGraw Hill Pubs) 4. James C Van Horne , Financial Management and Policy, PHI Pubs 5. Ross, Westerfield & Jaffe , Corporate Finance, Tata McGraw Hill 6. Aswath Damodaran, Corporate Finance-Theory and Practice, John Wiley & Sons 7. Brigham & Houston, Fundamentals of Financial Management, Thomson,

1	Title of the course (L-T-P-C)	Technological Entrepreneurship (3-0-0-6)
2	Pre-requisite courses(s)	NIL
3	Course content	<p>Introduction to Entrepreneurship - Characteristics of an Entrepreneur, Understanding Self, Phases of Entrepreneurship, Understanding the Business Context of Technological Entrepreneurship; Identifying and Evaluating Opportunities, Understanding Problem- solution Fit, Product-Market Fit, Value Proposition, Business Model Canvas, Understanding and creating Minimum Viable Product, Agile Product Development and Developing a Proof of Concept; IP for Entrepreneurs - Patents, Trade Marks, Copyrights, Design Protection, Domain Names and Trade Secrets; Preparing a Business Plan: Finding Funding- Bootstrapping, Crowdfunding, Angel Investing, Venture Capital, Bank Loans, Competition and Awards, Pitching for funding; Finance and Accounts; Market Research and Competitive Analysis, Going to market for Technology /Products / Services, Sales & Marketing, Customer Development; Technology Venture Creation and Management - How to start a Start-up and scale up, Role of Incubators and Accelerators, Operation Management; Legal Matters and Commercial Knowledge: Creativity, Motivation, Team Building & Leadership, Role of Mentors and Consultants: Social Innovations and Entrepreneurship : Success and Failure Stories.</p> <p>This course introduces entrepreneurship through lectures, seminars, case studies, readings and assignments to broadly expose students to the area. Some of the topics will be covered, with experience sharing from practitioners and investors. Students may choose the seminars, readings and assignments of their interests and can work on live cases including opportunity discovery and evaluation, validation, market research and competitive analysis, business plan preparation, start-up creation, financing, social entrepreneurship and innovation, etc.</p>
4	Texts/References	Reading material and case studies will be provided.

1	Title of the course (L-T-P-C)	Happiness and Well-Being (2-1-0-6)
2	Pre-requisite courses(s)	None
3	Course content	<p>In this course, we will explore the concept and different definitions of happiness and well-being, and the connection between happiness, positive attitude, relationships and the purpose and meaning of life. Techniques to achieve happiness in life will be studied. The course will be primarily participatory in nature with class discussions, presentations and journal assignments. The course material will be taken from a variety of sources. The causes that disturb the harmony in life will be analysed and practices to address this satisfactorily will be investigated. The methods of yoga, pranayama different meditation paths and healing techniques will be evaluated so that each student can adopt a suitable combination to suit her needs. Assignments will be aimed at a better understanding of oneself and the society and the environment that we live in.</p> <p>Learning Objectives. After studying this course, the students will be able to:</p> <ul style="list-style-type: none"> ● Identify key psychological, social, cultural and biological factors in happiness and well being ● Understand the relationship between happiness, human connections, and qualities such as compassion, altruism, and gratitude ● Describe the principles behind the specific activities that boost happiness ● Apply lessons from positive & social psychology to their personal and professional lives, enhancing their self-understanding ● Practice research-tested techniques for enhancing happiness ● Analyze human nature in terms of the three gunas and the Pancha kosha model of beings. ● Adopt methods of yoga and meditation for self-improvement and social well-being <p>Course Contents Happiness and wellbeing: definitions and measurement. The Hedonic tradition. Role of social connections in fostering happiness. Kindness and compassion, altruism and happiness, Success, money and happiness. Cooperation, reconciliation and happiness. Mindfulness, attention and focus. Mental habits of happiness: self-compassion, flow, and optimism. The Pursuit of Happiness: Does Being Good or Bad Produce More Happiness? Understanding the Causes of “Suffering.” Cultivating Right” Attention and “Right” Desire. Meaningful Relationships. The strong links between gratitude and happiness. Curiosity, Play, and Creativity. The art of letting go. Finding Your Happiness Fit and the New Frontiers. Happiness and Meaning in Life Yoga, Pancha koshas and Gunas: Guna concept: sawt, rajas and tamas and balancing the gunas. Ashtanga Yoga: Yama, Niyama, Asana and Pranayama Pratyahara, Dharana and Dhyana. Vipassana Meditation and Reiki Kindness and compassion, altruism and happiness, Success, money and happiness. Cooperation, reconciliation and happiness. Mindfulness, attention and focus. Mental habits of happiness: self-compassion, flow, and optimism. The Pursuit of Happiness: Does Being Good or Bad Produce More Happiness? Understanding the Causes of “Suffering.” Cultivating Right” Attention and “Right” Desire. Meaningful Relationships. The strong links between gratitude and happiness. Curiosity, Play, and Creativity. The art of letting go. Finding Your Happiness Fit and the New Frontiers. Happiness and Meaning in Life Yoga. Pancha koshas and Gunas: Guna concept: satwa, rajas and tamasand balancing the gunas. Ashtanga Yoga: Yama, Niyama, Aasana and Pranayama Pratyahar,Dharana and Dhyana.Vipassana Meditation and Reiki</p>

1	Title of the course (L-T-P-C)	Applied Ethics (3-0-0-6)
2	Pre-requisite courses(s)	--
3	Course content	<p>Normative Ethics consists of fundamental theories of morality. The central question in Normative Ethics is the following. What is the standard/norm to decide the rightness or wrongness of an action? Or what gives an act a moral worth? The following are the main approaches to such questions.</p> <p>Consequentialist Theories Immanuel Kant's Deontological Ethics Virtue Ethical Theories</p> <p>Using the theoretical frameworks in Normative Ethics, some actual ethical issues are studied. Thus, we have some issues or problems in Applied Ethics. Under Applied Ethics, the following topics will be covered.</p> <p>Business ethics, institutional ethics, ethics of the media, issues of medical ethics and environmental ethics.</p>
4	Texts/References	<ol style="list-style-type: none"> 1. MacKinnon, Barbara, and Andrew Fiala. 2015. <i>Ethics Theory and Contemporary Issues</i>. CT: Cengage Learning, Stamford, USA 2. Sher, George (ed.) 2012. <i>Ethics: Essential Readings in Moral Theory</i>. Routledge. New York. 3. Cohen, Andrew I, and Christopher Heath Wellman (eds.) 2005. <i>Contemporary Debates in Applied Ethics</i>. Blackwell Publishing, Oxford, UK. 3. Frey R. G, and Christopher Heath Wellman (eds) 2005. <i>A Companion to Applied Ethics</i>. Wiley-Blackwell, Oxford, UK. 4. Peter, Singer (Ed.).1986. <i>Applied Ethics</i>, OUP, UK.

1	Title of the course (L-T-P-C)	Innovation and Social Entrepreneurship (3-0-0-6)
2	Pre-requisite courses(s)	NIL
3	Course content	<p>The objective of this course is to apply advanced knowledge in science and technology to problems that are socially and economically relevant and to create and nurture social entrepreneurs. Students are expected to undertake a 6-8 weeks' project concerned with societal/ rural issues. The focus will be to enhance income and to improve the quality of life of the population at the bottom of the pyramid. Some illustrative examples are as follows:</p> <ul style="list-style-type: none"> ➤ Value added Agriculture ➤ Waste to Wealth ➤ Low cost housing ➤ Affordable health care ➤ Potable Water supply ➤ Sustainable energy and energy efficiency ➤ Environment protection and Sustainability Any other projects that address societal problems. <ul style="list-style-type: none"> • Students shall select a topic of social relevance and align with the above objectives and study the problem in detail. • Students shall try to find out and evaluate solutions which are techno-commercially viable and have the potential to be scaled up to reach out to uplift the life of millions. • Develop a business model that will make it a sustainable social enterprise. <p>The course will involve self-study under the guidance of an instructor, a few guest lectures by practitioners and/or visit to a social enterprise.</p> <ul style="list-style-type: none"> ➤ The students shall select the project in consultation with the course instructor. ➤ After carrying out the project, the student will submit a report and give a presentation highlighting the observations/results of the project and proposed business plan. This will be reviewed and graded.
4	Texts/References	<p>Social Innovation and Social Entrepreneurship: Fundamentals, concepts and Tools Luis Portales</p> <p>Palgrave Macmillan This will be supplemented by Indian case studies</p>

1	Title of the course (L-T-P-C)	Introduction to Game Theory (3-0-0-6)
2	Pre-requisite courses(s)	None
3	Course content	Definition of games, normal form and strategies, Best response, dominance, Nash equilibrium, Iterated elimination of dominated strategies, Mixed strategies. Applications: oligopoly, tariffs, crime, conflict, voting and auctions. Bayesian games and applications. Extensive form games, backward induction and sub game perfect equilibrium and applications. Perfect Bayesian equilibrium. Repeated games. Bargaining games and applications.
4	Texts/References	<ol style="list-style-type: none"> 1. An Introduction to Game Theory by M. O. Osborne, Indian ed. (2012), Oxford University Press. 2. Game Theory by Drew Fudenberg & Jean Tirole, MIT Press (1991) 3. Strategy: An Introduction to Game Theory by Joel Watson, 2nd ed. (2013), VivaBooks.

1	Title of the course (L-T-P-C)	Macroeconomics (3-0-0-6)
2	Pre-requisite courses(s)	HS201
3	Course content	<ol style="list-style-type: none"> 1. Introduction: The major macroeconomic issues-Economic Growth, Inflation, Unemployment, Inequalities in Distribution of Income and Wealth, Financial Stability, Sustainable Balance of payments. 2. National Income (NI): Concepts, Definitions and Identities, Approaches to measurement of NI, Limitations and Omissions in Measurement of NI 3. Major Schools of thought in Macroeconomics: <ol style="list-style-type: none"> 3.1. Classical and Neoclassical Schools of Thought: Theories of output, employment, prices and interest rate, Quantity theory of money, Cash Transactions and Cash Balance versions, Classical dichotomy. 3.2. Keynes and Keynesians-Aggregate Demand, Aggregate Supply, Consumption (Savings) Function and Investment Multiplier, Output Determination, Role of Government-Monetary and Fiscal Policies in Growth Promotion, Demand for Money: Active and Idle cash balances, Liquidity Preference and Liquidity Trap, Phillips Curve, Inflation-Unemployment trade-off, IS-LM Model and Policy Effectiveness 3.3. Monetarism: Restatement of Quantity Theory of Money, Stability of Demand Function for Money, Expectations Augmented Phillips Curve, Adaptive Expectations, Short-run vs Long-run Phillips Curve 3.4. New Classicists: Rational Expectations, Lucas Critique and Policy Ineffectiveness, Rules vs Discretion, Monetary Policy Rules: Friedman, Taylor and McCallum Rules 3.5. New Keynesians: Sticky Wages and Prices and Coordination Failures, Asymmetric Information and Moral Hazard, Adverse Selection 3.6. New Consensus Macroeconomics. 4. Inflation: Measurement, Causes, Consequences and Remedies 5. Fiscal Policy: Growth and Equity, concepts of deficits, internal and external debt, debt vs money financing, sustainability of debt. 6. Opening the Economy: Balance of payments, Exchange rates- nominal and real, bilateral and effective, exchange rate systems, fixed vs flexible exchange rates
4	Texts/References	<ol style="list-style-type: none"> 1. Dilip M. Nachane, 2019, Critique of the New Consensus Macroeconomics and Implications for India, Springer Nature Switzerland AG 2. Macroeconomics by G. Mankiw, Worth Publishers, 7th edition (2009). 3. Macroeconomics by R. Dornbusch, S. Fisher & R. Startz, McGraw- Hill education, 11th edition (2017). 4. Errol D'Souza, Macroeconomics, 2/e, Pearson Education, 2012. 5. Macroeconomics Theories and Practices by R. T. Froyen, Pearson Education India, 10th edition (2013).

1	Title of the course (L-T-P-C)	Introductory Psychology (0.5-0-0-1)
2	Pre-requisite courses(s)	
3	Course content	<p>Subject-matter of Psychology : Major processes. Basic and applied fields. Emotions. Personality. Psychology of adjustment: Coping with stress. Perception; Learning and Memory. Higher cognitive processes. Social issues.</p>
4	Texts/References	<ol style="list-style-type: none"> 1. Essential Psychology – Banyard, Davies, Norman & Winder (Sage Publications, 2012) 2. Psychology: The science of mind and behaviour- Passer & Smith (McGraw-Gill, 2013)

1	Title of the course (L-T-P-C)	Philosophy (0.5-0-0-1)
2	Pre-requisite courses(s)	None
3	Course content	<ol style="list-style-type: none"> 1. What is Philosophy? (Philosophy in India and West) 2. Main Branches of Philosophy 3. Three Laws of Thought 4. Epistemology and Logic (Indian and Western) 5. Metaphysics (Universal and Particular, Substance and Attributes, Causality, Space, Time, Soul, God, Freedom) 6. Three Great Greek Philosophers: Socrates, Plato and Aristotle 7. Modern Philosophy: Rationalism and Empiricism (Descartes, Locke, Berkeley and Hume) 8. Ethics (Utilitarianism, Categorical Imperative of Kant, Ethical Relativism, Bio-Medical Ethics, Ethical Issues) 9. Indian Philosophy Component (Nishkama-karma of Gita, Virtue Ethics of Buddhism, Advaita Vedanta). Meaning of Life.
4	Texts/References	<ol style="list-style-type: none"> 1. Ganeri, Jonardon, Philosophy in Classical India: An Introduction and Analysis (London: Routledge, 2001). 2. Maritain, Jacques, An Introduction of Philosophy (New York and Oxford: Rowman & Littlefield, 2005). 3. Mohanty, J. N. Classical Indian Philosophy: An Introductory Text (New York and Oxford: Rowman & Littlefield, 2000). 4. Nagel, Thomas, What Does It All Mean? A Short Introduction to Philosophy (Oxford: Oxford University Press, 2004). 5. Russel, Bertrand, The Problems of Philosophy (Oxford: Oxford University Press, Reprint by Kalpaz Publication, 2017). 6. Sharma, Chandradhar, A Critical Survey of Indian Philosophy (Delhi: Motilal Banarsidass, 2016). 7. Thilly, Frank, A History of Philosophy (New Delhi: SBW Publishers, 2018). 8. Williams, Bernard, Morality: An Introduction to Ethics (Cambridge: Cambridge University Press, 2012).

1	Title of the course (L-T-P-C)	Modernism and the 'Hero' (3-0-0-6)
2	Pre-requisite courses(s)	NIL
3	Course content	Fiction/Non-Fiction of Franz Kafka, Albert Camus, Saadat Hasan Manto, Samuel Beckett, among others.
4	Texts/References	

1	Title of the course (L-T-P-C)	Introduction to Literature (3-1-0-6)
2	Pre-requisite courses(s)	--
3	Course content	What is Literature, Genres of Literature, Literary Texts and Co Major Themes in Literature
4	Texts/References	Glossary of Literary Terms by MH Abrams, The Norton Antho of Poetry edited by Margaret Ferguson, Animal Farm by Geor Orwell, The Penguin Book of Modern Indian Short Stories- Stephen Alter, Oxford Book of English Short Stories Reissue Edition (English, Paperback, A. S. BYATT), Three Theban Pl Antigone; Oedipus the King; Oedipus at Colonus (English, Paperback, Sophocles)

1	Title of the course (L-T-P-C)	Intellectual Property Management (3-0-0-6)
2	Pre-requisite courses(s)	NIL
3	Course content	<p>Historical Development of Intellectual Property in Industrialised Society, Patent Basics, Patent Systems around the world, Application of patents in different technology areas including Software and Business Methods, How to read a Patent, Introduction to Patent Databases and Analysis Tools, Patent Searching and Analysis, Use of Patent Information for Research and Business Planning, Introduction to TRIZ , Evaluation of Patents, IPR Beyond Patents (Copyright, Trade Marks, Designs and other forms of IP rights), IP Management including IP Strategy for Start-ups and Corporates, IP Licensing, IP Acquisition and Enforcement,</p> <p>Case studies and Tutorial.</p>
4	Texts/References	Reading material will be provided

1	Title of the course (L-T-P-C)	Principles of Finance: Instruments & Investment (3-0-0-6)
2	Pre-requisite courses(s)	NIL
3	Course content	<p>Financial Assets: Structure of Financial Markets: including Money and Capital Market and various underlying</p> <p>Valuation: Understanding time value of money, Risk adjusted Return Intrinsic Valuation of financial assets: Debt and Equity with discounted cash flow model</p> <p>Risk Management: Basics of risk assessment, covering Market, Credit, Liquidity, Operational and Reputational Risk, and risk mitigation using hedging tools</p> <p>Macroeconomics and Financial Market Central banks and financial markets, Liquidity management, Quantitative Easing, inflation expectations</p> <p>Investments Rationale: Behavioural Finance and current studies, role on non-linearity in financial investment, modelling and real world divergence, heuristics</p>
4	Texts/References	<ol style="list-style-type: none"> 1. "Investments": Zvi Bodie, Alex Kane, Alan J. Marcus and Pitabas Mohanty; 11th edition, McGraw Hill 2. "Options and Other Derivatives"; John C. Hull and Sankarshan Basu; 10th Edition; Pearson Education 3. "The Psychology of Money": Morgan Housel 4. Principles of Corporate Finance by Richard A. Brealey, Stewart C. Myers, and Franklin 5. Allen, McGraw Hill, 2017 <p>Relevant handouts where required will be handed out and students are expected to refer to the material covered in the handouts during the course.</p>

