M.A.,
FINANCIAL ECONOMICS

MODEL SYLLABUS

AUGUST- 2022

TAMILNADU STATE COUNCIL FOR HIGHER EDUCATION,

CHENNAI – 600 005

M.A. Financial Economics	
Programme Code:	ECO
Duration:	**2 years**
Programme Outcomes:	• Understand the various concepts and terminology involved in finance. • Expose the students to gain management and accounting skills. • Equip the students with analytical/Empirical skills using various econometric/statistical softwares. • Understand the role played by time, uncertainty, asymmetry of information and inflation in evaluating financial instruments. • Explain the causes of financial instability and financial crisis. • Encourage students in identification of various data sources for quantitative analysis. • Encourage students in trading in secondary markets / stock markets. • Develop application skills of Time series models in the analysis of financial markets. • Train students to apply and estimate econometric models for their project and internship works individually. • Prepare students for getting employment in financial sector i.e., banking and insurance sectors.
Programme Specific Outcomes:	● Basic theoretical concepts, terminology, instruments, frameworks etc., in economics and finance are understood. ● Theoretical and empirical models (econometric) in economics, social and finance are identified, reviewed, demonstrated and displayed. ● Knowledge and training data for economic and financial variables are gained and preparation of database are dedicated. ● Theoretical knowledge and hands-on training to use econometric/statistical software to estimate the economic and financial issues. ● Interpretation of output and research report writing skills are developed and displayed through presentation and defense on the report.

List of Courses:

Semester	Course Code	Title of the Course	Core/Elective/ Soft Skill	Credits
I	Eco C 201	Mathematical Methods	C	4
	Eco C 202	Statistical Methods	C	4
	Eco C 203	Micro Economics – I	C	4
	Eco C 204	Indian Financial System	C	4
		Elective - I	E	3
		Elective - II	E	3
	UOM S***	Soft Skill*	S	2
II	Eco C 205	Theory of Financial Economics	C	4
	Eco C 206	Micro Economics – II	C	4
	Eco C 207	Macro Economics	C	4
	Eco C 208	Financial Accounting	C	4
		Elective - III	E	3
		Elective - IV	E	3
	UOM S***	Soft Skill	S	2
	UOM ****	Internship	S	2
III	Eco C 209	Pricing of Financial Instruments	C	4
	Eco C 210	Corporate Finance	C	4
	Eco C 211	Public Finance	C	4
	Eco C 212	Banking and Insurance	C	4
	Eco E 207	Elective - V	E	3
	Eco E 208	Elective - VI	E	3
	UOM S***	Soft Skill	S	2
IV	Eco C 213	International Finance	C	4
	Eco C 214	Financial Derivatives	C	4
	Eco C 215	Behavioral Finance	C	4
		Elective - VII	E	3
	UOM S***	Soft Skill	S	2
			Total	91 Credits

Elective Papers

Semester	Course Code	Title of the Course	Core/Elective/ Soft Skill	Credits
I	Eco E 201	Indian Economic Development	E	3
	Eco E 202	Monetary Economics	E	3
	Eco E 203	Data Analysis using Computers	C	4
II	Eco E 204	Basic Econometrics	E	3
	Eco E 205	Development and Planning	E	3
	Eco E 206	Data Base for Economic Analysis	E	3
III	Eco E 207	Econometric Applications to Finance	E	3
	Eco E 208	Industrial Economics	E	3
	Eco E 209	Advances in Economic Theory	E	3
IV	Eco E 210	International Economics	E	3
	Eco E 211	Indian Economic Issues	E	3
	Eco E 212	Industrial Organisation	E	3

Course	Core
Title of the Course:	**Mathematical Methods**
Credits:	**4**
Pre-requisites, if any:	
Course Objectives **Recall (K1) -** List, Identify, Enumerate, Define **Understand/Comprehend (K2) -** Describe, Explain, Outline, Briefly Summarise **Apply Knowledge (K3)** - Interpret, Calculate, Select, Employ, Generalise **Analyze and Evaluate (K4 and K5) -** Compare and Contrast, Differentiate, Evaluate, Critically Assess, Review an Idea **Create (K6)** - Conceive, Theorise, Conceptualise etc	1. To develop students critical thinking and problem solving skills 2. Introduce students to familiarize with calculus and matrix algebra 3. To make students to understand the quantitative skills in economics and finance 4. Preparing students to understand the conceptual and modeling framework of various economic, social and financial issues. 5. Preparing students to learn the quantitative skills to understand and learn econometric / statistical software.
Units	
I	Basics – exponents, polynomials, functions, limits, continuity, and derivatives – rules – partial derivatives – differential and total differential – integration – rules –economic applications.
II	Set theory – convex and concave sets and functions – local and global maximum and minimum.
III	Optimisation – maxima and minima – constrained – Lagrangian multiplier method – first and second order conditions – solving numerical problems.
IV	Linear algebra – vectors – matrix – definition – types – relations and operations – trace, partitioned matrices – determinants – rank – properties – inverse – properties of inverse – solution to a system of linear equations

	– existence of uniqueness of solution – Cramer's rule – inversion method.
V	Characteristic roots and vectors – properties – quadratic forms – definiteness – distribution of quadratic function.
Course Outcomes	1. At the end of the course students will be able to employ critical thinking and gaining the problem solving skills. 2. Concepts and skills in calculus and matrix algebra will be demonstrated. 3. Quantitative skills in economics and finance will be obtained and displayed. 4. Modeling framework in economics, social and financial issues will be understood. 5. Quantitative and logical skills required to understand the econometric and statistical software will be recognized by the students.
Reading List (Print and Online)	● Edward T. Dowling: Introduction to Mathematical Economics, Tata McGraw Hill. ● G.Hadley: Linear Algebra, Narosa Publishing House. ● A.C.Chiang: Fundamental Methods of Mathematical Economics, McGraw-Hill. ● M.D.Intriligator: Mathematical Optimization and Economic Theory, Prentice Hall Inc. Chapters 5, 7 and 8 and Appendices A and B.