1	Title of the course (L-T-P-C)	Introduction to Linguistics (3-0-0-6)
2	Pre-requisite courses(s)	It is a first level course, and no prerequisite needed
3	Course content	<p>The Introduction to Linguistics course has been designed to provide an overview of the nature of language, linguistic knowledge and the scientific study of human language. It will introduce students to the basic concepts in Linguistics and will provide a reasonable taste of the core subfields of Linguistics. Under this course, the following topics will be covered.</p> <p>Introduction: What is language? Introducing the study of language. Design features of language.</p> <p>Phonetics: The sounds of human languages, articulatory and acoustic properties, classification and description of speech sounds, measuring acoustic properties of speech sounds, using the Praat software.</p> <p>Phonology: Organization of speech sounds, phoneme inventories, phonological processes, using features to build larger phonological units of syllables and words, acoustic analysis of syllable or phrase level features.</p> <p>Morphology: The internal structure of words, morphological processes, word formation rules, using morphological knowledge in text processing.</p> <p>Syntax: Grammaticality, syntactic properties, sentence structures, variation and universals of syntactic structures, syntax enhanced machine translation.</p> <p>Semantics: Components of linguistic meaning, lexical and compositional semantics.</p>
4	Texts/References	<p>Dawson, Hope, and Michael Phelan. Language files: Materials for an Introduction to Language and Linguistics. The Ohio State University Press. 2016.</p> <p>Fromkin, Victoria, Robert Rodman, and Nina Hyams. An Introduction to Language. Walsworth, Cengage Learning, 2011.</p> <p>Ladefoged, Peter, and Keith Johnson. A course in phonetics. Cengage learning, 2014.</p> <p>Ladefoged, Peter, and Sandra Ferrari Disner. Vowels and consonants. John Wiley & Sons, 2012.</p> <p>Katamba, Francis and John Stonham. Morphology. 2nd edn. London: Palgrave Macmillan. 2006.</p> <p>6. Schmitt, Norbert, ed. An introduction to applied linguistics. Routledge, 2013.</p> <p>7. Jurafsky, Dan. Speech & language processing. Pearson Education India, 2000.</p>

1	Title of the course (L-T-P-C)	Psychology (3-0-0-6)
2	Pre-requisite courses(s)	--
3	Course content	Understanding human experience and behavior: Definition, schools, methods, branches and application of psychology for engineers; Measuring human abilities: Intelligence, Personnel testing; The individual working life: Personality - definition, approaches and theories; Psychological problems of everyday life: Stress and coping; Psychological disorders, Work and mental health; Human learning; Motivation : the concept and theoretical framework, motivating people at work; Attitude and work behavior; Group dynamics Intergroup relations, conflict resolutions; Leadership and management.
4	Texts/References	--

1	Title of the course (L-T-P-C)	Sociology (3-0-0-6)
2	Pre-requisite courses(s)	--
3	Course content	<ol style="list-style-type: none"> 1. What is sociology, some sociological concepts: social structure, status, role, norms, values etc. Socialization, and culture and change. 2. Social stratification - various approaches and concept of social mobility. 3. Population and society - Trends of demographic change in India and the world, Human Ecology, Trends of Urbanization in the developing countries and the world. 4. Major social institutions - Family and marriage, caste and tribe and organizations: (i) formal organization (bureaucracy) (ii) informal organization. 5. Processes of social change Modernization (including Sanskritization), industrialization, environmental/ecological changes and development. 6. Social movements-protest movements, reformist movement and radical movements in India.
4	Texts/References	--

1	Title of the course (L-T-P-C)	Basic Econometrics (3-0-0-6)
2	Pre-requisite courses(s)	HS201, EE201
3	Course content	Classical Linear Regression Model (CLRM), Assumptions of the CLRM and its violation, Hypothesis Testing, Gauss Markov Theorem, Properties of the Estimator, Multiple Regression Model, Heteroscedasticity, Autocorrelation and Multi-collinearity, Introduction to Time Series, Discrete Choice, Estimation Procedures Ordinary Least Square(OLS), Generalized Least Squares(GLS), IV(Instrumental Variable), Maximum Likelihood Estimation(MLE) and Generalized Method of Moments(GMM)
4	Texts/References	Econometric Methods by Jack Johnston and John Dinardo, McGraw- Hill Education (Irwin); 4th edition(1996) Introductory Econometrics: A Modern Approach by Jeffery M. Woolridge, South-Western Cengage Learning (Mason, OH); 5 th edition(2014) Basic Econometrics by Damodar Gujarati, Dawn Porter,Sangeetha Gunasekar, McGraw Hill Education (Chennai); 5 th edition(2017).

1	Title of the course (L-T-P-C)	Visual Narratives (3-0-0-6)
2	Pre-requisite courses(s)	--
3	Course content	<p>Module1:Visual Narratives-Definitions, Approaches Module2:Meta-Narratives- Form, Viewing and Meaning making Module3:Being and Language in Visual Narratives Module4:Issues of Technology, Ethics and Identity Module5:Gender, Visibility and Choice Module6:Global Politics and Visual Narratives Module7:Texts and Contexts from India</p>
4	Texts/References	<ol style="list-style-type: none"> 1. Manney, Dawn. 2015. Visual, Narrative and Creative Research Methods: Application, reflection and ethics. Routledge, New York. 2. Mulvey, Laura.2019. Afterimages: On Cinema, Women and Changing Times. Reaction Books. 3. Garrett, Brian. 2006. What is this thing Called Metaphysics? Routledge, New York. 4. MacKinnon, Barbara, and Andrew Fiala. 2015. Ethics Theory and Contemporary Issues. CT: Cengage Learning, Stamford, USA. 5. Shaw, Dan. 2012. Morality and the Movies: Reading ethics through film. Continuum International Publishing Group, New York.

1	Title of the course (L-T-P-C)	Indian Economy: An Analytical Perspective (3-0-0-6)
2	Pre-requisite courses(s)	Economics: HS 201
3	Course content	<p>India's growth story: Growth performance of India during the post- independence period; Strategies for Development-State vs Markets, Import-substitution vs export promotion; Growth models and Planning in India; Sectoral growth perspective; Consumption, Savings and Investment trends in India.</p> <p>Monetary Policy: Instruments-Direct and Indirect; Monetary Policy Frameworks-Monetary Targeting, Multiple Indicators Approach, Flexible Inflation Targeting; Inflation in Indian Economy- measurement and analysis.</p> <p>India's Financial Sector: A synoptic view of institutions and regulation of India's financial sector, financial repression and interest rate structure in India; Financial Sector Reforms in India.</p> <p>Fiscal Policy in India: Trends and composition of tax receipts, expenditures; Deficits and Financing; Fiscal reforms in India-FRBM Act and fiscal prudence, State Finances, Public debt and its sustainability.</p> <p>External Sector in India: Trends and composition of exports and imports, Trade and current account deficits, WTO and India's trade, Capital flows to India and their management, India's Exchange rate regimes and India's balance of payments.</p> <p>Employment, Poverty and Inequality in India – Measurement issues, Regional and sectoral dimensions in employment, poverty and inequality, Recent debates on poverty and employment, Impact of COVID -19.</p>
4	Texts/References	<ol style="list-style-type: none"> 1. Acharya, Shankar (2021), India's Economy 2015-2020, Academic Foundation, New Delhi. 2. Balakrishnan, Pulapre (2010), Economic Growth in India, OUP India. 3. Basu, Kaushik. (ed.) (2005), India's Emerging Economy. OUP India. 4. Joshi, V. and I. M. D. Little (1994), India: Macroeconomics and Political Economy, OUP India. 5. Joshi, V. and I. M. D. Little. 1996. India's Economic Reforms (1991-2001). Clarendon Press, USA. 6. Joshi, Vijay (2017), India's Long Road: The Search for Prosperity, OUP USA. 7. Kapila, Uma (2020), Indian Economy Since Independence (31t Edition), Academic Foundation, New Delhi. 8. Mohan, Rakesh. (ed). 2002. Facets of the India Economy, OUP India. 9. Mohan, Rakesh and Partha Ray (2017), Indian Financial Sector: Structure, Trends and Turns, IMF Working Paper International Monetary Fund # WP/17/7, available at https://www.imf.org/en/Publications/WP/Issues/2017/01/20/Indian-Financial-Sector-Structure-Trends-and-Turns-44554 10. Panagariya, Arvind, (2011), India: The Emerging Giant, OUP USA. <p>In addition, journal articles, internet resources (text and data) would be used.</p>

1	Title of the course (L-T-P-C)	International Finance (3-0-0-6)
2	Pre-requisite courses(s)	Nil
3	Course content	International Trade Vs. International Finance; What is International Finance all about?; Balance of Payments–Principles; Disequilibrium in BOP; BOP Crisis in India in 1991; Functions of the Foreign Exchange Markets; Foreign Exchange Markets and Exchange Rate Determination; Purchasing Power Parity (PPP); Monetary Approach to Balance of Payments (Exchange Rate Determination); Asset Market Approach to Exchange Rate Determination; Dornbusch's Overshooting Model; Covered & Uncovered Interest Rate Parity; Open-Economy Macroeconomics and the International Monetary Policy; Adjustment Mechanisms with Flexible and Fixed Exchange Rates; Elasticities and absorption approaches; Management of Capital Inflows and Impossible Trinity; Issues with respect to Financial Liberalization and Globalization; Capital Flows; Latin American Currency Crises; East Asian Economic Crisis; Global Financial Crisis and Euro Crisis.
4	Texts/References	<ol style="list-style-type: none"> 2. Gandolfo, G. (2013). International Economics II: International Monetary Theory and Open-Economy Macroeconomics. Springer Science & Business Media. 3. Gopinath, G., Helpman, E., & Rogoff, K. (Eds.). (2014). Handbook of International Economics. Elsevier. 4. Krugman, P., Obstfeld, M. & Melitz, M. (2012). International Economics: Theory and Policy. New Delhi: Pearson Education. 5. Rogoff, K. S., & Reinhart, C. (2009). This Time Is Different: Eight Centuries of Financial Folly. Princeton, NJ: Princeton University Press. 6. Salvatore, D. (2016). International Economics: Trade and Finance. John Wiley International Student Edition. 7. Sodersten, B., & Reed, G. (1994). International Economics. Palgrave Macmillan. 8. Appleyard, D. R., & Field Jr, A. J. (2001). International Economics. McGraw-Hill, New York.

1	Title of the course (L-T-P-C)	Critical Thinking (3-0-0-6)
2	Pre-requisite courses(s)	--
3	Course content	<p>Unit 1: Introduction: Critical thinking and Informal logic (a) What is critical thinking? (b) What is the distinction between formal and informal logic?</p> <p>Unit 2: Argument, constituents of the argument and the relations between the constituents of the argument (a) Argument and the standard form of an argument, (b) Basic Sentential Logic semantics, (c) Syllogisms and Venn Diagrams, (d) Formal Nature of Syllogistic Argument</p> <p>Unit 3: Fallacies: The Principal Forms of Illogical Thinking (a) Informal fallacies (Fallacies of relevance, defective induction, presumption and ambiguity), (b) Formal Fallacies: Existential fallacy and Formal syllogistic fallacies</p> <p>Unit 4: Induction and Scientific Reasoning (a) Inductive Arguments and Arguments from Analogy, (b) Causal Reasoning and Inference to the Best Explanation, (c) Briefly on Ockham's Razor</p>
4	Texts/References	<ol style="list-style-type: none"> 1. Bergmann, Merrie, Moor, James and Jack Nelson. 2008. The Logic Book. 5th edition, McGraw-Hill. 2. Copi, Irving M, Cohen, Carl, Jetli, Priyadarshi and Monica Prabhakar. 2014. Introduction to Logic. 14th edition, Pearson. 3. Grennan, Wayne. 1997. Informal Logic: Issues and Techniques: A proposal for a new system of argument evaluation. Montreal: McGill-Queen's University Press. 4. Noel Moore, Brooke and Richard Parker. 2009. Critical Thinking. 9th edition, McGraw-Hill. 5. Sinnott-Armstrong, Walter, and Robert 6. J. Fogelin. 2009. Understanding Arguments: An Introduction to Informal Logic. 8th edition, Wadsworth Publishing.

1	Title of the course (L-T-P-C)	Energy Economics and Policy (3-0-0-6)
2	Pre-requisite courses(s)	None
3	Course content	<ul style="list-style-type: none"> • General Orientation: Energy Flow Diagram, Understanding the Energy Crisis - OPEC and Oil price shocks in the 1970s, Energy Value Chain, Global Trends in Energy Use, Resources & Reserves Growth Rates in Consumption, Estimates of Duration of Fossil Fuels, Primary and Secondary Source of Energy. • Energy Economics: Energy Demand and Supply, Simple Payback Period, Criteria for Assessing Energy Projects – (Net Present Value (NPV), Benefit/Cost Ratio (B/C), Inflation, Internal Rate of Return (IRR), Pricing in Energy Markets: Functioning of Power Exchange and Commodity Exchanges (Energy), Financing Energy – Debt/ Equity- Sources of funds, innovative financing models, Cost of Energy. Private Investment in Energy Sectors, International Carbon Markets and Carbon Finance. • Energy Policy: Energy and Quality of Life, Energy Security, National and International Perspective, Energy Inequality, Indicators of energy poverty, Affordability, Climate Change, UNFCCC, Kyoto Protocol, National Action Plan on Climate Change, Renewable Energy, Cross Border Energy Cooperation, Energy and Environment, Power Policy, Regulation of Indian Energy Sectors Electricity, Oil & Gas and Coal Sectors.
4	Texts/References	<ol style="list-style-type: none"> 1. Stevens, P. (2000). An Introduction to Energy Economics. In Stevens, P. (ed.) The Economics of Energy, Vol. 1, Edward Elgar, Cheltenham, UK. 2. Bhattacharyya, Subhes. C. (2011). Energy Economics: Concepts, Issues, Markets and Governance. Springer. London, UK. 3. Hartwick, J. M, and Olewiler, N. D. (1986). The Economics of Natural Resource Use. Harper and Row Publishers, New York, USA. 4. GEA, 2012: Global Energy Assessment - Toward a Sustainable Future, Cambridge University Press, Cambridge, UK and New York, NY, USA and the International Institute for Applied Systems Analysis, Laxenburg, Austria 5. Hiren Sarkar and Gopal K. Kadekodi, Energy pricing in India: perspectives, issues and options, 1988. 6. Tietenberg, T., and L. Lewis. "The Allocation of Depletable and Renewable Resources: An Overview." In Environmental & Natural Resource Economics. 8th ed. Addison-Wesley, 2008, pp. 134–55. ISBN: 9780321485717. 7. Tiwari, G. N., & Mishra, R. K. Advanced Renewable Energy Sources. Royal Society of Chemistry. 2011. 8. Laurance R. Geri, David E. McNabb. Energy Policy in the U.S.: Politics, Challenges, and Prospects for Change. CRC Press. 2011. 9. Wilson, J. Q., ed. "The Politics of Regulation." In The Politics of Regulation. Basic Books, 1982, pp. 357–94. ISBN: 9780465059683.

1	Title of the course (L-T-P-C)	Principles of Finance: Portfolio Theory and Financial Engineering (3-0-0-6)
2	Pre-requisite courses(s)	Principles of Finance: Investment and Instruments
3	Course content	<p>Portfolio Theory and Capital Asset Pricing Model Markowitz Portfolio Theory covering Risk and Return relationship Role of Capital Asset Pricing Model (CAPM) Project on designing optimal portfolio using asset selection based on historical backtesting, with Machine Learning acting as enabler</p> <p>Risk Analysis: Understanding Portfolio Risk and benefits of Diversification How to generate historical time series using backfilling Methodologies, with logistic regression using basic Python dictionaries Measuring risk through Monto Carlo and Historical Simulation for a hypothetical portfolio and its impact on Banks' capital ratios Reducing Risk with Options</p> <p>Financial Engineering Valuation of options using Black Scholes Method and its application in real world Pricing of options in financial industries Commonly trades structure derivatives i.e. Credit: collateralized debt obligation (CDOs) for both speculative and hedging needs FX/Rates: Swap and Cross Currency Options Bond Options covering default probability</p>
4	Texts/References	<p>Options and Other Derivatives"; John C. Hull and Sankarshan Basu; 10th Edition; Pearson Education</p> <p>"The Psychology of Money": Morgan Housel</p> <p>Principles of Corporate Finance by Richard A. Brealey, Stewart C. Myers, and Franklin Allen, McGraw Hill, 2017</p> <p>Relevant handouts where required will be handed out and students are expected to refer to the material covered in the handouts during the course</p>

1	Title of the course (L-T-P-C)	Communication Skills
2	Pre-requisite courses(s)	--
3	Course content	Why Communication Skills? , Types of Communication, Communication and Research: Academic Reading, Writing, Listening and Appreciation, Grammar and Style, Research Ethics, Gender and Cultural Issues.
4	Texts/References	<ol style="list-style-type: none"> 1. The Craft of Research by Wayne C. Booth, Gregory G.Colomb, Joseph M. Williams. 2. A Manual for Writers of Research Papers, Theses, and Dissertations, Eighth Edition, 3. The Elements of Style by William Strunk Jr., 4. Communication Skills for Engineers and Scientists Sangeeta Sharma & Binod Mishra. 5. A New Approach to Research Ethics: Using Guided Dialogue to Strengthen Research Communities by Henriikka Metajoke, Arto Metajoke.

1	Title of the course (L-T-P-C)	Literary Theory and Criticism (4-0-0-8)
2	Pre-requisite courses(s)	--
3	Course content	Introduction to Theories of Literature, Important Literary and Critical Concepts, Overview of Literary history and Approaches, Understanding 'Texts' and Contexts.
4	Texts/References	<ol style="list-style-type: none"> 1. The Norton Introduction to Literature- Twelfth Edition by Kelly J Mays. 2. Contemporary Literary and Cultural Theory: From Structuralism to Ecocriticism by Pramod Nayar. 3. The Reach of Criticism: Method and Perception in Literary Theory by Paul H. Fry. 4. Companion to Comparative Literature, World Literatures and Comparative Cultural Studies by Steven Totosy De Zepetnek, Tuntun Mukherjee. 5. Literary Theory and Criticism by Patricia Waugh.

1	Title of the course (L-T-P-C)	Interdisciplinary Approaches to Literary Research (4-0-0-8)
2	Pre-requisite courses(s)	NIL
3	Course content	Aims and Scope of Literary Research, Literary Research and Interdisciplinarity, Methods of Interdisciplinary Research, Literary Research and the Question of 'Outcome'
4	Texts/References	<ol style="list-style-type: none"> 1. Inter disciplinarily by Joe Moran, 2nd edition, (Routledge) 2010. 2. Prospecting: From Reader Response to Literary Anthropology by Iser W.a Nd Wolfgang Aser (The Johns Hopkins University Press, February 1, 1993). 3. The Oxford Handbook of Interdisciplinarity edited by Robert Frodeman, Julie Thompson Klein (Oxford University Press) Reprint edition (March 21,2012), 4. Literary Theories: A Case Study in Critical Performance by William Baker (Red Globe Press) 1996 edition (October 25,1996), 5. The Handbook to Literary Research edited by Delia da SousaCorrea, 6. W. R. Owens (Routledge) 2nd edition (20 August 2009).

1	Title of the course (L-T-P-C)	Advanced Econometrics (3-1-0-8)
2	Pre-requisite courses(s)	NIL
3	Course content	<p>Ordinary Least Squares (OLS), Generalized Least Squares (GLS) and Maximum Likelihood Estimation (MLE); Properties of estimators; Hypothesis Testing (t- and F-test; Wald, Likelihood Ratio, Lagrange Multiplier Testing Principles); Discrete Choice models; Limited Dependent Variable; Time Series: Stationary and Non-stationary Series. AR, MA, and ARMA processes. Unit roots. (Augmented) Dickey Fuller test. Integrated Series. Trend Stationary and Difference Stationary Series. Cointegration.</p> <p>Endogeneity in linear regression models: Omission of Relevant Explanatory Variables; Measurement Error in Explanatory Variables; Simultaneity; Lagged Dependent Variable as a Regressor and Serially Correlated Errors; Instrumental Variables (IV) Estimator, choice of Instruments; 2SLS estimator; Simultaneous equations; Efficient GMM estimation; Introduction to Panel Data Models: Fixed effect and random effect models; Introduction to quantile estimation.</p> <p>Some econometric applications using R and Stata.</p>
4	Texts/References	<ol style="list-style-type: none"> 1. Johnston, J. and J. Dinardo, Econometric Methods, (4th edition), McGraw-Hill, 1997. 2. Greene, W.H., Econometric Analysis, (7th edition), Pearson, 2011. 3. Nachane, Dilip M., Econometrics: Theoretical Foundations and Empirical Perspectives, Oxford University Press, 2006. 4. Research papers prescribed by instructor.

1	Title of the course (L-T-P-C)	History of Economic Thought (3-0-0-6)
2	Pre-requisite courses(s)	Nil
3	Course content	Introduction: Pre classical economic thought (Physiocrats and mercantilism), Classical Political Economics – Smith, Ricardo, Marx and Malthus, Neoclassical Economic Theories including general equilibrium; welfare economics and Coase theorem, Growth theories; Schumpeterian growth theory; innovation, Macroeconomics; Keynes and the classics, Recent developments: Experimental and behavioral economics; institutional economics, endogenous preference, information economics, Special Topic: Ancient Indian Economic thought.
4	Texts/References	<ol style="list-style-type: none"> 1. Economic Theory in Retrospect by Mark Blaug, Cambridge University Press; 5th edition(1997). 2. The Worldly Philosophers: The Lives, Times and Ideas of The Great Economic Thinkers by Robert L. Heliborne, 7th edition, Simon &Schuster (1999) 3. Economics Evolving – A History of Economic Thought by Agnar Sandmo, Princeton University Press(2011) 4. Economic Sutra: Ancient Indian Antecedents to Economic Thought by Satish Y. Deodhar, Penguin Portfolio (2019). 5. Online material and video lectures

1	Title of the course (L-T-P-C)	Meta-ethics (4-0-0-8)
2	Pre-requisite courses(s)	--
3	Course content	<p>Meta-ethics is that branch of Moral Philosophy or Ethics that is concerned with the nature of morality or moral properties. Some of the questions in meta-ethics would be the following. Are moral standards relative or absolute? Answer to this question will lead to the debate between Moral Realism and Moral Relativism. Can moral judgments or statements be true or false? Are moral judgements or statements truth-apt? This will lead to the debate between Cognitivism (Moral statements are truth-apt) and Non-cognitivism (Moral statements are not truth-apt. They are neither true nor false.) If moral statements are truth-apt, then can they be known? This will lead to the debate between Moral Rationalism (Moral judgments are known a priori) and Moral Skepticism (Moral judgments cannot be known at all). Can there be ethical properties? This will lead to the debate between Ethical Naturalism (There are ethical properties which are reducible to the non-ethical but natural properties.) and Ethical Non-naturalism(There are ethical properties which are irreducible.) The following topics also will be discussed Moral Explanations and Moral Disagreement.</p>
4	Texts/References	<ol style="list-style-type: none"> 1. Russ Shafer-Landau (ed.) 2013. Ethical Theory: an Anthology. Wiley-Blackwell, Oxford, UK. 2. Sher, George (ed.) 2012. Ethics: Essential Readings in Moral Theory. Routledge. New York. 3. Hugh LaFollette (ed.) 2000. The Blackwell Guide to Ethical Theory. Blackwell Publishers, Oxford, UK. 4. Peter Singer (ed.) 1991. A Companion to Ethics. Blackwell Publishers, Oxford, UK. 5. Sturgeon, Nicholas. "Moral Explanations." In Ethics: Essential Readings in Moral Theory. 2012. Routledge.NY. 6. Geoffrey, Sayre-McCord. 1988. Essays on Moral Realism. Cornell University Press. NY. 7. Foot, Philippa. "Morality as a System of Hypothetical Imperatives." In Ethical Theory: An Anthology. 2013. Wiley-Blackwell, Oxford, UK.

1	Title of the course (L-T-P-C)	Research Methodology in Humanities and Social Sciences (4-0-0-8)
2	Pre-requisite courses(s)	--
3	Course content	Research design and methods including qualitative, quantitative, and mixed-methods designs. Data- collection methods, data-analysis, exposure to critical thinking, research ethics and different schools of critical theories.
4	Texts/References	<ol style="list-style-type: none"> 1. Bergmann, Merrie, Moor, James and Jack Nelson. 2008. The Logic Book. 5th edition, McGraw-Hill, Primis,US. 2. Copi, Irving M, Cohen, Carl and Kenneth McMahon. 2014. Introduction to Logic. 14th edition, Routledge, London & NewYork. 3. Susan T. Gooden and Rajade Berry-James, Why Research Methods Matter, Melvin & Leigh, Publishers, Irvine, California(2018) 4. Claire Lemercier, Claire Zalc, Quantitative Methods in the Humanities: AnIntroduction, University of Virginia Press, University of Virginia,2019 5. Bridget Somekh, Cathy Lewin, Research Methods in the Social Sciences, SAGE, London,California, New Delhi(2004) 6. Kalpana Kannabiran, Padmini Swaminathan, Re- Presenting Feminist Methodologies: Interdisciplinary Explorations, 2017, Routledge, London and New York. 7. Geoff Payne, Judy Payne, Key Concepts in Social Research, 2004, Sage, London, Thousand Oaks, New Delhi

1	Title of the course (L-T-P-C)	Principles of Microeconomics (3-0-0-6)
2	Pre-requisite courses(s)	NIL
3	Course content	<p>Rational choice theory, Consumer theory: Preferences and utility, the consumers' problem, indirect utility and expenditure function, Slutsky equation, Shephard's Lemma and Roy's Identity, properties of demand function</p> <p>Producer theory: Production and cost functions, profit maximisation</p> <p>Perfectly competitive markets: Market equilibrium in short and long run</p> <p>Decisions under risk and uncertainty: contingent commodities, expected utility and attitude toward risk, choice under uncertainty, demand for insurance, demand for risky asset, price of information</p> <p>General Equilibrium and welfare, Monopoly and monopolistic behaviour: pure monopoly, inefficiency and regulation, monopsony, price discrimination Duopoly and Oligopoly: Cournot, Stackelberg and Bertrand models, Asymmetric information: hidden characteristics and adverse selection, Signaling, hidden action and moral hazard problem, principal-agent models Externalities and public goods: externalities and efficiency loss, property rights and Coase theorem, common property resources, public goods and efficiency, free riding problem</p>
4	Texts/References	<ol style="list-style-type: none"> 1. Microeconomic Theory: Basic Principles and Extensions by Walter Nicholson and Christopher Snyder, 12th ed. (2017), Cengage Learning India Pvt. Ltd. 2. The Structure of Economics: A Mathematical Analysis by Eugene Silberberg and Wing Suen, 3rd edition. 3. Microeconomic Analysis by Hal R. Varian, 8th ed. (2010), W. W. Norton & Company 4. Advanced Microeconomic Theory by Geoffrey A. Jehle and Philip J. Reny, 3rd ed. (2011), Pearson. 5. Microeconomics Theory by Mas Colell, Indian ed. (2012), Oxford University Publication.

1	Title of the course (L-T-P-C)	Seminar on selected topics in Advanced Economic (2-0-0-4)
2	Pre-requisite courses(s)	NIL
3	Course content	The course will cover some frontier topics in advanced economic analysis through a detailed discussion in seminars
4	Texts/References	NA

1	Title of the course (L-T-P-C)	Applied Game Theory (3-0-0-6)
2	Pre-requisite courses(s)	NIL
3	Course content	Definition of games, normal form and strategies, Best response, dominance, Nash equilibrium, Iterated elimination of dominated strategies, Mixed strategies. Applications: oligopoly, tariffs, crime, conflict, voting and auctions. Bayesian games. Extensive form games, backward induction and sub game perfect equilibrium and applications. Perfect Bayesian equilibrium. Repeated games. Bargaining games and applications.
4	Texts/References	<ol style="list-style-type: none"> 1. An Introduction to Game Theory by M. O. Osborne, Indian ed. (2003), Oxford University Press. 2. Strategy an Introduction to Game Theory by Joel Watson, 2nd ed. (2013), VivaBooks. 3. Game Theory by Drew Fudenberg & Jean Tirole, MIT Press (1991). 4. A Course in Game Theory by Osborne Martin J. and Rubinstein Ariel, 1st ed., MIT Press.

1	Title of the course (L-T-P-C)	Normative Ethics (4-0-0-8)
2	Pre-requisite courses(s)	--
3	Course content	<p>Under what conditions could one say that an action is morally right or morally wrong? What gives an act moral worth? Prima facie this question could be answered in at least three possible ways. One response could be that the effect/consequence determines the moral worth of the act. Thus, we have Consequentialist Theories of morality. Under consequentialism, we discuss mainly Extreme and Restricted Utilitarianism. Jeremy Benthan and J S Mill are the important philosophers. As opposed to utilitarians, deontologists would say that acts are morally right or morally wrong irrespective of the consequences that the act would produce. Deontologists would say that the moral worth of the action is dependent on the intention of the agent who performs the action and certain absolute moral principles. Immanuel Kant proposes deontology. Virtue ethical theorists would say that mere satisfaction of the principle (whether it is utilitarian or deontological principle) is not something that gives an act moral worth. The moral worth of the act depends on whether the act being performed is the exemplification of virtue. Aristotle proposes some versions of virtue ethics. Apart from these ethical theories, the course will also discuss Social contract theory.</p>
4	Texts/References	<ol style="list-style-type: none"> 1. Barbara MacKinnon and Andrew Fiala. 2015. Ethics Theory and Contemporary Issues. 2. Foot, Philippa. 1978. Virtues and Vices, Blackwell. 3. Russ Shafer-Landau (ed.) 2013. Ethical Theory: an Anthology. Wiley-Blackwell. 4. Scanlon T.1999. 'Reasons', in What We Owe to Each Other, Belknap Press. 5. George Sher (ed.) 2012. Ethics: Essential Readings in Moral Theory. Routledge. 6. Hugh LaFollette (ed.) 2000. The Blackwell Guide to Ethical Theory. Blackwell. 7. Peter Singer (ed.) 1991. A Companion to Ethics. Wiley- Blackwell.

1	Title of the course (L-T-P-C)	Modernism: Theory and Literature (4-0-0-8)
2	Pre-requisite courses(s)	Nil
3	Course content	Cultural and historical backdrop of Modernism, Modernism and Modernity, Writers of the Modernist Period- James Joyce, T.S. Eliot, Joseph Conrad, Franz Kafka, Virginia Woolf, Samuel Beckett among others.
4	Texts/References	<ol style="list-style-type: none"> 1. Modernism by Peter Childs (Routledge) 2nd edition (1 November 2007). 2. The Cambridge Introduction to Modernism by Pericles Lewis (Cambridge University Press) 2007. 3. From Modernism to Postmodernism by Lawrence Cahoon (Wiley-Blackwell) 2nd edition (February 4, 2003). 4. Ulysses by James Joyce (Wordsworth Classics) Mass Market Paperback (4 Jan 2010). 5. The Consequences of Modernity by Anthony Giddens (Stanford University Press, 1 October 1991). 6. Modernity, Modernism, Postmodernism by Manuel Barneito (ed.), 2000.

1	Title of the course (L-T-P-C)	Postmodernism: Theory and Literature (3-0-1-8)
2	Pre-requisite courses(s)	Nil
3	Course content	Defining the 'Postmodern': Understanding the 'Post' in Postmodernism, Postmodernism and Postmodernity, Postmodernist Theory and Culture, Postmodernist Literature.
4	Texts/References	<ol style="list-style-type: none"> 1. The Idea of the Postmodern: A History by Hans Bertens, Routledge (London & New York),1995. 2. The Blind Assassin by Margaret Atwood, Anchor, 2001. 3. White Teeth by Zadie Smith, Random House (New York),2000. 4. Selected Poems by Jorge Luis Borges, Penguin Books, 2000. 5. The White Tiger by Arvind Adiga, Free Press (New York),2008. 6. Postmodernism, or, The Cultural Logic of Late Capitalism by Fredric Jameson, Duke University Press (Durham),1990. 7. Intimations of Postmodernity by Zygmunt Bauman, Routledge (London & New York), 2003. 8. Philosophers on Art from Kant to the Postmodernists: A Critical Reader, edited by Christopher Kul-Want Columbia University Press (New York),2010.

1	Title of the course (L-T-P-C)	Literature and Philosophy (4-0-0-8)
2	Pre-requisite courses(s)	--
3	Course content	Relationship between Literature and Philosophy- from Classical to the Contemporary, Important Philosophical Concepts and their Literary Relevance, Writers and their philosophical attitudes.
4	Texts/References	<ol style="list-style-type: none"> 1. Literature and Philosophy: A Guide to Contemporary Debates edited by D. Rudrum. 2. Literature and Philosophy in Dialogue: Essays in German Literary Theory by Hans-Georg Gadamer. 3. Literature as philosophy/philosophy as literature by Donald G. Marshall. 4. Future Crossings: Literature Between Philosophy and Cultural Studies edited by Krzysztof Ziarek, Seamus Deane.

1	Title of the course (L-T-P-C)	Introduction to Industrial Organization (3-0-0-6)
2	Pre-requisite courses(s)	Economics (HS 201)
3	Course content	<ol style="list-style-type: none"> 1. Introduction to Industrial Economics: Overview of Industrial Economics. Theoretical foundations of Industrial Economics, Basic economic concepts and their relevance to Industrial Economics 2. Introductory Microeconomics: Consumer behaviour and demand, Production functions, Cost functions, Economies of scale and scope, Short-run and Long-run Cost Analysis 3. Game Theory and Strategic Behaviour: Normal Form Games, Extensive Form Games, Repeated Games, Games with Imperfect Information 4. Market Structures: Perfect Competition, Monopoly, Oligopoly, Monopolistic Competition, Collusion, Market Structure and Market Power 5. Pricing Strategies: Price discrimination, Price skimming, Penetration pricing, Bundling 6. Vertical Relations: Double Marginalization and Two-Part Tariffs, Retailer Competition, Investment Externalities, Manufacturer Competition 7. Product Differentiation: Horizontal and vertical differentiation, Product differentiation and market power, Product positioning 8. Strategic Behaviour, Entry and Exit: Entry costs and market structure, Free entry and social welfare, Entry deterrence, Predation, Mergers and acquisitions 9. Research and Development: Market structure and incentive for R&D, Dynamics of R&D competition, Patent races and welfare analysis of patent protection, 10. Network effects, platforms, search and standards
4	Texts/References	<ol style="list-style-type: none"> 1. Industrial Organization, Markets and Strategies (Cambridge University Press (2nd Edition 2015)) by Paul Belle Flamme and Martin Peitz. 2. Industrial Organization: Theory and Applications (The MIT Press, 1st Edition, 6th reprint) By Oz Shy. 3. The Theory of Industrial Organization (Prentice Hall India Learning Private Limited; 1st Edition) by Jean Tirole 4. A Course in Microeconomic Theory. (Princeton University Press (Illustrated Edition 2020)) by D. Kreps 5. An Introduction to Game Theory. (Oxford University Press (1st Edition, 2005)) by Martin J. Osborne

1	Title of the course (L-T-P-C)	Money, Banking and Finance (3-0-0-6)
2	Pre-requisite courses(s)	NA
3	Course content	<p>Money, Banking & Finance: Why Study Money, Banking, and Financial Markets?; An Overview of the Financial System; What Is Money?: Meaning, Functions and Evolution of Money.</p> <p>Financial Markets: The Meaning of Interest Rates; The Behavior of Interest Rates; The Risk and Term Structure of Interest Rates; The Stock Market, the Theory of Rational Expectations, and the Efficient Market Hypothesis.</p> <p>Financial Institutions: An Economic Analysis of Financial Structure; Banking and the Management of Financial Institutions; Economic Analysis of Financial Regulation; Banking Industry: Structure and Competition; Financial Crises</p> <p>Central Banking and the Conduct of Monetary Policy: Central Banks and the RBI; The Money Supply Process; Tools of Monetary Policy; The Conduct of Monetary Policy: Strategy and Tactics; Inflation Targeting – History and Relevance in Indian Context.</p> <p>Policies for Economic Stability: Choosing the long-run inflation rate; Inflation and Output Stability; Taylor’s Rule; Uncertainty and Policy Mistakes; Making Interest Policy; Deviations from Taylor’s Rule; Basel Norms and Their Implications.</p>
4	Texts/References	<p>TEXTBOOKS</p> <ol style="list-style-type: none"> 1. Ball, L. (2011). Money, Banking and Financial Markets. Worth Publishers Inc. 2. Burton, M., & Brown, B. (2014). Financial System of the Economy: Principles of Money and Banking: Principles of Money and Banking. Routledge. 3. Durlauf, S.N., and Blume, L. (2010). Monetary Economics. Palgrave McMillan 4. Handa, J. (2009). Monetary Economics. Routledge. 5. Mishkin, F. S. (2007). The Economics of Money, Banking, and Financial Markets. Pearson Education. 6. Reinhart, C. M., & Rogoff, K. S. (2009). This Time Is Different: Eight Centuries of Financial Folly. Princeton University Press. <p>JOURNAL ARTICLES</p> <ol style="list-style-type: none"> 7. Jayadev, M. (2013). Basel III Implementation: Issues and Challenges for Indian Banks. IIMB Management Review, 25(2), 115-130. 8. Sen, S., & Ghosh, S. K. (2005). Basel Norms, Indian Banking Sector and Impact on Credit to SMEs and the Poor. Economic and Political Weekly, 40(12), 1167-1180.