Method of Evaluation:

Internal	External	Total
25	75	100

Methods of assessment:

Recall (K1) - Simple definitions, Recall steps, Concept definitions
Understand/ Comprehend (K2) -Short essays, Concept explanations, Short summary or overview
Application (K3) - Suggest idea/concept with examples, Suggest formulae, Solve problems, Observe, Explain
Analyse (K4) - Problem-solving questions, Finish a procedure in many steps, Differentiate between various ideas.
Evaluate (K5) - Longer essay/ Evaluation essay, Critique or justify with pros and cons

Create (K6) - Check knowledge in specific or offbeat situations, Discussion, Presentations

Map course outcomes for each course with programme outcomes (PO) in the 3-point scale of Strong, Medium and Low

	PO 1	**PO 2**	**PO 3**	**PO 4**	**PO 5**	**PO 6**	**PO 7**	**PO 8**	**PO 9**	**PO 10**
CO 1	M	S	S	M	M	L	M	S	S	M
CO 2	M	S	S	M	M	M	M	M	M	M
CO 3	S	S	S	M	S	M	M	M	M	M
CO 4	M	M	S	M	S	M	S	S	S	M
CO 5	M	M	S	L	S	M	S	S	S	M

S-Strong M-Medium L-Low

Course	Core
Title of the Course:	**Statistical Methods**
Credits:	**4**
Pre-requisites, if any:	
Course Objectives **Recall (K1) -** List, Identify, Enumerate, Define **Understand/Comprehend (K2) -** Describe, Explain, Outline, Briefly Summarise **Apply Knowledge (K3) -** Interpret, Calculate, Select, Employ, Generalise **Analyze and Evaluate (K4 and K5) -** Compare and Contrast, Differentiate, Evaluate, Critically Assess, Review an Idea **Create (K6) -** Conceive, Theorise, Conceptualise etc	● To provide basic knowledge of data frequency distribution and data representation. ● To apply different concepts relating to Measures of Central Tendencies, Measures of Dispersion, skewness and kurtosis. ● To learn basic concepts of probability and theoretical distributions, discrete & continuous random variables, probability distribution functions and basic mathematical expectations. ● To acquaint students with special probability distributions such as Binomial, Poisson, Normal, Chi-square, Student's and F distributions. ● To apply statistical testing of hypothesis in decision-making.
Units	
I	Basics – frequency distribution – graphs and histograms – measures of central tendency – mean, median, mode, geometric mean, harmonic mean – merits and demerits – measures of dispersion – range, mean deviation, semi-interquartile range and variance – moments, skewness and kurtosis – grouped and ungrouped data – numerical problems.
II	Probability – concept of probability – discrete and continuous random variables – probability and cumulative distribution functions – joint probability and cumulative distribution functions – mathematical expectations and variance – concepts and theorems – moment generating and characteristic functions – problems.
III	Special probability distributions – binomial, poisson, exponential, normal, chi square, t and F distributions – probability and distribution functions – properties

	– relations among binomial, poisson and normal distributions – central limit theorem.
IV	ıpling theory – definitions of sampling with and without replacement – type-I and Type-II errors – level of significance – rules of hypotheses testing – one-tailed and two - tailed test – sampling distributions of means and variances theorems – sampling distribution of proportions – sampling distributions of sums – numerical problems.
V	Estimation theory and testing of hypothesis – properties of estimates – confidence interval for population parameters and sample statistics – confidence interval for variances – maximum likelihood estimates – special tests of significance for large and small samples – numerical problems.
Course Outcomes	• Students would learn the common statistical techniques in the course and understand the concept of a frequency distribution for sample data and able to summarise the distribution by diagrams and graphs. • Students will be able to communicate the measurement of central Tendencies & Measures of Dispersion, key statistical concepts to non-statisticians and applied principles of statistics needed to enter the job force. • Students would understand the basic concepts of probability, sampling distribution of the statistic, random variable, discrete random variable and its probability distribution including expectation and moment. • Students will be able to apply main distributions of Binomial and Poisson and Normal to different situations which are highly useful in real life uncertain issues. Acquire knowledge of testing of hypothesis procedure to find the validity and estimate forecast the values from given population.
Reading List (Print and Online)	● Alexander M. Mood, Franklin A. Graybill and Duane C. Boes: Introduction to the Theory of Statistics. Third Edition, McGraw-Hill. ● Murray R. Spiegel: Theory and Problems of Probability and Statistics. McGraw- Hill Schaum's Outline Series. ● Seymour Lipschutz and John Schiller: Introduction to Probability and Statistics, Schaum's Outlines, McGraw Hill. ● P.K.Viswanathan: Business Statistics: An Applied Orientation, Pearson. ● Damodar Gujarati: Essentials of Econometrics, McGraw Hill.

Method of Evaluation:

Internal	External	Total
25	75	100

Methods of assessment:

Recall (K1) - Simple definitions, Concept definitions

Understand/ Comprehend (K2) -Short essays, Concept explanations, Short summary or overview

Application (K3) - Suggest idea/concept with examples, Suggest formulae, Solve problems, Observe, Explain

Analyse (K4) - Problem-solving questions, Finish a procedure in many steps, Differentiate between various ideas.

Evaluate (K5) - Longer essay,Critique or justify with pros and cons

Create (K6) - Check knowledge in specific or offbeat situations, Discussion, Presentations

Map course outcomes for each course with programme outcomes (PO) in the 3-point scale of Strong, Medium and Low

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10
CO 1	M	S	M	S	S	S	M	S	S	S
CO 2	S	S	S	S	M	S	M	S	S	S
CO 3	S	S	S	S	S	S	S	S	S	S
CO 4	S	S	S	S	S	M	S	S	S	S
CO 5	S	S	S	S	S	S	S	S	S	M

S-Strong M-Medium L-Low

Course	Core
Title of the Course:	**Micro Economics – I**
Credits:	**4**
Pre-requisites, if any:	
Course Objectives **Recall (K1) -** List, Identify, Enumerate, Define **Understand/Comprehend (K2) -** Describe, Explain, Outline, Briefly Summarise **Apply Knowledge (K3)** - Interpret, Calculate, Select, Employ, Generalise **Analyze and Evaluate (K4 and K5) -** Compare and Contrast, Differentiate, Evaluate, Critically Assess, Review an Idea **Create (K6)** - Conceive, Theorise, Conceptualise etc	1. Understanding of fundamental conceptual issues in consumption and production theory. 2. Learn to differentiate microeconomics between theoretical and empirical approaches in microeconomics. 3. Demonstration of the transformation of microeconomic theory into econometric frame works. 4. Students to realize the application of mathematics in the microeconomics. 5. Students will understand the demand and production functions, corresponding models, properties, applications etc.
Units	
I	Resource allocation – economic laws – market and market mechanism – demand and supply – market equilibrium – existence, uniqueness and stability of equilibrium – changes, shifts and dynamic adjustments – constrained optimisation.
II	: Relationship between marginal, average and total quantities – short run and long run cost curves – optimum output – classification of goods – demand functions – restrictions and properties – compensated and uncompensated demand curves – elasticity – Engel curve.
III	Theory of individual decision making – preference and choice – consumer equilibrium – Slutsky equation – derivation of demand curves – utility functions – direct, indirect, additive, separable, homogenous and homothetic functions – duality – applications of indifference curve analysis –

	consumer surplus, taxes, subsidy, labour supply, welfare.
IV	Revealed preference theory – intertemporal choice – choice under uncertainty – expected utility analysis – mean-variance approach – characteristic approach – quality choice – asymmetric information and decision making – random utility – prospect theory.
V	Theory of firm – theory of production and production functions – returns to scale – technology and technical change – optimization – duality – alternative objectives of firm – Cobb-Douglas and CES production functions – properties of production functions – multiple inputs and outputs.
Course Outcomes	1. Fundamental concepts in consumption and production theory are understood and compared. 2. Generalization of empirical framework or a theoretical framework in micro economic issues will be explained. 3. Transformation of microeconomic theoretical framework into empirical framework will be understood, summarized and illustrated 4. Application of mathematics such as calculus and matrix algebra will be understood and recognized. 5. Transformation of demand and production function into econometric models and properties of demand and production functions will be displayed by the students.
Reading List (Print and Online)	● J.M.Henderson and R.E.Quandt: Micro Economic Theory, Tata McGraw Hill. ● Hal R.Varian: Intermediate Micro Economics, East West Press. ● A. Koutsoyiannis: Modern Microeconomics, Macmillan.

Method of Evaluation:

Internal	External	Total
25	75	100

Methods of assessment:

Recall (K1) - Simple definitions,Recall steps, Concept definitions
Understand/ Comprehend (K2) -Short essays, Concept explanations, Short summary or overview
Application (K3) - Suggest idea/concept with examples, Solve problems, Observe, Explain
Analyse (K4) -Finish a procedure in many steps, Differentiate between various ideas, Map knowledge
Evaluate (K5) - Longer essay/ Evaluation essay, Critique or justify with pros and cons

Create (K6) - Check knowledge in specific or offbeat situations, Discussion, Presentations

Map course outcomes for each course with programme outcomes (PO) in the 3-point scale of Strong, Medium and Low

	PO 1	**PO 2**	**PO 3**	**PO 4**	**PO 5**	**PO 6**	**PO 7**	**PO 8**	**PO 9**	**PO 10**
CO 1	S	S	S	M	S	S	S	S	S	M
CO 2	S	L	M	L	S	M	S	M	M	M
CO 3	M	M	S	L	S	M	S	S	S	M
CO 4	S	M	M	L	S	M	S	S	S	M
CO 5	S	S	S	M	S	M	S	M	M	M

S-Strong M-Medium L-Low

Course	Core
Title of the Course:	**Indian Financial System**
Credits:	**4**
Pre-requisites, if any:	
Course Objectives **Recall (K1) -** List, Identify, Enumerate, Define **Understand/Comprehend (K2) -** Describe, Explain, Outline, Briefly Summarise **Apply Knowledge (K3)** - Interpret, Calculate, Select, Employ, Generalise **Analyze and Evaluate (K4 and K5) -** Compare and Contrast, Differentiate, Evaluate, Critically Assess, Review an Idea **Create (K6)** - Conceive, Theorise, Conceptualise etc	**1.** To enumerate the components and structure of the Indian financial system **2.** To outline the Functions of the Financial System, Financial Assets, Intermediaries, and Financial Markets. **3.** To critically assess and employ the functioning of the primary and secondary market in the development of the Indian financial system **4.** Evaluate the functioning of different financial institutions. **5.** To recognize and review the importance of the money market, foreign exchange market, derivative market, capital market, and commodity market. **6.** To conceptualize the system of financial instruments and their working in the financial system.
Units	
I	Components of financial system – functions – design and structure – financial system and macroeconomy – national income accounts – flow of funds accounts – financial system and economic growth.
II	Indian financial system – pre and post reform developments – money market – institutions – instruments – capital market – instruments – shares – debts – derivatives – primary market – IPO – process – institutional mechanism – secondary market - listing - trading – index – stock exchange – depositors – demat account.
III	Debt market – corporate bonds – government securities – primary dealers – disinvestment of PSUs – PSU bonds.
IV	Derivatives – commodities types – financial types – commodity exchanges.
V	Mutual funds – types – risk – NAV – SEBI guidelines – UTI – insurance – IRDA – health – life – other insurance products –

	credit rating and agencies.
Course Outcomes	**1.** Critically assess and be aware of the structure and components of the Indian Financial System. **2.** Demonstrate the knowledge and skills necessary to become employable in the financial service industry. **3.** To evaluate student's understanding of the fundamental concepts and working of financial service institutions. **4.** To recognize the current structure and regulation of the Indian financial services sector. **5.** Understand the functioning of Commercial Banks and RBI in the Financial system.
Reading List (Print and Online)	**1.** Bharati V. Pathak: The Indian Financial System, Pearson Education Ltd. **2.** M.Y.Khan: Indian Financial System, Tata McGraw Hill. **3.** L.M.Bhole: Financial Institutions and Markets, Tata McGraw Hill.
Recommended Texts	http://www.igntu.ac.in/eContent/IGNTU-eContent-457919741593-B.Com-6-Prof.ShailendraSinghBhadouriaDean&-FINANCIALSERVICES-All.pdf

Method of Evaluation:

Internal	External	Total
25	75	100

Methods of assessment:

Recall (K1) - Simple definitions,Recall steps, Concept definitions
Understand/ Comprehend (K2) - Short essays, Concept explanations, Short summary or overview
Application (K3) - Suggest idea/concept with examples, Solve problems, Observe, Explain
Analyse (K4) - Problem-solving questions, Finish a procedure in many steps, Differentiate between various ideas.
Evaluate (K5) - Longer essay/ Evaluation essay, Critique or justify with pros and cons
Create (K6) - Check knowledge in specific or offbeat situations, Discussion, Presentations