1	Title of the course (L-T-P-C)	Introduction to Sustainable Development (3-0-0-6)
2	Pre-requisite courses(s)	NIL
3	Course content	<p>Concepts, and principles of sustainability Economic development and sustainability, Between and within countries inequality, Poverty alleviation and social inclusion Planetary boundaries, Global environmental threats, and pathway to Sustainable Development, Measuring social wellbeing Food security, Sustainable cities and community, Sustainable agriculture, Climate change, saving biodiversity and protecting ecosystem services Sustainable Development Goals and policy framework, Corporate Social Responsibility & Sustainability Overview of Sustainability in Indian Knowledge System (IKS) Exposure to sustainability indicators and assessment tools.</p>
4	Texts/References	<p>TEXTS</p> <ol style="list-style-type: none"> 1. The Age of Sustainable Development, Jeffrey D. Sachs. Columbia University Press, 2015, ISBN: 9780231173155 2. Ecological Economics, Herman E. Daly & Joshua Farley, Island Press; 2nd edition, 2010, ISBN: 9781597266819 3. Tietenberg and Lewis. "Environmental and Natural Resource Economics." Routledge; 11th edition, 2018, ISBN: 9781138632301

1	Title of the course (L-T-P-C)	Shakespeare on Screen (3-0-0-6)
2	Pre-requisite courses(s)	Nil
3	Course content	Interface between Literature and Film; Relation between the Stage and the Screen; Theories of Adaptation; Overview of the Transcultural Filmic Adaptations of Shakespeare; Reading Key Shakespeare Plays in Conjunction with Shakespeare Films; Comparative Reading of Key Scenes from a Single Shakespeare Play in Conjunction with Its Multiple Filmic Adaptations; Key Themes in Shakespeare; Is Shakespeare a Universal Genius or an Imperial Product?
4	Texts/References	<p>TEXTS</p> <p>Select plays and films from the following list will be discussed.</p> <ol style="list-style-type: none"> 1. Hamlet (Arden Edition, Third Series, rev. ed., edited by Ann Thompson and Neil Taylor, 2016) Film adaptations: Hamlet (dir. Lawrence Olivier, 1948); Haider (dir. Vishal Bharadwaj, 2014) 2. Macbeth (Arden Edition, Third Series, edited by Sandra Clark and Pamela Mason, 2015) Film adaptations: Macbeth (dir. Roman Polanski, 1971); Maqbool (dir. Vishal Bharadwaj, 2004) 3. King Lear (Arden Edition, Third Series, edited by R. A. Foakes, 1997) Film adaptations: Korol Lir (dir. Grigori Kozintsev, 1971), Ran (dir. Akira Kurosawa, 1985) 4. Othello (Arden Edition, Third Series, rev. ed., edited by E. A. J. Honigmann, 2016) Film adaptations: Othello (dir. Orson Welles, 1951); Omkara (dir. Vishal Bharadwaj, 2006) 5. The Tempest (Arden Edition, Third Series, edited by Virginia Mason Vaughan and Alden T. Vaughan, 2011) Film adaptations: Forbidden Planet (dir. Fred M. Wilcox, 1956); Resan till Melonia (dir. Per Åhlin, 1989) 6. The Comedy of Errors (Arden Edition, Third Series, edited by Kent Cartwright, 2016) Film adaptations: Bhranti Bilas (dir. Manu Sen, 1963); Ambuttu Imbuttu Embuttu (dir. Ashok Kashyap, 2005); <p>REFERENCES</p> <ol style="list-style-type: none"> 1. Henderson, Diana E. <i>A Concise Companion to Shakespeare on Screen</i>. Wiley-Blackwell, 2006. 2. Hutcheon, Linda and Siobhan O'Flynn. <i>A Theory of Adaptation</i>. 2nd edition. Routledge, 2013. 3. Jackson, Russell ed. <i>The Cambridge Companion to Shakespeare on Film</i>. 2nd edition. Cambridge University Press, 2007. 4. Mulvey, Laura. "Visual Pleasure and Narrative Cinema." <i>Screen</i>, vol. 16, no. 3, Autumn 1975, pp. 6-18. 5. Truffaut, François. "A Certain Tendency in French Cinema." <i>Movies and Methods: An Anthology</i>, edited by Bill Nicholas, pp. 224-237. University of California Press, 1976.

1	Title of the course (L-T-P-C)	Introduction to Indian Knowledge systems-2 (IICS-2) (3-0-0-6)
2	Pre-requisite courses(s)	
3	Course content	<p>A broad overview of disciplines included in the IKS, and historical developments. The present course will consider Number system and units of measurement, Mathematics, Metals & Metal working, Town planning & Architecture, Irrigation & water management, and Aeronautics. The emphasis on different topics will be based on students' interests.</p> <p>Module-1: Introduction Indian Knowledge System – An Introduction, Organization, and importance of IKS. Historicity and some salient aspects of IKS. Module 2: Number Systems and Units of Measurement: Number systems in India - Historical evidence, Salient aspects of Indian Mathematics, Bhūta-Saṁkhyā system, Kaṭapayādi system, Measurements for time, distance, and weight, Piṅgala and the Binary system.</p> <p>Module 3: Mathematics Introduction to Indian Mathematics, Unique aspects of Indian Mathematics, Indian Mathematicians and their Contributions, Algebra, Geometry Trigonometry, Binary mathematics & combinatorial problems in Chandaḥ Śāstra and concept of Magic squares.</p> <p>Module 4: Applications of Engineering: Metal and Metal processing Wootz Steel: The rise and fall of a great Indian technology, The Indian heritage, Mining and ore extraction, Metals and metal processing technology, Iron and steel in India, Lost wax casting of idols and artefacts, Apparatuses used for extraction of metallic components.</p> <p>Module 5: Applications of Engineering: Civil Engineering Irrigation & water Management, Irrigation systems & practices in ancient India, Perspective on town planning, Vāstu-śāstra – The science of architecture, Eight limbs of Vāstu, Temples in India, Temple architecture in India.</p> <p>Module 6: Aeronautics Airplane parts, Materials used in construction of Airplane, Propulsion, Yantras or Machinery, Varieties of airplanes, Rukma Vimana, Shakuna Vimana, Sundara Vimana, Tripura Vimana.</p>
4	Texts/References	<ol style="list-style-type: none"> 1. An Introduction to Indian Knowledge Systems: Concepts and Applications, B Mahadevan, V R Bhat, and Nagendra Pavana R N; (Prentice Hall of India), 2022. 2. Indian Knowledge Systems: Vol I and II, Kapil Kapoor and A K Singh; (D.K.Print World Ltd), 2005. 3. Early Indian Architecture: Cities and City-Gates, Coomaraswamy, Ananda K., Munshiram Manoharlal Publishers, 2002. 4. https://www.drishtiiias.com/printpdf/temple-architecture 5. Mathematics in ancient and medieval India, Bag A K(Chaukhamba Orientalia),1979. 6. History of Hindu mathematics, part I&II, Datta B and Singh A N,(Asia Publishing House),1962. 7. Vymaanik shastra-Aeronautics, Maharshi Bharadwaj translated by Subbaraya Shastry (Coronation Press), 1973.

1	Title of the course (L-T-P-C)	Kannada-1 (3-0-0-6)
2	Pre-requisite courses(s)	None
3	Course content	History and development of Kannada. Structure and grammar of Kannada Classical works Kannada such as Vachana Sahitya Leading modern literary works (Fiction, poetry, plays and critical writing) in Kannada Major translations of important literary works into Kannada Translations of technical works (science and technology) into Kannada
4	Texts/References	Malegalalli Madumagalu, Kuvempu, 1967, Amazon.in, 2015 Kannada Sahitya Charitre, Ram Shri Mugali, Gita Book House, 2023 Chidambara Rahasya, Poornachandra Tejaswi, Sahitya Bhandara, 1985 Mookajjiya Kanasugalu, Kota Shivarama Karanth, S.B.S. Publishers Distributors (1968) Kavirajamarga, Amoghavarsha I (800 C. E.)

1	Title of the course (L-T-P-C)	Marathi-1 (3-0-0-6)
2	Pre-requisite courses(s)	None
3	Course content	Modern Marathi Literature Folk Art and Folk Literature Linguistic study and grammar of Marathi History and Trends in Modern Marathi Literature Western Poetics Principles of Literary Criticism Marathi Criticism
4	Texts/References	Marathi Vyavaharik Marathi, Dr.Snehal Tavare, Pune Snehvardhan Prakashan (1994) Mahandambeche Dhawale (Padya), Dr. Suhasini Irlekar, Pune Snehvardhan Prakashan (1977) Madhyayugin Marathi Sahityavishayi, Dr. Satish Badave, Prashant Publications (2015) Naach Ga Ghuma (Atmcharitra), Madhavi Desai, Indrayani Sahity Prakashan online from MarathiBoli.com (2015)

1	Title of the course (L-T-P-C)	Sanskrit-1 (3-0-0-6)
2	Pre-requisite courses(s)	None
3	Course content	<p>Introduction to Sanskrit grammar and literature</p> <p>Epic and Purana literature, Vedas and Upanishads (selected passages and a small Upanishad such as Ishopanishad and chapters from the Bhagavadgeeta)</p> <p>Sanskrit prose and poetry (with examples from Kalidasa, Bhavabhuti, Magha and Bharavi)</p> <p>Sanskrit dramas (Selected acts from plays such as Abhidnyan Shakuntalam)</p> <p>Popular tales, fables and nibanandas Selected Sanskrit Maxims (Aphorisms) Modern Sanskrit Literature</p> <p>Translations of technical works into and from Sanskrit</p>
4	Texts/References	<p>Outlines of Sanskrit Literature, M. N. Joshi, Roopa Publications, Dharwad, 2016</p> <p>Sanskrit Kavya, K. Krishnamurthy, Vidyut Prakashana, Mysore, 2003</p> <p>The ten classical Upanishads Vol-1, P. B. Gajendragadkar, Bharatiya Vidya Bhavan, 2014</p> <p>Essentials of Rigveda, SAKSI, Bangalore, 2013</p> <p>The history of Sanskrit Literature, C. V. Vaidya, Parimala Publications, Delhi, 2013</p> <p>The Bhagavadgeeta with English Translation, Swami Chidbhavananda, Tapovana Publishing House, Thirucrapalli, 1965</p>

1	Title of the course (L-T-P-C)	Introduction Music-1 (3-0-0-6)
2	Pre-requisite courses(s)	None
3	Course content	<p>Theory: History of Indian Music. Popular Folk and Classical Music Origin and development of Hindustani and Carnatic Music Shrutis, Swaras and Saptakas, Notation systems Thats, Ragas and a few common Talas. Ten common Thats and one raga in each that:</p> <p>Bhairav, Bhimpalaa, Kalyan and Bhairavi</p> <p>Musical Instruments and their pitches Western Classical Music: Melody and Harmony Popular music Practicals: One raga in each of the four Thats mentioned above either vocal or in any musical instrument:</p>
4	Texts/References	<ol style="list-style-type: none"> 1. Hindustani music - by G.H.Ranade, Popular Prakashan, 1951 2. Indian music - by B.V.Keskar, Popular Prakashan, 1967 3. Melodic types of Hindustan by Narendra Kumar Bose, Jaico Publishing House, 1960. 4. Musical instruments of India – e-Book, Ministry of Information and Broadcasting, 2015 5. Bhatakande Sangeet Shastra – by Pandit V.N.Bhatakande (part I to IV), Sangeet Karyalaya, Hatharas, 2000 6. Sangeet Visharad – edited by L. N. Garg, Sangeet Karyalaya, Hatharas, 1998 7. Tabla - by Aravind Mulgaokar, Maharashtra Text Book Board, 1975 8. Raag Bodh Parts 1 to VI, B. R. Deodhar, Popular Publications (2011).

1	Title of the course (L-T-P-C)	Introduction to Industrial Organization (3-0-0-6)
2	Pre-requisite courses(s)	3-0-0-6
3	Course content	<ol style="list-style-type: none"> 1. Introduction to Industrial Economics: Overview of Industrial Economics. Theoretical foundations of Industrial Economics, Structure-Conduct-Performance paradigm 2. Introductory Microeconomics: Consumer behaviour and demand, Production functions, Cost functions, Economies of scale and scope, Short-run and Long-run Cost Analysis 3. Game Theory and Strategic Behaviour: Normal Form Games, Extensive Form Games, Repeated Games, Games with Imperfect Information 4. Market Structures: Perfect Competition, Monopoly, Oligopoly, Monopolistic Competition, Collusion, Market Structure and Market Power 5. Pricing Strategies: Price discrimination, Price skimming, Penetration pricing, Bundling 6. Vertical Relations: Double Marginalization and Two-Part Tariffs, Retailer Competition, Investment Externalities, Manufacturer Competition 7. Product Differentiation: Horizontal and vertical differentiation, Product differentiation and market power, Product positioning 8. Strategic Behaviour, Entry and Exit: Entry costs and market structure, Free entry and social welfare, Entry deterrence, Predation, Mergers and acquisitions Research and Development: Market structure and incentive for R&D, Dynamics of R&D competition.
4	Texts/References	<ol style="list-style-type: none"> 1. Industrial Organization, Markets and Strategies (Cambridge University Press (2nd Edition 2015)) by Paul Belleflamme and Martin Peitz 2. Industrial Organization: Theory and Applications (The MIT Press, 1st Edition, 6th reprint) By Oz Shy 3. The Theory of Industrial Organization (Prentice Hall India Learning Private Limited; 1st Edition) by Jean Tirole 4. A Course in Microeconomic Theory. (Princeton University Press (Illustrated Edition 2020)) by D. Kreps <p>An Introduction to Game Theory. (Oxford University Press (1st Edition, 2005)) by Martin J. Osborne</p>

1	Title of the course (L-T-P-C)	National Cultural Appreciation (NCA)
2	Pre-requisite courses(s)	NA
3	Course content	<p>The NCA course will have four five segments: theatre, music, puppetry and dance. It is also possible to add more segments to this course based on the availability of the instructors and the demand from the students. The first-year B.Tech students will select any two of the segments. The course will run in both 1st semester and 2 semesters. The first-year B.Tech students will opt for one segment in each semester of their 1st year. The choice of/from these courses will be based on their merit and performance. Different segments will have different evaluation criteria. Each segment will be offered by an Instructor. Capping on the number of students may be done by the instructor of a segment.</p> <p>Theatre Segment</p> <ol style="list-style-type: none"> 1. Introduction to theatre <ol style="list-style-type: none"> a. Concept of Play and Performance b. Folk: Both from Classical and Contemporary perspectives 2. Explicating the styles of performance (stylization covers Realistic, Surrealistic, modern and postmodern aspects) 3. Engaging with text (Play), focusing speech and movement 4. Practicing spot improvisation 5. Playscript 6. Skit improvisation and practice. 7. Demo by the participants <p>Music Segment</p> <ol style="list-style-type: none"> 1. To give an understanding of what music is and what it means to us. 2. Explain the concept of pitch, sound, tone, etc. 3. Explain the meaning of Navarasas and the process of finding them with musical notes. 4. Explanation of Shruti and Laya and its significance. 5. Briefly exploring the science of music. 6. Exploring the ability of a student to express a story with music. 7. Practice and Demonstration by students with a description of pitch, sound, tone, voice, and music. <p>Puppetry Segment</p> <ol style="list-style-type: none"> 1. Exploring the history and theories of Puppetry 2. Exploring different forms of puppetry. 3. Give practice to students in multiple performance expressions 4. Provide the students with experience with a variety of tools and materials involved in puppetry art. 5. Students are guided to take movement classes, fabric manipulation classes, design classes, drawing classes, rendering classes and stop motion classes. <p>Dance Segment</p> <ol style="list-style-type: none"> 1. Introduction to the Dance <ol style="list-style-type: none"> a. Concept of Dance and the Concept of Performance b. Different forms of dance 2. The dance segment will explore the Indian Contemporary/Freestyle dance practices 3. Focus is given to the comprehensive improvisation of movement of a choreographer/dancer. 4. Observing the capability of dancers, improvisation of movement will be choreographed. <p>Visual Arts and Crafts Segment</p> <ol style="list-style-type: none"> 1. Exploring Styles and schools of Fine arts- Paintings through History including Indian artists 3. Exploring Crafts around the world and India 4. Evolution of applied arts-crafts into Design Technology -the Science behind Aesthetic perception & appreciation 5. Art as Therapy- Assignments on exploring 'self' through art expression. 6. Craft workshop by invited expert

		<p>7. Assignments on creativity using Generative AI</p> <p>8. Quizzes on identifying Art and Craft genres.</p>
4	Texts/References	<p>REF:</p> <ol style="list-style-type: none"> 1. Partha Mitter, Indian Art (2001), Oxford University Press 2. B.N. Goswamy, the spirit of Indian painting: close encounters with 100 great works, 1100 – 1900 (2014), PENGUIN 3. Nitin Singhania; Indian Art and Culture 5th Edition Paperback – McGraw Hill . 2023. 4. Banes S., & Lepecki, A., The senses in performance. New York: Routledge, 2007. 5. Hollander J., Indian folk theatres. London: Routledge, 2007. 6. Vergine L., Body art and performance: The body as language. Milan: Skira, 2007. 6. Lal A., The Oxford companion to Indian theatre. New Delhi: Oxford University Press, 2004. 7. Wade B. C., Music in India: The classical traditions. New Delhi: Manohar, 2001. 8. Mittal A., Hindustaani music and the aesthetic concept of form. New Delhi: D.K. Printworld, 2000. 9. Ragini D., Dance dialects of India. Delhi: Motilal Banarsidass, 1990.