Map course outcomes for each course with programme outcomes (PO) in the 3-point scale of Strong, Medium and Low

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10
CO 1	M	S	L	S	S	M	S	M	L	M
CO 2	S	S	L	M	M	L	S	M	M	S
CO 3	S	M	M	S	M	M	S	S	L	S
CO 4	S	S	L	S	M	M	M	S	L	M
CO 5	S	M	S	S	S	S	S	M	M	S

S-Strong M-Medium L-Low

Course	Elective
Title of the Course:	**Indian Economic Development**
Credits:	**3**
Pre-requisites, if any:	
Course Objectives **Recall (K1)** - List, Identify, Enumerate, Define **Understand/Comprehend (K2)** - Describe, Explain, Outline, Briefly Summarise **Apply Knowledge (K3)** - Interpret, Calculate, Select, Employ, Generalise **Analyze and Evaluate (K4 and K5)** - Compare and Contrast, Differentiate, Evaluate, Critically Assess, Review an Idea **Create (K6)** - Conceive, Theorise, Conceptualise etc	• To make awareness among the students about various economic issues, Obstacles to economic development, occupational pattern, etc. • To understand the causes of economic and non-economic factors and obstacle in economic development. • To provide a strong knowledge of various economic planning and policies based on India's economy. • To enrich the knowledge of students related to trends and growth of different sectors, export and import, capital formation, infrastructure in the Indian economy. • To give the awareness about the various globalisation issues of trade, climate, etc.
Units	
I	Concepts of economic growth and development – major features of the Indian economy – economic and non-economic factors in economic development – obstacles to economic growth and development measures of development – GDP – Percapita income – human development index.
II	Trends and growth in GDP – agriculture, industry and service sectors – production, exports and imports – capital formation – capital-output ratio – productivity – heavy industries – small scale industries – ICT and Indian economic development – employment – infrastructure
III	Indian economic planning – plan models – five year plans – monetary and fiscal policies – public debt and deficit financing – trade and investment policies – industrial and labour regulations.
IV	Foreign trade – importance, composition, foreign trade policy, direction, balance of payments and economic reforms – trade, export and import policies – trends in imports and exports – prices and money supply – causes and policies.

V	**:** India and international relations – WTO, bilateral relations, environment and climate change issues, trade issues – globalisation issues and global standards.
Course Outcomes	• Students would become familiar with factors affecting economic growth and development, measurement of GDP PCI, HDI, etc • Students will be aware of the causes of various obstacles factors to an economic development and how different factors have affected this process. • Students will be able to understand how planning and infrastructure support can develop an economy. • Student will get knowledge about the economic five year planning, relationship between monetary policy, fiscal policy and economic development. • Help the students in understanding the performance of the different sectors of the Indian Economy • Students will get to know about various economic issues at national and global levels.
Reading List (Print and Online)	● R.Dutt and K.P.M.Sundaram: Indian Economy, S. Chand & Company. ● S.K.Misra and V.K.Puri: Economics of Development and Planning, Himalaya. ● Government of India, Economic Surveys & Reserve Bank of India Annual Reports.

Method of Evaluation:

Internal	External	Total
25	75	100

Methods of assessment:

Recall (K1) - Simple definitions, Recall steps, Concept definitions
Understand/ Comprehend (K2) -Short essays, Concept explanations, Short summary or overview
Application (K3) - Suggest idea/concept with examples, Observe, Explain
Analyse (K4) - Differentiate between various ideas.
Evaluate (K5) - Longer essay.

Create (K6) - Check knowledge in specific, Discussion,Presentations

Map course outcomes for each course with programme outcomes (PO) in the 3-point scale of Strong, Medium and Low

	PO 1	**PO 2**	**PO 3**	**PO 4**	**PO 5**	**PO 6**	**PO 7**	**PO 8**	**PO 9**	**PO 10**
CO 1	S	S	S	S	S	S	M	S	M	S
CO 2	M	M	M	M	M	M	M	M	M	M
CO 3	S	M	S	M	M	M	M	M	M	M
CO 4	S	S	M	S	M	M	S	M	M	M
CO 5	S	S	M	M	M	M	M	M	M	M

S-Strong M-Medium L-Low

Course	Elective
Title of the Course:	**Monetary Economics**
Credits:	**3**
Pre-requisites, if any:	Basic knowledge in Macroeconomics
Course Objectives **Recall (K1) -** List, Identify, Enumerate, Define **Understand/Comprehend (K2) -** Describe, Explain, Outline, Briefly Summarise **Apply Knowledge (K3)** - Interpret, Calculate, Select, Employ, Generalise **Analyze and Evaluate (K4 and K5) -** Compare and Contrast, Differentiate, Evaluate, Critically Assess, Review an Idea **Create (K6)** - Conceive, Theorise, Conceptualise etc	The main objectives of the course are to: • develop understanding of the theories that relate to the existence of money, explaining why it is demanded by individuals • Understand various measures of money , credit creation by commercial banks and Money multiplier • Gain an in-depth understanding of interest rate, exchange rate and other channels of monetary transmission mechanism • Impart knowledge in effectiveness monetary policy under different exchange rate regime • develop macroeconomic models through which monetary policy can be evaluated • Understanding use of monetary theories in analyzing / solving real word problem using actual data
Units	
I	Money - definition – measures – central bank balance sheet – flow of funds approach – money multiplier – central bank and commercial bank – coordination – combined balance sheet.
II	Demand for money – quantity theories – general theory – Tobin's portfolio model – monetarism – microeconomic transactions approach.
III	Transmission of monetary policy – channels – interest rate – expected inflation – exchange rate – asset prices – Philips cure – money supply, aggregate demand – independence of central bank.
IV	Theory of monetary policy – goals – instruments – rules and discretion – choice of instruments – targets and indicators – policy rules.

V	Monetary policy with fixed exchange rate – floating exchange rate – policy coordination – capital mobility and Tobin tax.
Course Outcomes	• Explain and discuss why people hold money and why it is used in the trading process • Describe and explain the main channels of the monetary transmission mechanism, through which monetary policy can have real effects on the economy • Discuss the merits and disadvantages of different monetary policies used by Central Banks • Incorporate monetary theories learnt in analyzing / solving real word problem and assess the role and efficacy of monetary policy Prepare students for using RBI's monetary, banking and other financial data in analyzing monetary policies and extend solutions to macroeconomic problems
Reading List (Print and Online)	• Keith Bain and Peter Howells:Monetary Economics, London: Palgrave. • Jagadish Handa: Monetary Economics, London: Routledge.

Method of Evaluation:

Internal	External	Total
25	75	100

Methods of assessment:
Recall (K1) - Concept definitions

Understand/ Comprehend (K2) -Short essays, Concept explanations.

Application (K3) - Suggest idea/concept with examples, Solve problems, Observe, Explain

Analyse (K4) - Differentiate between various ideas, Map knowledge

Evaluate (K5) - Critique or justify with pros and cons.

Create (K6) - Debating or Presentations.

Map course outcomes for each course with programme outcomes (PO) in the 3-point scale of Strong, Medium and Low

	PO 1	**PO 2**	**PO 3**	**PO 4**	**PO 5**	**PO 6**	**PO 7**	**PO 8**	**PO 9**	**PO 10**
CO 1	S	L	M	M	S	M	M	S	S	S
CO 2	S	M	M	S	S	M	M	S	S	S
CO 3	S	M	M	S	S	S	M	M	S	S
CO 4	S	M	S	S	S	S	S	S	S	S
CO 5	S	S	S	S	S	S	S	S	S	S

S-Strong M-Medium L-Low

Course	Elective
Title of the Course:	**Data Analysis using Computers**
Credits:	**3**
Pre-requisites, if any:	
Course Objectives **Recall (K1) -** List, Identify, Enumerate, Define **Understand/Comprehend (K2) -** Describe, Explain, Outline, Briefly Summarise **Apply Knowledge (K3)** - Interpret, Calculate, Select, Employ, Generalise **Analyze and Evaluate (K4 and K5) -** Compare and Contrast, Differentiate, Evaluate, Critically Assess, Review an Idea **Create (K6)** - Conceive, Theorise, Conceptualise etc	• The main objectives of the course are to: • Enumerate the statistical concepts used in data analysis • Get introduced to data analysis tools and techniques that are useful in helping learn Econometrics • Explain the importance of statistical concepts in interpretation of the output generated by the software • Select appropriate statistical/econometric tool or technique under different circumstances (objective, data type availability etc.) • Hands-on exercises using available data sets & practical sessions • Incorporate the lessons learnt in analyzing / solving real word problem using real world data
Units	
I	Overview of data characteristics – key terms and definitions – population – sample – variable – parameter – statistic – types of Data – metric – non-metric - nominal – ordinal – interval and ratio – sources of data – step by step approach to statistical investigation – methods of data analysis – descriptive method – inferential method – data-base availability.
II	Data processing using Microsoft Excel – fundamentals of spreadsheets – fill handles – absolute positioning – cell operations – data sorting and filter – specific functions – frequencies – charts and chart Options – mathematical Ffnctions – transformations – matrices – solving linear equations using spreadsheet – linear programming using Excel solver – statistical functions – measures of central tendencies and dispersions – data analysis –regression – forecasting – chi-square test.

III	Introduction to Stata – Stata Description – Stata Windows – creating new data set – importing ASCII data – creating log, cmdlog and do files – generating and replacing variables – summary statistics and exploratory data analysis – frequency tables and two-way cross tabulations – regression – dummy variables and interaction effects.
IV	Multivariate data analysis using SPSS – basics data management – importing data – recoding variables – creating new variables using compute command – selecting and weighting cases – univariate analysis – cross tabulations – multiple regression analysis – LSDV regression and interaction effects.
V	Working with E-views – creating work file and importing data – creating new series – running simple statistical and econometric tools using E-views.
Course Outcomes	• Learn to use analytical tools/statistical packages such as Microsoft Excel, SPSS, STATA, E-Views and so on. Describes an alternative approach to teaching content by using computer applications that emphasize the empirical testing or applications of the theory • Gain an in-depth understanding of data structures to explore and visualize data for meaningful insights • Understand and learn the applications of descriptive and inferential statistics to real world data • Evaluate the relationship between variables for further prediction/forecasting Prepare students for employment in data analysis related jobs
Reading List (Print and Online)	• David P. Doane and Lori E. Seward: Applied Statistics in Business and Economics, Tata McGraw Hill. • Kultar Singh: Quantitative Social Research Methods, Sage. • STATA Version 8.0; Base Reference Manuals, Volume 1-4. • P.K.Viswanathan: Business Statistics: An Applied Orientation, Pearson. • Web Resources: http://www.sabine.k12.la.us/class/excel_resources.htm.

Method of Evaluation:

Internal	External	Total
25	75	100

Methods of assessment:

Recall (K1) - Recall steps, Concept definitions

Understand/ Comprehend (K2) - Concept explanations.

Application (K3) - Suggest idea/concept with examples,Solve problems, Observe, Explain

Analyse (K4) - Problem-solving questions, Finish a procedure in many steps.

Evaluate (K5) -Critique or justify with pros and cons.

Create (K6) – Discussion.

Map course outcomes for each course with programme outcomes (PO) in the 3-point scale of Strong, Medium and Low

	PO 1	**PO 2**	**PO 3**	**PO 4**	**PO 5**	**PO 6**	**PO 7**	**PO 8**	**PO 9**	**PO 10**
CO 1	M	S	S	S	M	S	M	S	M	S
CO 2	M	S	S	S	S	S	L	M	L	S
CO 3	L	S	S	M	M	S	S	M	L	S
CO 4	M	M	M	S	M	S	S	S	M	S
CO 5	M	S	S	S	S	S	S	S	S	S