1	Title of the course (L-T-P-C)	Introduction to Economics of Climate Change 3-0-0-6
2	Pre-requisite courses(s)	--
3	Course content	<p>Unit I: Introduction to Climate Change and Society: Climate science in brief (greenhouse gases, global warming, tipping points), Climate change as an economic and social challenge, Sustainable development and climate justice, North-South divide in climate change responsibilities</p> <p>Unit II: Climate Change and Development: Impacts on agriculture, health, and livelihoods, Vulnerability of poor and marginalized communities, Climate change, poverty, and inequality, Case studies: South Asia, Sub-Saharan Africa</p> <p>Unit III: Market Failures and Public Goods: Climate change as a global externality, Public goods and collective action problems, Free-riding in international climate negotiations, Social cost of carbon</p> <p>Unit IV: Economics of Adaptation and Mitigation: Adaptation: strategies in developing vs. developed countries, Economic costs of adaptation, Mitigation: carbon pricing, taxes, and trading schemes, Role of innovation and technology transitions</p> <p>Unit V: Institutions, Governance, and Climate Policy: Global agreements: Kyoto Protocol, Paris Agreement, National climate policies and local governance, Role of NGOs, social movements, civil society, Climate justice and intergenerational equity</p> <p>Unit VI: Climate Finance and Green Transitions: Climate finance: sources, mechanisms, and debates, Green Climate Fund and developing country needs, Financing renewable energy and sustainable infrastructure, Just transition: employment, energy, and social justice</p> <p>Unit VII: Climate Change and Society: Energy use and consumption patterns, Urbanization, transport, and climate resilience, Social narratives, perceptions, and climate communication, Role of youth, indigenous knowledge, and grassroots innovation</p>
4	Texts/References	<p>FitzRoy, R. F., and E. Papyrakis, An Introduction to Climate Change Economics and Policy, 1st Edition, Earthscan Publishers, 2010. Hardy, J. T., Climate Change – Causes, Effects and Solutions, 1st Edition, John Wiley and Sons, 2003. Agarwal, Anil, and Sunita Narain, Global Warming in an Unequal World: A Case of Environmental Colonialism, 1st Edition, Centre for Science and Environment, 1991. Chomsky, Noam, and Robert Pollin, Climate Crisis and the Global Green New Deal: The Political Economy of Saving the Planet, 1st Edition, Verso, 2020. Nordhaus, William, The Climate Casino: Risk, Uncertainty, and Economics for a Warming World, 1st Edition, Yale University Press, 2013. Stern, Nicholas, The Economics of Climate Change: The Stern Review, 1st Edition, Cambridge University Press, 2007. Klein, Naomi, This Changes Everything: Capitalism vs. the Climate, 1st Edition, Simon & Schuster, 2014. Sachs, Jeffrey, The Age of Sustainable Development, 1st Edition, Columbia University Press, 2015.</p>

1	Title of the course (L-T-P-C)	Introduction to Environmental Economics 3-0-0-6
2	Pre-requisite courses(s)	--
3	Course content	<p>Introduction to Environmental Economics: Scope and significance of environmental economics, The role of government in environmental management, Market failures and environmental problems.</p> <p>Public Goods and Externalities: Characteristics of public goods, Positive and negative externalities, Property rights and the Coase theorem.</p> <p>The Optimal Regulation of Pollution: Standards, taxes, and tradable permits, Cost–benefit analysis in environmental regulation, Efficiency and equity considerations</p> <p>Environment, Growth, and Development: Environmental Kuznets Curve (EKC) hypothesis, Sustainable development and green growth, Poverty-environment linkages</p> <p>Global Environmental Politics and North-South Debate: International environmental regimes and agreements (e.g., UNFCCC Paris Agreement), Equity, justice, and burden-sharing debates, North-South conflicts and cooperation</p>
4	Texts/References	<ol style="list-style-type: none"> 1. Kolstad, Charles, Environmental Economics, 2nd Edition, Oxford University Press, 2010. 2. Tietenberg, Tom, Environmental and Natural Resource Economics, 5th Edition, Addison-Wesley, 2000. 3. Chapman, Duane, Environmental Economics: Theory, Application, and Policy, 1st Edition, Addison-Wesley, 1999.

1	Title of the course (L-T-P-C)	Economics of Climate Change: Theory and Practice 3-0-0-6
2	Pre-requisite courses(s)	--
3	Course content	<p>Unit I: Introduction to the Economy and Climate Change: Climate change as an economic problem, Relationship between economic activity, energy use, and greenhouse gas emissions, Climate change and sustainable development goals (SDGs), Climate– economy integrated assessment models (overview).</p> <p>Unit II: Market Failure and the Problem of International Externalities: Externalities and public goods in climate change, Tragedy of the commons and global environmental resources, Transboundary externalities and challenges of international climate policy, The economics of free riding.</p> <p>Unit III: Uncertainty and Irreversibility: The role of uncertainty in climate modeling and economics, Irreversibility of climate impacts and investment decisions, The precautionary principle, Discounting future costs and benefits of climate change.</p> <p>Unit IV: Climate Change and Game Theory : Strategic behavior and collective action in global climate negotiations, Global carbon pricing and international carbon markets, Incentives for developing countries to adopt low-carbon pathways, International cooperation: Kyoto Protocol, Paris Agreement, and beyond.</p> <p>Unit V: Economic Instruments and Policy for Climate Change: Command-and-control vs. market-based instruments, Carbon taxes, subsidies, and emissions trading schemes, Policy design under uncertainty, National vs. international policy approaches .</p> <p>Unit VI: Impacts of Climate Change on Growth and Development: Climate change and economic productivity, Distributional effects across countries and communities, Climate change and vulnerable economies (agriculture, coastal zones, health), Linkages between climate change, poverty, and inequality.</p>
4	Texts/References	<p>Texts</p> <ul style="list-style-type: none"> • R.F. FitzRoy and E. Papyriks, An introduction to Climate Change Economics and Policy, Earthscan publishers, 2010 • J.T. Hardy, Climate Change – Causes, Effects and Solutions, John Willey and Sons, 2003 • Agarwal, Anil, and Sunita Narain. 1991. Global Warming in an Unequal World: • A Case of Environmental Colonialism. New Delhi: Centre for Science and Environment. • Chomsky, Noam, and Robert Pollin. 2020. Climate Crisis and the Global Green • New Deal: The Political Economy of Saving the Planet. London and New York: Verso. • Nordhaus, William. 2013. The Climate Casino: Risk, Uncertainty, and Economics for a Warming World. New Haven and London: Yale University Press. <p>References</p> <ul style="list-style-type: none"> • W. D Nordhaus, To Tax or Not to Tax: Alternative Approaches to Slowing Global Warming, Review of Environmental Economics and Policy, 1(1): 26, 2007 • C. Hadjilambrinos, For Richer or for Poorer? The Role of Science, Politics, and Ethics in the Global, Climate Change Policy Debate, Bulletin of Science, Technology & Society, 19(6): 521-531, 1999 • T. Hayward, Human Rights Versus Emissions Rights: Climate Justice and the Equitable Distribution of Ecological Space, Ethics and International Affairs, 21(4):431-450, 2008. • Stern, Nicholas. “The Economics of Climate Change.” American

		<p>Economic Review 98, no. 2 (2008): 1-37.</p> <ul style="list-style-type: none"> • Nordhaus, William D. “A Review of the Stern Review on the Economics of Climate Change.” <i>Journal of Economic Literature</i> 45, no. 3 (2007): 686-702. • Weitzman, Martin M. “A Review of the Stern Review on the Economics of Climate Change.” <i>Journal of Economic Literature</i> 45, no. 3 (2007): 703-724. Climate change policy • Metcalf, Gilbert. “Market-Based Policy Options to Control U.S. Greenhouse Gas Emissions.” <i>Journal of Economic Perspectives</i> 23, no. 2 (2009): 5-27. • Tol, Richard S. J. “The Economic Effects of Climate Change.” <i>Journal of Economic Perspectives</i> 23, no. 2 (2009): 29-51. • Barrett, Scott. “The Coming Global Climate-Technology-Revolution.” <i>Journal of Economic Perspectives</i> 23, no. 2 (2009): 53-75. Carbon offsets and the clean development mechanism • Reinhardt, Forest, Jost Hamschmidt, and Mikell Hyman. “South Pole Carbon • Asset Management-Going for Gold?” Harvard Business School Case. Harvard Business School Publishing. Case: 9-709030, March 31, 2009.
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1	Title of the course (L-T-P-C)	Environmental Economics: Theory and Practice 3-0-0-6
2	Pre-requisite courses(s)	--
3	Course content	<ul style="list-style-type: none"> • Introduction to Environmental Economics: Scope and significance of environmental economics, The role of government in environmental management, Market failures and environmental problems. • Public Goods and Externalities: Characteristics of public goods, Positive and negative externalities, Property rights and the Coase theorem. • The Optimal Regulation of Pollution: Standards, taxes, and tradable permits, Cost-benefit analysis in environmental regulation, Efficiency and equity considerations • Risk, Uncertainty, and Liability: Environmental risks and uncertainty in decision-making, Liability laws and precautionary principle, Insurance and compensation mechanisms. • Game Theory and the Environment: Strategic interaction in resource use and pollution, Tragedy of the commons and collective action problems, International environmental agreements. • Environment, Growth, and Development: Environmental Kuznets Curve (EKC) hypothesis, Sustainable development and green growth, Poverty-environment linkages • Institutional Economics and Environmental Policy: Institutions, property rights, and common-pool resources, Ostrom's design principles for collective governance.
4	Texts/References	<ul style="list-style-type: none"> • Kolstad, Charles, Environmental Economics, 2nd Edition Oxford University Press, 2010. • Totenberg, Tom, Environmental and Natural Resource Economics, 5th Edition, Addison-Wesley, 2000. • Chapman, Duane, Environmental Economics: Theory, Application, and Policy, 1st Edition, Addison-Wesley, 1999. <p>Reading List</p> <ul style="list-style-type: none"> • Cropper, Maureen L., and Wallace E. Oates, Environmental Economics: A Survey, Vol. 30, Journal of Economic Literature 1992. • Coase, Ronald H., The Problem of Social Cost, Vol. 3, —, The Journal of Law and Economics, 1960. • Fullerton, Don, and Thomas C. Kinnaman, Household Response to Pricing Garbage by the Bag, Vol. 86, No. 4, American Economic Review, 1996. • Fullerton, Don, and Sarah West, Tax and Subsidy Combinations for the Control of Car Pollution, NBER Working Paper No. 7774, 2000. • Totenberg, Thomas H., Economic Instruments for Environmental Regulation, Chapter 16, EESR. • Wiener, Jonathan, Global Trade in Greenhouse Gas Control Market Merits and Critics' Concerns, Vol. 129, Resources, 1997. • Clean and Green, or Lean and Mean?, The Economist, December 12, 1992, p. 73. • Taxes for a Greener Environment, The Economist, June 28, 1997, p. 84. • Morgenstern, Richard D., Environmental Taxes: Is There a Double Dividend?, Vol. 38, No. 3, Environment, 1996. • Bhagwati, Jagdish, and Herman Daly, Debate: Does Fre Trade Harm the Environment?, Vol. 269, No. 5, Scientific American, 1993. • Grossman, Gene, and Alan Krueger, Economic Growth and the Environment, Vol. 110, No. 2, Quarterly Journal of Economics, 1995. • Levinson, Arik, The Ups and Downs of the Environmental Kuznets Curve, Mimeograph, Georgetown University, 2000. • Diamond, Peter A., and Jerry A. Hausman, Contingent Valuation: Is Some Number Better than No Number?, Vol. 8, No. 4, Journal of Economic

		<p>Perspectives, 1994.</p> <ul style="list-style-type: none">• Stern, Nicholas, The Economics of Climate Change, Vol. 98, No. 2, American Economic Review, 2008.• Nordhaus, William D., A Review of the Stern Review on the Economics of Climate Change, Vol. 45, No. 3, Journal of Economic Literature, 2007.
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1	Title of the course (L-T-P-C)	Macroeconomics I 3-0-0-6
2	Pre-requisite courses(s)	
3	Course content	<p>Macroeconomics and Measurement of Macroeconomic Variables Nature and scope of macroeconomics; National Income Accounts: GDP – National Income Accounting Identities; Cost of Living Index: GDP deflator, WPI, CPI, Core Inflation</p> <p>The Classical Macroeconomics The Classical Revolution; Wage, Employment and Production; Equilibrium Output and Employment; Quantity theory of Money; The Classical Theory of the Interest Rate</p> <p>The Keynesian System The Simple Keynesian Model: Equilibrium Output, Components of Aggregate Demand, Equilibrium Income; the role of Fiscal Policy and Multiplier; Keynesian Theory of the Interest Rate; Money supply and Money demand in Keynesian framework.</p> <p>The Monetarist Counterrevolution The reformulation of the Quantity theory of Money; Fiscal and Monetary Policy: Monetarists versus Keynesians; Unstable velocity and declining policy influence of Monetarism.</p> <p>The Post Keynesian Macroeconomics The New Classical Position: Keynesian Counter-critique, Rational Expectations Hypothesis; Real Business Cycle Theory; New Keynesian Economics.</p> <p>Microeconomic Foundations of Macroeconomics Consumption: Keynesian Consumption Function, Kuznets’s Consumption Puzzle, Fischer’s theory of Intertemporal Choice, Modigliani’s Life Cycle Hypothesis, Friedman’s Permanent Income Hypothesis, Random walk model of Consumption expenditure; Investment: The Neoclassical Theory of Investment.</p>
4	Texts/References	<p>Textbooks</p> <ol style="list-style-type: none"> 1. Dornbusch, R., Fischer, S., & Startz, R. (2015). Macroeconomics. McGraw Hill Education. 2. Froyen, R. (2014). Macroeconomics: Theories and Policies. Pearson Education. 3. Mankiw, N. G. (2015). Macroeconomics. Worth Publishers. 4. Snowden, B. & Vane, H. R. (2005). Modern Macroeconomics: Its Origins, Development and Current State. Edward Elgar Publishing. 5. Abel, A. B. & Bernanke, B. S. (2011). Macroeconomics. Pearson Education. 6. Blanchard, O. (2009). Macroeconomics. Pearson Education Inc. 7. Mishkin, F. S. (2016). Macroeconomics: Policy & Practice. Pearson Education. 8. Sikdar, S. (2020). Principles of Macroeconomics. OUP India. 9. D’Souza, E. (2009). Macroeconomics. Pearson Education.

1	Title of the course (L-T-P-C)	Macroeconomics II 3-0-0-6
2	Pre-requisite courses(s)	
3	Course content	<p>The Closed Economy in the Short Run The goods market and derivation of IS curve; real influences and Shift in IS schedule; the money market and derivation of LM curve; monetary influences and the shift in LM curve; determination of equilibrium income and interest rates; the relative efficacy of fiscal and monetary policy under IS-LM framework; Critiques of IS-LM.</p> <p>The Aggregate Demand and Supply The derivation of aggregate demand and supply curves; the Keynesian aggregate demand with vertical aggregate supply curve; sources of wage rigidity and unemployment; the flexible price with fixed money wage model; labour supply and money wage; the shift in aggregate supply; Keynes vs. Classics.</p> <p>Output, Inflation and Unemployment Links between Output and Unemployment: Okun's Law; Estimates of Potential GDP and their Limitations; Natural Rate of Unemployment; Factors affecting Natural rate of Unemployment; Links between Inflation and Unemployment: Phillips Curve; Friedman-Phelps Expectations Augmented Phillips Curve; Output-Inflation Tradeoff: Keynesian versus Monetarists view; Backward bending Phillips Curve and Threshold Inflation Disinflation and Sacrifice Ratio.</p> <p>Open Economy Models IS-LM-BP model for an open economy; the IS-LM-BP model with changing price level.</p> <p>Macroeconomic Policy Active or Passive Policy Debate; Fiscal Policy: Public-Choice and Partisan Theories, Automatic Fiscal Stabilisers, Pros and Cons of Balanced Budget Rules, Traditional and Ricardian View of Public debt, crowding in and crowding out effect, Ricardian equivalence; Monetary Policy: Goals of Monetary Policy and Intermediate Targets, Choosing Intermediate Targets in the case of Supply and Demand Shocks, Targeting Monetary Aggregates and its Implications, Targeting Interest Rates and its Implications; Recent International Experience: Discretion versus Policy Rules Debate, Taylor's Rule and Monetary Policy – Inflation Targeting – Issues Relating to Inflation Targeting – Country Experiences with Inflation Targeting.</p>
4	Texts/References	<p>Textbook</p> <ol style="list-style-type: none"> 1. Dornbusch, R., Fischer, S., & Startz, R. (2015). Macroeconomics. McGraw Hill Education. 2. Froyen, R. (2014). Macroeconomics: Theories and Policies. Pearson Education. 3. Barro, R. (2010). Intermediate Macroeconomics. Cengage Learning. 4. Romer, D. (2018). Advanced Macroeconomics. McGraw Hill Education. 5. Abel, A. B. & Bernanke, B. S. (2011). Macroeconomics. Pearson Education. 6. Blanchard, O. (2009). Macroeconomics. Pearson Education Inc. 7. Mishkin, F. S. (2016). Macroeconomics: Policy & Practice. Pearson Education. 8. Sikdar, S. (2020). Principles of Macroeconomics. OUP India. 9. D'Souza, E. (2009). Macroeconomics. Pearson Education.

1	Title of the course (L-T-P-C)	International Trade 3-0-0-6
2	Pre-requisite courses(s)	--
3	Course content	<p>Introduction and Essentials: The Subject Matter of International Economics; Trade Based on Absolute Advantage; Trade Based on Comparative Advantage; Misconceptions about comparative advantage; Comparative advantage in practice.</p> <p>The Standard Theory of International Trade, Offer Curves and the Terms of Trade: The Basis for and the Gains from Trade with Increasing Costs; Trade Based on Differences in Tastes; The Equilibrium Relative Commodity Price with Trade; Partial Equilibrium Analysis & General Equilibrium Analysis; Terms of trade.</p> <p>The Heckscher - Ohlin Theory, Economies of Scale, Imperfect Competition and International Trade: Heckscher-Ohlin Theory; Factor-Price Equalization, Effect of Trade on Income Distribution; Empirical Tests of the Heckscher-Ohlin Model; The Leontief Paradox; Empirical relevance of the H-O theory in the current period; Economies of Scale and International Trade; Imperfect Competition and International Trade-Intra industry trade; Rybczynski Theorem; Technological gap and Product Cycle models.</p> <p>Trade Restrictions: Tariffs and Nontariff Trade Barriers: Partial Equilibrium Analysis of a Tariff; General Equilibrium Analysis of a Tariff in a Small Country; Import Quotas; Other Non-tariff Barriers; Neo-Protectionism</p> <p>Economic Integration: Trade-Creating Customs Unions; Trade-Diverting Customs Unions; The Theory of the Second Best and Other Static Welfare Effects of Customs Unions; ASEAN, SAARC, NAFTA; Multilateralism; WTO.</p>
4	Texts/References	<p>Textbooks</p> <ol style="list-style-type: none"> 1. Gandolfo, G. (2013). International Economics I: The Pure Theory on International Trade. Springer Science & Business Media. 2. Bhagwati, J., Panagariya, A., & Srinivasan, T. N. (1998). Lectures on International Trade. MIT Press. 3. Krugman, P., Obstfeld, M. & Melitz, M. (2012). International Economics Theory and Policy. New Delhi: Pearson Education. 4. Salvatore, D. (2016). International Economics: Trade and Finance. John Wiley International Student Edition. 5. Sodersten, B., & Reed, G. (1994). International Economics. Palgrave Macmillan. 6. Appleyard, D. R., & Field Jr, A. J. (2001). International Economics. McGraw-Hill, New York. 7. Feenstra, R. C. (2015). Advanced International Trade: Theory and Evidence. Princeton University Press.