S-Strong M-Medium L-Low

Course	Core
Title of the Course:	**Theory of Financial Economics**
Credits:	**4**
Pre-requisites, if any:	
Course Objectives **Recall (K1) -** List, Identify, Enumerate, Define **Understand/Comprehend (K2) -** Describe, Explain, Outline, Briefly Summarise **Apply Knowledge (K3)** - Interpret, Calculate, Select, Employ, Generalise **Analyze and Evaluate (K4 and K5) -** Compare and Contrast, Differentiate, Evaluate, Critically Assess, Review an Idea **Create (K6)** - Conceive, Theorise, Conceptualise etc	**1.** List the role of finance in the economy using basic economic principles, and leading to introductory graduate analysis **2.** Explain and study the functions of the capital asset pricing model (CAPM) when there is risk, inflation, taxes, and asymmetric information **3.** Interpret the conditions under which application of mean-variance portfolio theory leads to the selection of optimal portfolios **4.** Review an idea on the expected return and risk of a portfolio of risky assets, given the expected return, variance, and covariance of returns of the individual assets, using the mean-variance portfolio theory (MPT) **5.** Critically assess the assumptions, principal results, and limitations of the Arbitrage Pricing Theory model (APT) **6.** Conceptualize thatanomalies appear beyond the reach of classical rational decision theory/efficient markets theory
Units	
I	Decision under uncertainty – state preference approach – expected utility approach – behavioral alternatives to the EUA.
II	Mean-variance model – concepts – portfolio frontiers – two risky assets – many risky assets – optimal portfolio selection.
III	Capital asset pricing model – assumptions – asset – market equilibrium – characteristics line and the market model – security market line – risk premium and diversification.
IV	Arbitrage – uncertain world – state prices and risk – neutral valuation – factor model – arbitrage pricing theory.
V	Inter-temporal choice and the equity premium puzzle – consumption and investment in a two period with certainty – lifetime portfolio selection – inter- temporal capital asset pricing

	models.
Course Outcomes	**1.** Calculate how security prices are determined in the Capital Asset Pricing Model, and the role played by the assumptions in the model **2.** Outline utility theory to describe and analyze investment decisions under risk aversion. **3.** Report and describe the risks of managing portfolios of securities **4.** Contrast, apply, compare and criticize the efficient markets hypothesis and behavioral finance theory. **5.** Demonstrate familiarity with qualitative and quantitative analysis in explaining the economic theories that underlie social and economic problems.
Reading List (Print and Online)	**1.** Roy E.Baiky: The Economics of Financial Markets, Cambridge University Press. **2.** Jaksa Cvitanie and Zapatiro Fernando: Introduction to the Economics and Mathematics of Financial Markets, MIT Press.
Recommended Texts	http://www.ascdegreecollege.ac.in/wp-content/uploads/2020/12/Financial-Economics.pdf

Method of Evaluation:

Internal	External	Total
25	75	100

Methods of assessment:

Recall (K1) - Simple definitions, Recall steps, Concept definitions
Understand/ Comprehend (K2) -Short essays, Concept explanations, Short summary or overview
Application (K3) - Suggest idea/concept with examples, Suggest formulae, Solve problems, Explain

Analyse (K4) - Problem-solving questions, Finish a procedure in many steps.
Evaluate (K5) - Longer essay/ Evaluation essay.
Create (K6) - Check knowledge in specific, Discussion.

Map course outcomes for each course with programme outcomes (PO) in the 3-point scale of Strong, Medium and Low

	PO 1	**PO 2**	**PO 3**	**PO 4**	**PO 5**	**PO 6**	**PO 7**	**PO 8**	**PO 9**	**PO 10**
CO 1	S	M	S	S	S	S	S	L	S	S
CO 2	S	S	S	S	S	M	S	M	M	S
CO 3	S	M	M	M	S	M	S	M	S	M
CO 4	S	S	M	S	M	M	M	L	S	S
CO 5	S	S	S	M	S	M	L	L	S	S

S-Strong M-Medium L-Low

Course	Core
Title of the Course:	Micro Economics – II
Credits:	4
Pre-requisites, if any:	
Course Objectives **Recall (K1) -** List, Identify, Enumerate, Define **Understand/Comprehend (K2) -** Describe, Explain, Outline, Briefly Summarise **Apply Knowledge (K3)** - Interpret, Calculate, Select, Employ, Generalise **Analyze and Evaluate (K4 and K5) -** Compare and Contrast, Differentiate, Evaluate, Critically Assess, Review an Idea **Create (K6)** - Conceive, Theorise, Conceptualise etc	1. To make students aware of approaches objectives and rules on firm, markets and pricing. 2. Students will understand the characteristics of competitive markets and equilibrium & types of markets. 3. To learn the behavior of players in the market. 4. To review the characteristics of input markets. 5. To explain the concepts of equilibrium and its types.
Units	
I	Marginalist approach – critique of neo-classical theory of firm – marginalist controversy – modern markets – alternative objectives of firm – market structure – classification of markets – pricing rules – equilibrium and disequilibrium analysis.
II	Ccompetitive market – equilibrium of a firm – short and long run analysis – monopoly – price discrimination – inefficiency and regulation of monopoly – monopolistic competition – product differentiation.
III	opoly – rivalry and strategic behaviour – reaction functions – Cournot and Stackleberg equilibrium – kinky demand curve – cartels, mergers and takeovers – cooperative and non-cooperative behaviour – bargaining – game theoretic solutions.

IV	Input markets – marginal productivity theory and distribution of income – competitive markets – factor market imperfections – monopoly – monopsony – exploitation – bilateral monopoly – Euler's theorem – Clark-Wicksteed theorem
V	Theory of general equilibrium – pure exchange economy – Pareto optimality – Walrasian equilibrium – welfare analysis.
Course Outcomes	1. Basic concepts in firms, markets and pricing critically understood. 2. Students could identity and understand the characteristics, equilibrium and types of markets. 3. Behaviours of players in the market are identified, compared and contrasted by the students at the end of the course. 4. Students could outline and summarize the characteristics of input markets. 5. Concepts of equilibrium and its types are understood and described by the students.
Reading List (Print and Online)	● J.M. Henderson and R.E. Quandt: Micro Economic Theory, Tata McGraw-Hill. ● Hal R. Varian: Intermediate Micro Economics, East West Press. ● A. Koutsoyiannis: Modern Microeconomics, Macmillan.

Method of Evaluation:

Internal	External	Total
25	75	100

Methods of assessment:

Recall (K1) - Simple definitions,Recall steps, Concept definitions

Understand/ Comprehend (K2) - Short essays, Concept explanations, Short summary.

Application (K3) - Suggest idea/concept with examples, Solve problems, Explain

Analyse (K4) - Problem-solving questions, Differentiate between various ideas, Map knowledge

Evaluate (K5) - Critique or justify with pros and cons

Create (K6) - Check knowledge in specific or offbeat situations, Discussion, Presentations

Map course outcomes for each course with programme outcomes (PO) in the 3-point scale of Strong, Medium and Low

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10
CO 1	S	S	S	M	S	S	S	S	S	M
CO 2	S	L	L	L	S	M	M	M	M	M
CO 3	M	M	S	S	L	M	M	S	S	L
CO 4	M	M	M	L	M	M	M	S	S	M
CO 5	S	S	L	M	L	S	S	M	M	L

S-Strong M-Medium L-Low

	• Use supply and demand to explain various economic phenomena and principles. • Explain the measurement and importance of GDP, inflation, unemployment, money, and trade • Be able to describe the cause and effect of changes in all macro variables. Associate the current economic phenomenon with existing theory and put their views on contemporary economic issues. • Locate and use information related to macroeconomics • Relate economic concepts to the real world events and critically evaluate the impact of macroeconomic policies on the Economy
Course	**Core**
Title of the Course:	**Macro Economics**
Credits:	**4**
Pre-requisites, if any:	Basic readings in economics
Course Objectives **Recall (K1)** - List, Identify, Enumerate, Define **Understand/Comprehend (K2)** - Describe, Explain, Outline,	• The main objbankingectives of the course are to: • Become familiar with measures of economic performance • Learn to use these indicators to evaluate current economic conditions • Understand how markets function in a capitalistic society • Understand the major perspectives on what determines performance of the overall economy

Briefly Summarise **Apply Knowledge (K3)** - Interpret, Calculate, Select, Employ, Generalise **Analyze and Evaluate (K4 and K5) -** Compare and Contrast, Differentiate, Evaluate, Critically Assess, Review an Idea **Create (K6)** - Conceive, Theorise, Conceptualise etc	• Learn analyze impacts on the economy • Learn key approaches to macroeconomic policy • Develop skills to analyze impacts of policy actions and to evaluate the advantages and disadvantages of different policies
Units	
I	Basic concepts in macroeconomics – stocks and flows – static and dynamic equilibrium – national income concepts – circular flow of income – different forms of national income accounting.
II	Product market – classical theory of output and employment – Keynesian theory of income determination – aggregate demand and aggregate supply – closed economy model – open economy model – role of multipliers – static vs dynamic multipliers – consumption and investment functions – income consumption relationship – marginal efficiency of capital and investment.
III	Money market – demand for money – classical approach to demand for money – quantity theory approach – Cambridge quantity theory – Keynes liquidity preference approach – aggregate demand for money – derivation of LM curve – theory of money supply – high powered money and money multiplier.
IV	Integration of product and money markets – interdependence of product and money market – derivation of IS and LM curves – IS-LM model in closed economy – IS-LM model in open economy – multiplier and relationship with IS- LM model – effectiveness of fiscal and monetary policies on general equilibrium.
V	Foreign exchange and balance of payment –foreign exchange – exchange rate determination – floating exchange market – fixed exchange rate – controversies of free and fixed exchange rate markets - balance of payments – disequilibrium in balance of payments – causes and kinds – automatic adjustment in BOP – adjustments by policy measures – expenditure changing and

	expenditure switching policies – monetary approach to BOP adjustment.
Course Outcomes	• Use supply and demand to explain various economic phenomena and principles. • Explain the measurement and importance of GDP, inflation, unemployment, money, and trade • Be able to describe the cause and effect of changes in all macro variables. Associate the current economic phenomenon with existing theory and put their views on contemporary economic issues. • Locate and use information related to macroeconomics • Relate economic concepts to the real world events and critically evaluate the impact of macroeconomic policies on the Economy
Reading List (Print and Online)	• R.Dornbusch, S.Fischer.and R.Startz: Macroeconomics, Tata McGraw Hill. • E.Shapiro: Macroeconomic Analysis, Galgotia Publications. • Gregory N.Mankiw: Macroeconomics, Macmillan. • D.N.Dwivedi: Macroeconomics – Theory and Policy, McGraw Hill. • G.Ackley: Macroeconomics – Theory and Policy, Collier Macmillan.

Method of Evaluation:

Internal	External	Total
25	75	100

Methods of assessment:
Recall (K1) - Concept definitions

Understand/ Comprehend (K2) - Concept explanations.

Application (K3) - Suggest idea/concept with examples, Suggest formulae, Solve problems, Observe, Explain

Analyse (K4) - Problem-solving questions.

Evaluate (K5) - Longer essay/ Evaluation essay, Critique or justify with pros and cons

Create (K6) – Discussion.

Map course outcomes for each course with programme outcomes (PO) in the 3-point scale of Strong, Medium and Low

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10
CO 1	S	M	S	M	S	M	M	S	S	S
CO 2	S	S	M	S	M	S	M	S	S	S
CO 3	S	S	S	S	S	S	S	S	S	S
CO 4	L	S	S	S	S	S	S	S	S	S
CO 5	M	M	S	S	M	S	S	S	S	S

S-Strong M-Medium L-Low

Course	**Elective**
Title of the Course:	**Basic Econometrics**
Credits:	**3**
Pre-requisites, if any:	
Course Objectives **Recall (K1) -** List, Identify, Enumerate, Define **Understand/Comprehend (K2) -** Describe, Explain, Outline, Briefly Summarise **Apply Knowledge (K3)** - Interpret, Calculate, Select, Employ, Generalise **Analyze and Evaluate (K4 and K5) -** Compare and Contrast, Differentiate, Evaluate, Critically Assess, Review an	1. Introduce the discipline of econometrics to the students who have studied various disciplines at UG level. 2. To make learn the econometric methodology step by step. 3. Students will learn econometric theory proficiently 4. Learn various econometric models and methods of estimation 5.Students will understand basics of econometrics to deal with economic and social issues.

Idea **Create (K6)** - Conceive, Theorise, Conceptualise etc	
Units	
I	Econometrics – definitions – scope – methodology – types.
II	Two variable regression model – assumptions – method of least squares – properties – BLUE – R-square – maximum likelihood method – testing of hypotheses using point and interval estimates – forecasting – solving problems using SPSS and STATA.
III	Nonlinear relationships – transformation of variables – functional forms – three variable regression model – applications using SPSS and STATA.
IV	General linear model (matrix approach) – specification – OLS estimators – testing significance of individual and overall regression coefficients – restricted least squares – structural regression models – dummy variables – problems and application using STATA.
V	Violation of classical assumptions – multicollinearity – autocorrelation – hetroscedasticity – problems – causes – consequences – remedial measures – model specification and diagnostic testing.
Course Outcomes	1. The uniqueness of the discipline of econometrics will be differentiated and understood. 2. Econometric methodology will be able to outline and explain step by step. 3. Students will be gaining explaining knowledge in econometric theory. 4. Various econometric models and methods of estimation will be identification, understood and employed. 5. Students can draft, revise and employ the econometric model for economic and solid issues independently.
Reading List (Print and Online)	● Damodar N. Gujarathi: Basic Econometrics, New Delhi: Tata McGraw Hill. ● J. Johnston: Econometric Methods, McGraw Hill. ● STATA Version 8.0: User's Guide, Texas: Stata Press.