1	Title of the course (L-T-P-C)	Financial Economics 3-0-0-6
2	Pre-requisite courses(s)	--
3	Course content	<p>Introduction to Financial Economics Basics; Technical and fundamental analysis; Efficient Market Hypothesis (EMH); weak form, semi strong and strong form; tests for Efficient Market Hypothesis.</p> <p>Risk and Uncertainty Concepts of uncertainty and risk; axioms of choice under uncertainty; utility functions; Expected utility hypothesis; certainty equivalence; risk aversion: absolute and relative risk aversions; risk neutral and risk lover; measure of investment risk; variance and semi variance or return; shortfall probabilities; VaR and Tail VaR</p> <p>Valuation of Fixed Income Securities Yield curves; yield to maturity; Bond Pricing Theorems; term structure theories of interest rates; The unbiased expectations hypothesis; Liquidity Preference Theory; Market Segmentation Theory; Preferred Habitat Theory</p> <p>Pricing Models Mean Variance Portfolio theory; The capital assets pricing model (CAPM); Capital market line; Security Market Line; Multiple Factor Models of asset returns: macroeconomic models; fundamental factor models; Ross Arbitrage pricing theory model (APT); Consumption-Based Asset Pricing; Portfolio Choice; Equilibrium Asset Pricing and CCAPM.</p> <p>Options and Financial Derivatives Derivatives; put and call option; valuation of options; Markowitz model; Binomial Option Pricing; Black-Scholes Model.</p>
4	Texts/References	<p>Textbooks</p> <ol style="list-style-type: none"> 1. Luenberger, D. G. (2013). Investment Science. Oxford University Press. 2. Sharpe, W. F., Alexander, G. J., & Bailey, J. W. (1999). Investments. Prentice Hall. 3. Elton, E. J., Gruber, M. J., Brown, S. J., & Goetzmann, W. N. (2014). Modern Portfolio Theory and Investment Analysis. John Wiley & Sons. 4. Hull, J.C. (2021). Fundamentals of Futures and Option Market. Pearson Education 5. Madura, Jeff. (2015). Financial Institutions and Markets. Cengage Learning. 6. Bodie, Z., Kane, A., & Marcus, A. J. (2019). Investments. McGraw-Hill. 7. Tirole, J. (2006). Theory of Corporate Finance. Princeton University Press. 8. Cochrane, J. (2009). Asset Pricing. Princeton University Press

1	Title of the course (L-T-P-C)	Time Series Analysis 3-0-0-6
2	Pre-requisite courses(s)	--
3	Course content	<p>Introduction: Statistical preliminaries, Random variables, distributions, Regression basics and assumptions. Violations of assumptions in the classical regression model, Diagnostics.</p> <p>Univariate time series analysis: Time series definition, Stationarity and ergodicity, Expected value of a sequence of random variables, Covariance of two random variables, ACF. Examples of stationary processes, White noise processes, Normality tests. Linear time series processes Auto-regressive process, Moving-average process, Lag operator notation and time series representation, Wold's representation. Linear time series analysis: AR Processes properties, MA process properties, ARMA Models, Matrix forms.</p> <p>Estimation and forecasting: Estimation of AR, MA and ARMA models, Portfolio risk and interdependence. Estimation and forecasting of time series models and examples: Model selection criteria, Forecasting algorithm. Introduction to ARIMA. Structural Break Analysis.</p> <p>Volatility Models: Review of heteroscedasticity from regression perspective, Heteroskedastic models, The ARCH Process. Volatility as an indicator of financial risk. ARCH, GARCH. E-GARCH and other family of ARCH models, Multivariate volatility models. Vector auto-regression models. Granger causality tests, Co-integration and error correction models. Spectral analysis of time series. Time-frequency and wavelet methods for time series analysis.</p>
4	Texts/References	<p>Textbooks</p> <ol style="list-style-type: none"> 1. Enders, W. (2013). Applied Econometric Time Series. John Wiley & Sons. 2. Harvey, A.C. (1993). Time Series Models. MIT Press. 3. Greene, W. H. (2003). Econometric Analysis. Pearson Education. 4. Gujarati, D. N. (2016). Econometrics by Example. Palgrave. 5. Hamilton, J. D. (1994). Time Series Analysis. Princeton University Press. 6. Brooks, C. (2019). Introductory Econometrics for Finance. Cambridge University Press. 7. Tsay, R. S. (2005). Analysis of Financial Time Series. John Wiley & Sons. 8. Shumway, R. H., Stoffer, D. S., & Stoffer, D. S. (2017). Time Series Analysis and its Applications. Springer.

1	Title of the course (L-T-P-C)	Time Series Analysis Lab 0-0-3-3
2	Pre-requisite courses(s)	--
3	Course content	<p>With the help of STATA/EViews/R, the following concepts will be taught: Univariate time series analysis: Stationarity and ergodicity, Expected value of a sequence of random variables, Covariance of two random variables, ACF. Examples of stationary processes, White noise processes, Normality tests. Linear time series processes Auto-regressive process, Moving-average process, Lag operator notation and time series representation, Wold's representation.</p> <p>Estimation of AR, MA and ARMA models, Portfolio risk and interdependence. Estimation and forecasting of time series models and examples: Model selection criteria, Forecasting algorithm. Introduction to ARIMA. Heteroskedastic models, The ARCH Process. Volatility as an indicator of financial risk. ARCH, GARCH. E-GARCH and other family of ARCH models, Multivariate volatility models.</p> <p>Vector auto-regression models. Granger causality tests, Co-integration and error correction models. Spectral analysis of time series. Time-frequency and wavelet methods for time series analysis.</p>
4	Texts/References	<p>Textbooks</p> <ol style="list-style-type: none"> 1. Brooks, C. (2019). Introductory Econometrics for Finance. Cambridge University Press. 2. Cameron, A. C., & Trivedi, P.K. (2010). Microeconometrics Using Stata. STATA Press. 3. Kleiber, C., & Zeileis, A. (2008). Applied Econometrics with R. Springer. 4. Croissant, Y., & Millo, G. (2019). Panel Data Econometrics with R. Wiley. 5. Hatekar, N. R. (2010). Principles of Econometrics: An Introduction (Using R). Sage.

1	Title of the course (L-T-P-C)	Statistics for Economics I 2-1-0-6
2	Pre-requisite courses(s)	--
3	Course content	<p>UNIT I: Descriptive Statistics</p> <ol style="list-style-type: none"> 1. Introduction to Statistics : Definition, scope, and importance of statistics, Types of data: qualitative and quantitative, Applications of statistics in social sciences, business, and research 2. Collection and Presentation of Data: Primary and secondary data collection methods, Classification, tabulation, and graphical representation of data (bar diagram, pie chart, histogram, frequency polygon, ogives) 3. Frequency Distributions: Construction of discrete and continuous frequency distributions, Relative and cumulative frequency distributions, Uses and limitations 4. Measures of Central Tendency: Mean, median, mode: definition properties, merits, and limitations, Geometric mean and harmonic mean, Applications in real-world data analysis 5. Measures of Dispersion: Range, quartile deviation, mean deviation, standard deviation, Coefficient of variation, Applications in comparative studies 6. Moments and Measures of Skewness and Kurtosis: Concept of moments and central moments, Pearson's and Bowley's measures of skewness, Kurtosis and its significance 7. Bivariate Frequency Distribution: Definition and construction, Marginal and conditional distributions, Applications in data analysis 8. Correlation Analysis: Types of correlation: positive, negative, simple, multiple, partial, Methods: scatter diagram, Karl Pearson's coefficient, Spearman's rank correlation, Applications and limitations 9. Regression Analysis: Concept of regression and lines of regression, Regression equations (two-variable case), Relationship between correlation and regression coefficients <p>UNIT II: Probability Theory</p> <ol style="list-style-type: none"> 1. Elements of Probability Theory: Basic concepts: experiment, event, sample space, Classical, relative frequency, and axiomatic definitions of probability, Addition and multiplication theorems of probability, Conditional probability and Bayes' theorem 2. Univariate Theoretical Distributions: Binomial distribution: property 3. and applications, Poisson distribution: properties and applications, Normal distribution: properties, importance, and applications 4. Joint Distributions of Attributes: Concept of bivariate probability distribution, Marginal and conditional distributions, Expectation and covariance, Independence of attributes and random variables.
4	Texts/References	<ol style="list-style-type: none"> 1. David Freedman, Robert Pisani and Roger Purves, Statistics, W. W. Norton & Company. 2. Goon A.M., Gupta M.K. and Das Gupta.B., Outline of Statistics, Vol. I & II, World Press, 2002. 3. Robert V. Hogg, Joseph W. McKean and Allen Thornton Craig, Introduction to Mathematical Statistics, Pearson Education, 2012. 4. Sheldon M. Ross, Introduction to Probability Models, Academic Press, 2014.

1	Title of the course (L-T-P-C)	Statistics for Economics II 3-0-0-6
2	Pre-requisite courses(s)	--
3	Course content	<p>UNIT I: Inferential Statistics</p> <ol style="list-style-type: none"> 1. Sampling Process: Concept and need of sampling, Types of sampling methods: probability and non-probability sampling, Sampling errors and non-sampling errors. 2. Random Sampling and Sampling Distribution: Simple random sampling and stratified random sampling, Sampling distribution of mean, proportion, and variance, Central Limit Theorem and its applications. 3. Principles of Statistical Inference: Concepts of estimation and hypothesis testing, Errors in hypothesis testing: Type I and Type II errors, Level of significance and power of a test. 4. Estimation and Hypothesis Testing: Point estimation and interval estimation, Properties of a good estimator (unbiasedness, consistency, efficiency), Steps in hypothesis testing and interpretation 5. Parametric Tests and Confidence Intervals: t-test (one sample, two samples, paired samples), z-test for mean and proportion, Construction and interpretation of confidence intervals. 6. Small Sample Tests and Large Sample Tests: Small sample tests: t-test, chi-square test, F-test, Large sample tests: tests Of significance for proportions and means 7. Non-Parametric Estimations: Concept and advantages of non-parametric methods, Chi-square test for goodness of fit and independence, Sign test, run test, and rank tests 8. Analysis of Variance (ANOVA): One-way and two-way classification, Assumptions and applications of ANOVA, Multiple comparison techniques. <p>UNIT II: Applied Statistics</p> <ol style="list-style-type: none"> 1. Time Series Analysis: Components of time series: trend,seasonal, cyclical, and irregular variations, Methods of trend estimation: moving average, least squares method, Measurement of seasonal variation 2. Index Numbers: Uses and types of index numbers, Methods of construction: Laspeyres, Paasche, Fisher's ideal index, Cost of living index and wholesale price index, Problems in construction and limitations of index numbers. 3. Statistical Quality Control (SQC): Concept and importance of SQC, Control charts for variables (mean and range charts), Control charts for attributes (chart, np-chart, c-chart), Acceptance sampling 4. Vital Statistics: Meaning, uses, and sources of vital statistics, Measurement of fertility, mortality, and population growth, Life tables and their applications.
4	Texts/References	<ol style="list-style-type: none"> 1. Brockwell and Davis, Introduction to Time Series and Forecasting 2016. 2. Casella , G. and Berger R.L., Statistical Inference, Thomsso Learning, 2002. 3. Goon A.M., Gupta M.K. and Das Gupta.B., Outline of Statistics, Vol I & II, World Press, 2002. 4. Montgomery, D. C., Introduction to Statistical Quality Control Wiley India Pvt. Ltd, 2013. 5. Mood, A.M., Graybill, F.A. and Boes, D.C., Introduction to the Theory of Statistics, Tata McGraw-Hill, 2017. 6. Mukhopadhyay, P., Applied Statistics, Books and Allied (P) Ltd, 2004.

1	Title of the course (L-T-P-C)	Econometrics 3-0-0-6
2	Pre-requisite courses(s)	--
3	Course content	<ol style="list-style-type: none"> 1. 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; forecasting. 2. Multiple Linear Regression Model Estimation of parameters; properties of OLS estimators; goodness of fit - R² and adjusted R²; partial regression coefficients; testing hypotheses – individual and joint; functional forms of regression models. 3. Violations of Classical Assumptions: Consequences, Detection and Remedies Multicollinearity; Heteroscedasticity; Serial correlation. 4. Specification Analysis Omission of a relevant variable; Inclusion of irrelevant variable; Tests of specification errors. 5. Dummy variable Dummy variable for changes in intercept term, slope coefficient; Dummy variable trap; Dummy variable test.
4	Texts/References	<ol style="list-style-type: none"> 1. Christopher Dougherty, Introduction to Econometrics, Oxford University Press, 5th Edition, 2011. 2. Jan Kmenta, Elements of Econometrics, Indian Reprint, Khosla Publishing House, 3rd Edition, 1997. 3. Jeffrey M. Wooldridge, Introductory Econometrics: A Modern Approach, Cengage, 7th Edition, 2020. 4. John Johnston and John Enrico DiNardo, Econometric Methods McGraw-Hill, 2007. 5. Maddala, Introduction to Econometrics, Wiley, 4th Edition, 2012.

1	Title of the course (L-T-P-C)	Econometrics Lab 0-0-3-3
2	Pre-requisite courses(s)	Econometrics
3	Course content	<p>Analysis of data by using STATA, EViews and R softwares to fit different econometric methods.</p> <ol style="list-style-type: none"> 1. Simple Linear Regression Model: Two Variable Case 2. Multiple Linear Regression Model 3. Violations of Classical Assumptions: Multicollinearity; Heteroscedasticity; Serial correlation. 4. Specification Analysis 5. Dummy variable
4	Texts/References	<ol style="list-style-type: none"> 1. Christopher Dougherty, Introduction to Econometrics, Oxfor University Press, 5th Edition, 2011. 2. Jan Kmenta, Elements of Econometrics, Indian Reprint, Khosla Publishing House, 3rd Edition, 1997. 3. Jeffrey M. Wooldridge, Introductory Econometrics: A Moder Approach, Cengage, 7th Edition, 2020. 4. John Johnston and John Enrico DiNardo, Econometric Methods, McGraw-Hill, 2007. 5. Maddala, Introduction to Econometrics, Wiley, 4th Ediiton, 2012.

1	Title of the course (L-T-P-C)	Indian Economy 6-0-0-6
2	Pre-requisite courses(s)	--
3	Course content	<ol style="list-style-type: none"> 1. Historical and general overview of Indian economy since Independence. 2. Growth and structural change. 3. The Indian economy in a comparative perspective. 4. Key issues: poverty, inequality, education, health and gender. 5. Agriculture, industry, services and international trade.
4	Texts/References	<p>Reference:</p> <ol style="list-style-type: none"> 1. Pulapre Balakrishnan, The Recovery of India: Economic Growth in the Nehru Era, Economic and Political Weekly, November, 2007. 2. Rakesh Mohan, Growth Record of Indian Economy: 1950-2008. A Story of Sustained Savings and Investment, Economic and Political Weekly, May, 2008. 3. S.L. Shetty, India's Savings Performance since the Advent of Planning, in K.L. Krishna and A. Vaidyanathan, editors, Institutions and Markets in India's Development, 2007. 4. T. Dyson, India's Demographic Transition and its Consequences for Development in Uma Kapila, editor, Indian Economy Since Independence, 19th edition, Academic Foundation, 2008. 5. Aniruddha Krishna and Devendra Bajpai, —Lineal Spread and Radial Dissipation: Experiencing Growth in Rural India, 1992- 2005, Economic and Political Weekly, September, 2011. 6. Kaushik Basu and A. Maertens, eds, The New Oxford Companion to Economics, Oxford University Press, 2013. 7. Jean Dreze and Amartya Sen, An Uncertain Glory: India and its Contradictions, Princeton University Press. 2013 8. Sukhamoy Chakraborty, Development Planning, The Indian Experience, Oxford University Press, 1987. 9. Rakshit, Mihir, Macroeconomics of Post-reform India. Oxford University Press, 2011. 10. Ghate, Chetan (ed), The Oxford Handbook of Indian Economy. Oxford University Press, 2012. 11. Balakrishnan, Pulapre, Economic Growth in India: History and Prospect. Oxford University Press, 2010. 12. Goyal, Ashima (Ed.). A Concise Handbook of the Indian Economy in the 21st Century. Oxford University Press, 2019.

1	Title of the course (L-T-P-C)	Research Methodology 3-0-0-6
2	Pre-requisite courses(s)	--
3	Course content	<ol style="list-style-type: none"> 1. Formulating a Research Paper 2. Forming an Economic hypotheses 3. Components of a Research Paper 4. Literature Review 5. Creating Data: Surveys and Experiments 6. Analyzing Data: Data Discovery; Causal Inference; Big Data 7. Writing a Research Paper: Style of writing a Research Paper and Communicating the Results
4	Texts/References	<p>Reference:</p> <ul style="list-style-type: none"> • Jacobson, M., Neugeboren, R. H . Writing Economics. UnitesStates: Harvard University, 20005. • Greenlaw, S. A. Doing economics : a guide to understandin and carrying out economic research. Boston: Cengage Learning, 2005. • Thomson, W. (2001). A Guide for the Young Economist. United States: MIT Press. • Glewwe, Paul; Todd, Petra. Impact Evaluation in International Development : Theory, Methods and Practice. Washington DC: World Bank, 2022. (link) • John A. Rice. Mathematical Statistics and Data Analysis, 3rd ed. Thomson Brooks/Cole, 2007. • Huntington-Klein, N. (2021). The effect: An introduction to research design and causality. Chapman and Hall/CRC, 2021.

1	Title of the course (L-T-P-C)	Microeconomics I 3-0-0-6
2	Pre-requisite courses(s)	--
3	Course content	<ol style="list-style-type: none"> 1. Introduction to Microeconomics, Basic Demand and Supply Model, Elasticity. 2. Theory of Consumer Behaviour: Preferences, utility, choice, substitution and income effects, demand curves 3. Theory of Firm: Production function, returns to scale, cost function, profit function, short and long run supply curve. 4. Market Structures: Price and output decisions under different market structures like: Perfect Competition, Monopoly, Duopoly, Oligopoly Price Discrimination and Monopolistic Competition 5. Application of economic principles to a range of policy questions
4	Texts/References	Text(s): <ul style="list-style-type: none"> • Varian, H. R. (2010). Intermediate Microeconomics: A Modern Approach. W.W. Norton & Company. • Acemoglu, D., Laibson, D., List, J. (2018). Microeconomics, Global Edition. Pearson Education. • Nicholson, W., Snyder, C. M. (2017). Microeconomic Theory: Basic Principles and Extensions. Cengage. • Osborne, M. J., Rubinstein, A. (2023). Models in Microeconomic Theory. Open Book Publishers. • Henderson, J. M., Quandt, R. E. (1980). Microeconomic Theory: A Mathematical Approach. McGraw-Hill. • Jehle, G. A., Reny, P. J. (2011). Advanced Microeconomic Theory. Pearson Education.

1	Title of the course (L-T-P-C)	Microeconomics II 3-0-0-6
2	Pre-requisite courses(s)	Microeconomics I
3	Course content	<ul style="list-style-type: none"> • Choice under Risk and Uncertainty: Preferences, Time Value of preferences, Net Present Value • Pareto Optimality, Pareto Dominance and Pareto Set, Edgeworth Box Economy, Utility Possibilities Frontier, Welfare function • General Equilibrium; Existence, uniqueness and optimality of equilibrium • Social Choice and Welfare Economics • Market Failure: Externalities; public goods and markets with asymmetric information • Private Information, Contracts, Mechanism Design
4	Texts/References	<p>Text(s):</p> <ul style="list-style-type: none"> • Varian, H. R. (2010). Intermediate Microeconomics: A Modern Approach. W.W. Norton & Company. • Snyder, C. and Nicholson, W. (2017). Microeconomic Theory: Basic Principles and Extensions, Cengage Learning (India). • Osborne, M. J., Rubinstein, A. (2023). Models I Microeconomic Theory. Open Book Publishers. • Varian, H. R. (2019). Microeconomic Analysis. W.W. Norton and Company. • Mas-Colell, A., Whinstone, M. D., Green, J. R. (2006). Microeconomic Theory. Oxford University Press. • Kreps, D. M. (2020). A Course in Microeconomic Theory. United States: Princeton University Press. • Jehle, G. A., Reny, P. J. (2011). Advanced Microeconomic Theory. United Kingdom: Pearson Education.

1	Title of the course (L-T-P-C)	Mathematics for Economics 3-0-0-6
2	Pre-requisite courses(s)	Microeconomics I
3	Course content	<ul style="list-style-type: none"> • Sets, Functions; Basic Mathematical Logic; Proofs, Cardinality. • Recap of relevant concepts from basic analysis and linear algebra; Convex Sets, Convex Functions, Quasi-convexity; Existence: Weier strass Theorem. • Unconstrained Optimization; Equality Constraints and Lagrange Theorem; Inequality Constraints and Karush–Kuhn–Tucker (KKT) conditions; Linear Programming; Duality; Comparative Statics, Envelope Theorems. Examples of Optimization Problems in Economics
4	Texts/References	<p>Text(s):</p> <ul style="list-style-type: none"> • Chiang, A. C. and K. Wainwright Fundamental Methods of Mathematical Economics, McGraw-Hill, 2005 • Silberberg, E. and W. Suen, The Structure of Economics: A Mathematical Analysis, McGraw-Hill, 2001. • Simon, C. P. and L. E. Blume, Mathematics for Economist, , W. W. Norton, Incorporated, 1994 • Dixit, A. K. (1990). Optimization in Economic Theory. Italy: Oxford University Press. • Ok, E. A. Real Analysis with Economic Applications, Princeton University Press, 2007. • Henderson, J. M. and R. E. Quandt, Microeconomic Theory: A Mathematical Approach, McGraw-Hill, 1980.

1	Title of the course (L-T-P-C)	Introduction to Game Theory 3-0-0-6
2	Pre-requisite courses(s)	--
3	Course content	Introduction of Games, Classifications of games Static Games of Complete Information, Dominance, Nash equilibrium Mixed strategy Nash Equilibrium Dynamic Games of Complete Information Static Games of Incomplete Information Dynamic Games of Incomplete Information Evolutionary Game Theory
4	Texts/References	Text(s): <ul style="list-style-type: none"> • Steven Tadelis, Game Theory: An Introduction, Princeton University Press, First Edition, 2013 • Osborne. An Introduction to Game Theory. Oxford University Press, 2004 • Gibbons. Game Theory for Applied Economists. Princeton University Press, 1992 • Osborne and Rubinstein. A Course in Game Theory. MIT Press, 1994 • Fudenberg and Tirole. Game Theory. MIT Press, 1991 • Michael Maschler, Eilon Solan, Shmuel Zamir, Game Theory, Cambridge University Press; 2nd edition, 2020

1	Title of the course (L-T-P-C)	Public Economics 3-0-0-6
2	Pre-requisite courses(s)	Microeconomics I
3	Course content	<p>Scope of public economics; Equity and Distribution, social welfare and taxation; Taxation, income support and social insurance; Taxation and individuals; Market failure and government intervention; Optimal provision of public goods, The Lindahl Model of Pareto Optimality, Free rider problem;</p> <p>Public expenditure and public debt, Ricardo-Pigou Thesis; Anti-Cyclical Debt Management;</p> <p>Modelling government behaviour; Organization of public sector</p>
4	Texts/References	<p>Text(s):</p> <ul style="list-style-type: none"> • Hindriks, J., Myles, G. D. (2013). Intermediate Public Economics. United States: MIT Press. • Musgrave, R. A., Musgrave, P. B. (1984). Public finance in theory and practice. Taiwan: McGraw-Hill. • Gruber, J. (2011). Public Finance and Public Policy. United Kingdom: Worth Publishers. • Hyman, D. N. (2014). Public Finance: A Contemporar Application of Theory to Policy. Austria: Cengage Learning. • Public Finance. (1987). Prentice Hall of India.

1	Title of the course (L-T-P-C)	Economic Growth Theory 3-0-0-6
2	Pre-requisite courses(s)	Microeconomics I, Macroeconomics I
3	Course content	Introduction of Economic Development and growth; Smith and Ricardo's Growth Theory; Harrod-Domar Model; The Solow growth model; Neoclassical Growth, Infinite horizon and overlapping generation models; Neoclassical Endogenous Growth: Capital Accumulation, Externalities, and Human Capital; Endogenous Growth with Expanding Input Varieties; Interdependences: Technology Diffusion, Trade and the World Income Distribution in an Open Economy; Models of Schumpeterian growth; Directed Technical Change: Endogenous Skill-Bias and Endogenous Labor-Augmenting Technological Change; Competition and Technological Change
4	Texts/References	Text(s): <ul style="list-style-type: none"> • Acemoglu, Daron. Introduction to Modern Economic Growth. Princeton University Press, 2009 References: <ul style="list-style-type: none"> • Aghion, P., Howitt, P. W. (2008). The Economics of Growth. United States: MIT Press. • Jones, C. I., Vollrath, D. W. (2024). Introduction to Economic Growth. WW Norton & Co. • Barro, R. J., Sala-i-Martin, X. (2014). Economic Growth. United Kingdom: MIT Press. References: <ul style="list-style-type: none"> • Solow, R. M. (1956). A contribution to the theory of economic growth. The quarterly journal of economics 70(1), 65-94. • Swan, T.W. (1956), Economic Growth and Capital Accumulation. Economic Record, 32: 334-361. • E. Phelps, "The Golden Rule of Accumulation: A Fable for Growth Men," American Economic Review, Vol. 51, 1996, pp. 638-643.

1	Title of the course (L-T-P-C)	Money, Banking and Finance 3-0-0-6
2	Pre-requisite courses(s)	--
3	Course content	<p>Money, Banking & Finance: Why Study Money, Banking, and Financial Markets?; An Overview of the Financial System; What Is Money?: Meaning, Functions and Evolution of Money.</p> <p>Financial Markets: The Meaning of Interest Rates; The Behavior of Interest Rates; The Risk and Term Structure of Interest Rates; The Stock Market, the Theory of Rational Expectations, and the Efficient Market Hypothesis.</p> <p>Financial Institutions: An Economic Analysis of Financial Structure; Banking and the Management of Financial Institutions; Economic Analysis of Financial Regulation; Banking Industry: Structure and Competition; Financial Crises</p> <p>Central Banking and the Conduct of Monetary Policy: Central Banks and the RBI; The Money Supply Process; Tools of Monetary Policy; The Conduct of Monetary Policy: Strategy and Tactics; Inflation Targeting – History and Relevance in Indian Context.</p> <p>Policies for Economic Stability: Choosing the long-run inflation rate; Inflation and Output Stability; Taylor’s Rule; Uncertainty and Policy Mistakes; Making Interest Policy; Deviations from Taylor’s Rule; Basel Norms and Their Implications.</p>
4	Texts/References	<p>Textbooks</p> <ul style="list-style-type: none"> • Ball, L. (2011). Money, Banking and Financial Markets. Worth Publishers Inc. • Burton, M., & Brown, B. (2014). Financial System of the Economy: Principles of Money and Banking: Principles of Money and Banking. Routledge. • Durlauf, S.N., and Blume, L. (2010). Monetary Economics. Palgrave McMillan • Handa, J. (2009). Monetary Economics. Routledge. • Mishkin, F. S. (2007). The Economics of Money, Banking, and Financial Markets. Pearson Education. • Reinhart, C. M., & Rogoff, K. S. (2009). This Time Is Different: Eight Centuries of Financial Folly. Princeton University Press. <p>Journal Articles</p> <ul style="list-style-type: none"> • Jayadev, M. (2013). Basel III Implementation: Issues and Challenges for Indian Banks. IIMB Management Review, 25(2), 115-130. • Sen, S., & Ghosh, S. K. (2005). Basel Norms, Indian Banking Sector and Impac on Credit to SMEs and the Poor. Economic and Political Weekly, 40(12), 1167- 1180.

1	Title of the course (L-T-P-C)	Introduction to Investment Banking 3-0-0-6
2	Pre-requisite courses(s)	Financial Economics
3	Course content	<p>The World of Investment Banking: The evolution of investment banking (IB); The culture and organizational structure of investment banks; The structure of investment banks; Employment opportunities in investment banks.</p> <p>Customer and Investment Banking: The role of the IB financial advisor/advisory business; How to present value to the client; Understanding client needs; Investment banking product and solutions as a spectrum of risk/return and/ or flexibility/cost alternatives.</p> <p>Business of Equities: The investment banker's perspective of the equity business; Equity underwriting; IPO's and follow-on issues; Secondary trading and business synergies; The role of venture capital and private equity firms; Private equity exit strategies.</p> <p>Business of Debt/Fixed Income: The investment banker's perspective on the fixed-income business; The spectrum of debt alternatives; Issuance approaches and procedures; Secondary trading and business synergies; Shelf registrations and other regulatory considerations; The business of asset securitizations; The role of credit rating agencies; High-yield debt and financial leverage; Leveraged recapitalizations.</p> <p>Business of Trading/Derivatives: The evolution of trading; The structure of the business; Market-makers, hedge funds and speculators; Types of trading; The role of hedge funds; Liquidity and the secondary markets; How traders make money; Risk-monitoring and control; Securities regulation and ethics.</p> <p>The Business of Mergers and Acquisitions: The investment bankers; The business of M&A; The M&A value chain; The theory and practice of M&A; Equity separations; Private-equity driven deals; The valuation, pricing, and feestructure of M&A deals; Financing and exit strategies.</p> <p>Wealth Management Business: The IB advisory function; Confronting the forces of business change; The business attributes of wealth management; Maslow's pyramid; The investment profiles of wealth management customers; Wealth management business synergies; The product set of wealth management solutions.</p>
4	Texts/References	<p>Textbooks</p> <ol style="list-style-type: none"> 1. Liaw, K. T. (2011). The Business of Investment Banking: A Comprehensive Overview. Wiley. 2. Luenberger, D. G. (2013). Investment Science. Oxford University Press.

1	Title of the course (L-T-P-C)	Portfolio Management 3-0-0-6
2	Pre-requisite courses(s)	-Financial Economics
3	Course content	<ul style="list-style-type: none"> • Introduction to Portfolio Management: Overview; Types of Portfolios: Individual, Institutional, Mutual Funds, Hedge Funds. • Financial Markets and Instruments: Types of Financial Markets; Major Financial Instruments; Asset Classes and Alternatives; Diversification Across Asset Classes. • Risk and Return Analysis: Measuring Returns; Systematic vs. Unsystematic Risk; Risk-Adjusted Return; Measures: Sharpe Ratio, Treynor Ratio, Jensen's Alpha. • Modern Portfolio Theory: Efficient Frontier and Optimal Portfolio Construction; Portfolio Diversification Benefits and Limitations. Asset • Allocation and Portfolio Construction; Strategic Asset Allocation vs. Tactical Asset Allocation; Active vs. Passive Portfolio Management; Models of Portfolio Construction. • Portfolio Optimization Techniques: Mean-Variance Optimization; Black-Litterman Model; Incorporating Constraints in Portfolio Optimization. • Fixed-Income Portfolio Management: Duration, Convexity, and Immunization Strategies; Managing Interest Rate Risk and Credit Risk; Bond Laddering, Barbell, and Bullet Strategies. • Equity Portfolio Management: Equity Valuation Models: Dividend Discount, Discount Cash Flow Models; Stock Screening and Selection Criteria; Style Investing: Growth vs. Value, Large Cap vs. Mid Cap vs. Small Cap. • Alternative Investments: Types: Real Estate, Commodities, Hedge Funds, Private Equity; Role of Alternatives in Portfolio Diversification; Evaluating and Integrating Alternatives in a Portfolio. • Performance Measurement and Attribution: Performance Metrics; Contribution of Asset Allocation and Security Selection; Risk-Adjusted Performance Measures: Alpha, Beta, Tracking Error. Portfolio • Rebalancing and Monitoring: Rebalancing Strategies: Periodic, Threshold, Cash Flow-Based; Transaction Costs and Tax Implications in Rebalancing. • Ethical and Regulatory Considerations: Ethics in Portfolio Management: Fiduciary Duty, Fair Disclosure; Impact of Regulations on Portfolio Management Practices. • Advanced Topics in Portfolio Management: Factor Investing and Smart Beta Strategies; Quantitative Models and Algorithmic Trading; Multi-Asset Portfolio Strategies and Overlay Management; Recent Trends.
4	Texts/References	<p>Textbooks:</p> <ol style="list-style-type: none"> 1. Elton, E. J., Gruber, M. J., Brown, S. J., & Goetzmann, W. N. (2014). Modern Portfolio Theory and Investment Analysis. John Wiley & Sons. 2. Stewart, S. D., Piros, C. D., & Heisler, J. C. (2019). Portfolio Management: Theory and Practice. John Wiley & Sons. 3. Richard, C. G., & Kahn, R. (2000). Active Portfolio Management: A Quantitative Approach for Producing Superior Returns and Controlling Risk. McGraw-Hill Professional. 4. Reilly, F. K., & Brown, K. C. (2012). Investment Analysis & Portfolio Management. Cengage Publishers. 5. Sharpe, W. F., Alexander, G. J., & Bailey, J. W. (2002). Investments. Prentice Hall.

1	Title of the course (L-T-P-C)	Options and Futures Markets 3-0-0-6
2	Pre-requisite courses(s)	Financial Economics
3	Course content	<ul style="list-style-type: none"> • Introduction to Derivatives Markets: Overview of Derivatives: Options, Futures, Forwards, and Swaps; Role of Derivatives in Financial Markets; Participants in Derivatives Markets: Hedgers, Speculators, and Arbitrageurs. • Mechanics of Futures Markets: Basics of Futures Contracts; Types of Futures Contracts: Commodities, Financials, Index, Interest Rate; Pricing and Valuation of Futures Contracts; Settlement Process and Role of Clearinghouses. • Mechanics of Options Markets: Basics of Options: Call and Put Options, American vs. European Options; Options Terminology: Strike Price, Expiration Date, Premium; Option Contract Specifications and Trading Platforms; Options Strategies: Long Call, Long Put, Covered Call. • Pricing and Valuation of Futures: Cost of Carry Model; Futures Pricing under Arbitrage- Free Conditions; Basis and Basis Risk; Understanding Contango and Backwardation. • Options Pricing Theory: Factors Affecting Option Prices: Spot Price, Strike Price, Volatility, Time to Expiration, Interest Rates; Put-Call Parity Theory and Its Applications; Early Exercise and Dividend Effects on Option Pricing. • Binomial Option Pricing Model: Understanding the Binomial Lattice Approach; Constructing a Binomial Model for Option Pricing; Applications of the Binomial Model: American and European Options; Pros and Cons of the Binomial Model. • Black-Scholes Option Pricing Model: Derivation and Assumptions of the Black-Scholes Model; Pricing of European Call and Put Options; Extensions of Black-Scholes: Dividend Paying Assets, Adjusted Models; Limitations and Applications. • Options Sensitivities and "The Greeks": Introduction to Delta, Gamma, Theta, Vega, and Rho; Managing Portfolio Sensitivities Using the Greeks; Delta Hedging and Gamma Hedging; Practical Applications of the Greeks in Risk Management. • Options Strategies for Speculation and Hedging: Basic Strategies: Long Call, Long Put, Covered Call, Protective Put; Spread Strategies: Bull Spread, Bear Spread, Butterfly Spread; Combination Strategies: Straddle, Strangle, Collar; Risk- Reward Profiles and Break-Even Analysis for Different Strategies. • Futures Trading Strategies: Hedging with Futures: Long and Short Hedging Strategies; Spread Trading: Calendar Spreads, Inter-Commodity Spreads; Speculative Trading with Futures; Applications of Futures in Interest Rate and Currency Markets. • Swaps and Other Derivative Products: Introduction to Swaps: Interest Rate Swaps, Currency Swaps; Valuation and Applications of Swaps; Introduction to Exotic Options; Role of Swaps and Exotic Options in Risk Management. • Risk Management with Derivatives: Identifying and Measuring Derivative-Related Risks; Portfolio Hedging with Options and Futures; Value at Risk (VaR) and Stress Testing.
4	Texts/References	Textbooks <ol style="list-style-type: none"> 1. Hull, J.C. (2021). Fundamentals of Futures and Option Market. Pearson Education. 2. McDonald, R. L. (2013). Derivatives Markets. Pearson. 3. Chance, D. M. (1995). An Introduction to Options and Futures. Thomson Learning. 4. Hunt, P. J. (2004). Financial Derivatives in Theory and Practice. John Wiley & Sons. 5. Ianieri, R. (2009). Options Theory and Trading. John Wiley & Sons.

1	Title of the course (L-T-P-C)	Machine Learning and Its Application in Economics 3-0-0-6
2	Pre-requisite courses(s)	--
3	Course content	<p>Introduction and Essentials of Machine Learning: Definition and scope of Machine Learning; Relationship between Machine Learning, Statistics, and Econometrics; Supervised and Unsupervised machine learning; Types of learning problems: regression, classification, and clustering; Training data, test data, and validation data; Loss functions and risk minimization; Bias –variance trade -off; Overfitting and underfitting; Model complexity and generalization; Performance evaluation -confusion matrix, accuracy, precision, recall, F1 -score, ROC curve and AUC; Threshold selection and class imbalance.</p> <p>Linear Models and Regularization Techniques: Linear regression in a machine learning framework; Least squares estimation; Regularization and penalization; Ridge regression; LASSO; Elastic Net; Shrinkage methods; Model selection and tuning.</p> <p>Tree -Based Methods and Ensemble Learning: Decision trees and CART algorithm; Bagging and Random Forests; Boosting methods: AdaBoost and Gradient Boosting; Extreme Gradient Boosting (XGBoost); Bias –variance trade -off in ensemble methods; Feature importance.</p> <p>Support Vector Machines and Kernel Methods: Margin maximization and the concept of support vectors; Support Vector Classification; Support Vector Regression; Kernel functions: linear, polynomial, and radial basis function; Hyperparameter tuning; Applications of SVMs.</p> <p>Neural Networks and Deep Learning: Artificial neural networks; Perceptron model; Multilayer perceptron; Activation functions; Backpropagation algorithm; Optimization methods Overfitting and regularization in neural networks</p> <p>Unsupervised Learning an Dimensionality Reduction: Clustering techniques: K -means and hierarchical clustering; Distance measures; Principal Component Analysis (PCA); Interpretation of principal components; Factor models and unsupervised learning; Applications of PCA in economic and financial data.</p> <p>Model Interpretability: Feature importance measures; Partial dependence plots; SHAP values; Interpretation of machin learning results.</p> <p>Applications of Machine Learning: Machine learning in economics and finance; Macroeconomic forecasting; Financial and currency crisis prediction; Policy evaluation; Advantages and limitations of machine learning.</p>
4	Texts/References	<p>Textbooks</p> <ol style="list-style-type: none"> 1. James, G. (2013). An introduction to statistical learning with applications in R. 2. Müller, A. C., & Guido, S. (2016). Introduction to machine learning with Python: a guide for data scientists. 3. Géron, A. (2022). Hands-on machine learning with Scikit-Learn, Keras, and TensorFlow. 4. Mueller, J. P., & Massaron, L. (2021). Artificial intelligence for dummies. John Wiley & Sons. <p>Journal Articles</p> <ol style="list-style-type: none"> 1. Hastie, T., Tibshirani, R., & Wainwright, M. (2015). Statistical learning with sparsity. Monographs on statistics and applied probability, 143(143),8. 2. Mullainathan, S., & Spiess, J. (2017). Machine learning: an applied econometric approach. Journal of Economic Perspectives, 31(2), 87-106. 3. Athey, S. (2018). The impact of machine learning on economics. In The economics of artificial intelligence: An agenda (pp. 507- 547). University of Chicago Press.

		<ol style="list-style-type: none"> 4. Athey, S. (2017). Beyond prediction: Using big data for policy problems. <i>Science</i>, 355(6324), 483-485. 5. Agrawal, A., Gans, J., & Goldfarb, A. (2018). Prediction, judgment, and complexity: a theory of decision-making and artificial intelligence. In <i>The economics of artificial intelligence: An agenda</i> (pp. 89-110). University of Chicago Press. 6. Kleinberg, J., Ludwig, J., & Mullainathan, S. (2016). A guide to solving social problems with machine learning. <i>Harvard Business Review</i>, 8(2). 7. Gentzkow, M., Kelly, B., & Taddy, M. (2019). Text as data. <i>Journal of Economic Literature</i>, 57(3), 535-574. 8. Blumenstock, J., Cadamuro, G., & On, R. (2015). Predicting poverty and wealth from mobile phone metadata. <i>Science</i>, 350(6264), 1073- 1076. 9. Jean, N., Burke, M., Xie, M., Alampay Davis, W. M., Lobell, D. B., & Ermon, S. (2016). Combining satellite imagery and machine learning to predict poverty. <i>Science</i>, 353(6301), 790-794.
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1	Title of the course (L-T-P-C)	Advanced Econometrics 3-0-0-6
2	Pre-requisite courses(s)	--
3	Course content	<ol style="list-style-type: none"> 1. Limited Dependent Models 2. Panel Data Analysis 3. Simultaneous Equation Models 4. Nonlinear Regression Models
4	Texts/References	<ol style="list-style-type: none"> 1. Baltagi, B. H., & Baltagi, B. H. (2008). Econometric analysis on panel data (Vol. 4, pp. 135-145). Chichester: Wiley. 2. Baltagi, B. H. (2021). Econometric Analysis of Panel Data Springer International. 3. Maddala G.S. (1993), Limited Dependent and Qualitative Variable in Econometrics. Cambridge University Press. 4. Jan Kmenta, Elements of Econometrics, Indian Reprint, Khosl Publishing House, 3rd Edition, 1997. 5. Jeffrey M. Wooldridge, Introductory Econometrics: A Moder Approach, Cengage, 7th Edition, 2020. 6. John Johnston and John Enrico DiNardo, Econometric Methods, McGraw-Hill, 2007. 7. Maddala, Introduction to Econometrics, Wiley, 4th Ediiton, 2012.

1	Title of the course (L-T-P-C)	Behavioral Economics 3-0-0-6
2	Pre-requisite courses(s)	--
3	Course content	<ol style="list-style-type: none"> 1. Behavioral economics and the standard model 2. History and evolution of behavioral economics 3. The classical and neoclassical approaches 4. Behavioral Economics theories and concepts: Heuristics and biases, Framing effects, Prospect Theory, Regret Theory, Nudge theory, Social Preferences
4	Texts/References	<p>Texts An Introduction to Behavioral Economics (3rd Edition), Author(s): Nick Wilkinson, Matthias Klaes</p> <p>References</p> <ol style="list-style-type: none"> 1. Thinking Fast and Slow by Daniel Kahneman. 2. Misbehaving: The Making of Behavioral Economics by Richard Thaler 3. Nudge: Improving Decisions About Health, Wealth, and Happiness by Richard Thaler and Cass Sunstein 4. Predictably Irrational: The Hidden Forces That Shape Our Decisions by Dan Ariely 5. Animal Spirits: How Human Psychology Drives the Economy, and Why it Matters for Global Capitalism by Akerlof and Shiller 6. Poor Economics: A Radical Rethinking of the Way to Fight Global Poverty by Abhijit V. Banerjee and Esther Duflo

1	Title of the course (L-T-P-C)	Development Economics 3-0-0-6
2	Pre-requisite courses(s)	
3	Course content	Economic growth versus economic development, indicators of economic development, economic inequality, poverty, population growth and economic development, models of dual economy, land tenancy arrangements, rural economy, history and institutions, role of governance in economic development.
4	Texts/References	<p>Texts Pranab Bardhan: Alternative Approaches to Development Economics in Handbook of Development Economics, Vol.1, Ed by Holis Chenery and T.N. Srinivasan.</p> <p>Kaushik Basu: Analytical Development Economics. Amitava Bose : Price-Income Fluctuations and Agricultural Shocks in a Semi-Industrialized Economy in Theoretical Issues in Development Economics, Ed by Bhaskar Dutta et al.</p> <p>References Murphy, K.M., Shelfer, A., and Vishny, R. (1989). Industrialization and the big push. Journal of political economy 97:1003-26.</p>

1	Title of the course (L-T-P-C)	Economics of Climate Change (UG) 6-0-0-6
2	Pre-requisite courses(s)	--
3	Course content	<p>Unit I: Introduction to the Economy and Climate Change: Climate change as an economic problem, Relationship between economic activity, energy use, and greenhouse gas emissions, Climate change and sustainable development goals (SDGs), Climate–economy integrated assessment models (overview).</p> <p>Unit II: Market Failure and the Problem of International Externalities: Externalities and public goods in climate change, Tragedy of the commons and global environmental resources, Transboundary externalities and challenges of international climate policy, The economics of free-riding.</p> <p>Unit III: Uncertainty and Irreversibility: The role of uncertainty in climate modeling and economics, Irreversibility of climate impacts and investment decisions, The precautionary principle, Discounting future costs and benefits of climate change.</p> <p>Unit IV: Climate Change and Game Theory : Strategic behavior and collective action in global climate negotiations, Global carbon pricing and international carbon markets, Incentives for developing countries to adopt low-carbon pathways, International cooperation: Kyoto Protocol, Paris Agreement, and beyond.</p> <p>Unit V: Economic Instruments and Policy for Climate Change: Command-and-control vs. market-based instruments, Carbon taxes, subsidies, and emissions trading schemes, Policy design under uncertainty, National vs. international policy approaches .</p> <p>Unit VI: Impacts of Climate Change on Growth and Development: Climate change and economic productivity, Distributional effects across countries and communities, Climate change and vulnerable economies (agriculture, coastal zones, health), Linkages between climate change, poverty, and inequality.</p>
4	Texts/References	<p>Text:</p> <ol style="list-style-type: none"> 1. R.F. FitzRoy and E. Papyariks, An introduction to Climate Change Economics and Policy, Earthscan publishers, 2010 2. J.T. Hardy, Climate Change – Causes, Effects and Solutions, John Willey and Sons, 2003 3. Agarwal, Anil, and Sunita Narain. 1991. Global Warming in an Unequal World: A Case of Environmental Colonialism. New Delhi: Centre for Science and Environment. 4. Chomsky, Noam, and Robert Pollin. 2020. Climate Crisis and the Global Green New Deal: The Political Economy of Saving the Planet. London and New York: Verso. 5. Nordhaus, William. 2013. The Climate Casino: Risk, Uncertainty, and Economics for a Warming World. New Haven and London: Yale University Press. <p>References</p> <ol style="list-style-type: none"> 1. W. D Nordhaus, To Tax or Not to Tax: Alternative Approaches to Slowing Global Warming, Review of Environmental Economics and Policy, 1(1): 26, 2007 2. C. Hadjilambrinos, For Richer or for Poorer? The Role of Science, Politics, and Ethics in the Global, Climate Change Policy Debate, Bulletin of Science Technology & Society, 19(6): 521-531, 1999 3. T. Hayward, Human Rights Versus Emissions Rights: Climate Justice and the Equitable Distribution of Ecological Space, Ethics and International Affairs, 21(4): 431-450, 2008. 4. Stern, Nicholas. “The Economics of Climate Change.” American Economic Review 98, no. 2 (2008): 1-37.

		<p>5. Nordhaus, William D. "A Review of the Stern Review on the Economics of Climate Change." <i>Journal of Economic Literature</i> 45, no. 3 (2007): 686-702.</p> <p>6. Weitzman, Martin M. "A Review of the Stern Review on the Economics of Climate Change." <i>Journal of Economic Literature</i> 45, no. 3 (2007): 703-724. Climate change policy</p> <p>7. Metcalf, Gilbert. "Market-Based Policy Options to Control U.S. Greenhouse Gas Emissions." <i>Journal of Economic Perspectives</i> 23, no. 2 (2009): 5-27.</p> <p>8. Tol, Richard S. J. "The Economic Effects of Climate Change." <i>Journal of Economic Perspectives</i> 23, no. 2 (2009): 29-51.</p> <p>9. Barrett, Scott. "The Coming Global Climate-Technology-Revolution." <i>Journal of Economic Perspectives</i> 23, no. 2 (2009): 53-75. Carbon offsets and the clean development mechanism</p> <p>10. Reinhardt, Forest, Jost Hamschmidt, and Mikell Hyman. "South Pole Carbon Asset Management-Going for Gold?" Harvard Business School Case. Harvard Business School Publishing. Case: 9-709030, March 31, 2009.</p>
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1	Title of the course (L-T-P-C)	Corporate Finance 0-0-0-6
2	Pre-requisite courses(s)	Microeconomics I
3	Course content	<p>1. Introduction to Corporate Finance: Forms of Business Organization; Assets and Sources of Funds; Separation of Ownership and Management; The Corporation and the Stock Market; The role of financial managers; Time value of money: Simple and Compound Interest Rate, Annual Percentage Rate, Effective Annual Rate Future Value and Present Value; Present Value, Valuing Annuities and Perpetuities; Valuation of future cash flows.</p> <p>2. Capital Budgeting: Tools and techniques of capital budgeting: Apply NPV and IRR to investment decisions; Cost of capital: Estimate Weighted Average Cost of Capital (WACC) for a hypothetical firm; Capital structure and leverage: The Modigliani-Miller theorem; Risk-return tradeoff.</p> <p>3. Theories and Models: Portfolio Theory, Capital Asset Pricing Theory; Other Pricing Models: Factor Models, Arbitrage Pricing Theory; Market Efficiency: Market Imperfections, and Applications to Capital Budgeting Rules; Introduction to Derivative Securities and Basic Options Theory</p> <p>4. Short-term and Long-term Financial Management: Working capital management; Dividend Policy: dividend relevance and irrelevance; Mergers, acquisitions and corporate restructuring, Profitability and liquidity, operating and cash conversion cycles</p> <p>5. Advanced Topics in Corporate Finance: Corporate governance and ethics Behavioral corporate finance; International corporate finance: Foreign Exchange Markets and International Financial System; Foreign Exchange Markets and International Financial System</p>
4	Texts/References	<p>Textbooks</p> <p>1. Richard Brealey, Stewart Myers, Franklin Allen and Alex Edman (2023); Principles of Corporate Finance; McGraw Hill.</p> <p>2. Stephen Ross, Randolph Westerfield, Jeffrey Jaffe and Bradford Jordan (2014); Corporate Finance; McGraw Hill.</p> <p>3. Jonathan B. Berk, Peter DeMarzo (2023); Corporate Finance; 4th Edition; Pearson</p>

1	Title of the course (L-T-P-C)	General Equilibrium and Welfare Economics 3-0-0-6
2	Pre-requisite courses(s)	--
3	Course content	<ol style="list-style-type: none"> 1. Introduction to General Equilibrium (GE): Exchange Economy: Edgeworth Box, Excess demand function, Existence and stability of equilibrium; Competitive equilibrium (Walrasian equilibrium): Existence, Uniqueness, Stability. 2. Production in General Equilibrium: Production: linear activity model of production, The Production Model- fixed and flexible coefficients – relation between endowments and product mix – relation between commodity prices and factor prices. 3. Welfare Economics: Fundamental Theorems of Welfare Economics; first and second welfare theorems; Kaldor-Hicks compensation criterion, Scitovsky paradox; Non-Walrasian Equilibria: Younes equilibria, Dreze Equilibria; Unemployment Equilibria. 4. Public Goods and Welfare Economics: Public goods: Efficient provision of a discrete public good and a continuous public good, market failures, externalities and market failure, free-Rider's problem, Public Goods and Pareto Efficiency and solution to externalities problem. 5. Social Choice Theory: Rawlsian Social Welfare Function, Bergson and Samuelson social welfare function, Arrow's impossibility theorem, Amartya Sen's Social Choice theory, Equity, Justice, and Fairness in Welfare Economics, Applications of Welfare Economics to Policy Design, Dynamic General Equilibrium Models.
4	Texts/References	Textbooks <ol style="list-style-type: none"> 1. Andreu Mas Colell, Michael D Whinston and Jerry R Green (2012) Microeconomic Theory, Oxford University Press. 2. Anjan Mukherji (2002); Walrasian and non-Walrasian equilibria: a introduction to general equilibrium analysis; OUP India 3. Amartya Sen (2017); Collective Choice and Social Welfare; PENGUIN UK 4. James C. Moore (2010); General Equilibrium and Welfare Economics: An Introduction, Springer 5. A C Pigou (2021);The Economics of Welfare; Legare Street Press

1	Title of the course (L-T-P-C)	Institutional Economics 3-0-0-6
2	Pre-requisite courses(s)	--
3	Course content	<ul style="list-style-type: none"> • Introduction of Institutional Economics: Overview of Institutional Economics, definition and critique of institutions, types of institutions: formal, informal and cultural institutions, key concepts: transaction costs, property rights, governance structures, asymmetric information and bounded Rationality • Old Institutional Economics Vs New Institutional Economics: Theories of old and new institutional economics, transaction costs and market failures, institutional change and path dependence: Analyse the institutional lock-ins with examples. • Institutions and Economic Systems: Role of institutions in economic growth, comparative institutional analysis, institutions in India vs other developed and developing nations. institutional economics and public policy, corporate governance, principal-agent theory. • Political Institutions and Governance: Analyze the role of political institutions and governance, corruption and institutional failures, examples of anti-corruption mechanisms, institutional design and reform. public, non-profit and charitable enterprises. • Future of Institutions: Institutional economics and climate change: Institutional responses to climate change, evolution of institutions, behavioural institutional economics
4	Texts/References	<p>Textbooks:</p> <ul style="list-style-type: none"> • Douglas C North (1990); Institutions, Institutional Change and Economic Performance; Cambridge University Press. • Daron Acemoglu and James Robinson (2013); Why Nations Fail; Profile Books • John Groenewegen, Antoon Spithoven and, Annette Van den Berg (2010); Institutional Economics: An Introduction, Palgrave Macmillan • Avner Greif (2006); Institutions and the Path to the Modern Economy; Cambridge University Press. • Stefan Voigt (2019); Institutional Economics: An Introduction; Cambridge University Press. • Oliver E Williamson (1999); The Mechanisms of Governance; Oxford University Press