Method of Evaluation:

Internal	External	Total
25	75	100

Methods of assessment:

Recall (K1) - Simple definitions, Recall steps, Concept definitions
Understand/ Comprehend (K2) -Short essays, Concept explanations, Short summary or overview
Application (K3) - Suggest idea/concept with examples, Suggest formulae, Solve problems, Explain
Analyse (K4) - Problem-solving questions, Finish a procedure in many steps, Differentiate between various ideas, Map knowledge
Evaluate (K5) - Longer essay/ Evaluation essay, Critique or justify with pros and cons
Create (K6) - Check knowledge in specific or offbeat situations, Discussion, Presentations

Map course outcomes for each course with programme outcomes (PO) in the 3-point scale of Strong, Medium and Low

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10
CO 1	S	S	M	L	M	M	S	S	S	M
CO 2	M	M	M	M	S	S	S	S	S	M
CO 3	S	M	M	M	S	S	S	S	S	M
CO 4	S	M	M	L	S	S	S	S	M	M
CO 5	S	M	M	M	S	M	S	S	S	M

S-Strong M-Medium L-Low

Course	Core
Title of the Course:	Financial Accounting
Credits:	4
Pre-requisites, if any:	
Course Objectives **Recall (K1) -** List, Identify, Enumerate, Define **Understand/Comprehend (K2) -** Describe, Explain, Outline, Briefly Summarise **Apply Knowledge (K3)** - Interpret, Calculate, Select, Employ, Generalise **Analyze and Evaluate (K4 and K5) -** Compare and Contrast, Differentiate, Evaluate, Critically Assess, Review an Idea **Create (K6)** - Conceive, Theorise, Conceptualise etc	• To provide basic knowledge about the accounting concepts and principles, Journal entry and procedures to students. • To make the student to understand the classification of income & expenses & accounting standards. • To develop the understanding of accounting Process and their uses in Decision making • To provide detail knowledge of Final Accounts & Accounts of not for Profit Organization. • To provide adequate knowledge about Issue of Shares & debentures & Hire Purchase • To help the students to develop cognizance of the importance of accounting in preparing financial statements with suitable illustration
Units	
I	Introduction to accounting – basic accounting terms – basis of accounting – accounting principles – accounting standards – double entry system and accounting equation.
II	Journal and subdivisions – posting and balancing – cash book – bank reconciliation statement – trial balance and errors – capital reserve and reserves asset accounting
III	Financial statement – with and without adjustments – financial statements of for profit ant not-for profit organisations.
IV	Accounting for shares and debentures – depreciation, provisions and reserves hire purchase and installments.
V	Financial statement and annual report – cash flow statement – financial statement analysis.

Course Outcomes	• Students will understand about different concept of accounting system, recording journal entries and preparation of ledger accounts. • Students will get the knowledge about double entry system to understanding the accounting system properly and preparation of ratification errors. • Obtained Knowledge of Accounts for non-profit organization, financial statement concepts, balance sheet and ratio analysis. • Student will be able to get knowledge about Redemption of Preference Shares & Debentures • Students will learn to prepare different kinds of Financial Statements in accordance with appropriate standards.
Reading List (Print and Online)	● Shantosh A. Dash, Sudharshan Sahu and Bal K.Ranjan: A New Approach to Financial Accounting, S. Chand, Delhi. ● P.C.Tulsian and Bharat Tulsian: Tulsian's Financial Accounting for B.Com, S. Chand, Delhi.

Method of Evaluation:

Internal	External	Total
25	75	100

Methods of assessment:

Recall (K1) - Simple definitions,Recall steps, Concept definitions

Understand/ Comprehend (K2) -Short essays, Concept explanations, Short summary or overview

Application (K3) - Suggest idea/concept with examples, Suggest formulae, Solve problems, Observe, Explain

Analyse (K4) - Problem-solving questions, Finish a procedure in many steps, Differentiate between various ideas, Map knowledge

Evaluate (K5) - Longer essay/ Evaluation essay,

Create (K6) - Check knowledge in specific, Discussion, Presentations

Map course outcomes for each course with programme outcomes (PO) in the 3-point scale of Strong, Medium and Low

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10
CO 1	S	S	S	S	S	S	S	S	S	S
CO 2	S	S	S	S	S	S	S	S	S	S
CO 3	S	S	S	S	S	S	S	S	S	S
CO 4	S	S	S	S	S	S	S	S	S	S
CO 5	S	S	S	S	S	S	S	S	S	S

S-Strong M-Medium L-Low

Course	**Elective**
Title of the Course:	**Development and Planning**
Credits:	**3**
Pre-requisites, if any:	
Course Objectives **Recall (K1)** - List, Identify, Enumerate, Define **Understand/Comprehend (K2) -** Describe, Explain, Outline, Briefly Summarise **Apply Knowledge (K3)** - Interpret, Calculate, Select, Employ, Generalise **Analyze and Evaluate (K4 and K5) -** Compare and Contrast, Differentiate, Evaluate, Critically Assess, Review an Idea	• To understand the causes of economic, non-economic and obstacle factors in economic development. • To provide knowledge for understanding the various theoretical ar • To provide knowledge about the development theories for ecc Solow, endogenous growth, Rostow's stages of growth, balanced unlimited labour supply, etc. • To understand the innovation and knowledge spillovers for development of the nations. • To make awareness among the students about various modern development and social issues in an economic development.

Create (K6) - Conceive, Theorise, Conceptualise etc	
Units	
I	Economic growth and development – problem of development – causes of underdevelopment – measures of growth and development – development issues – development strategies – examples.
II	Early growth models – Harrod-Domar model – Neoclassical Solow model – technological change – exogenous growth – convergence – golden rule – growth accounting approach – residual approach – total factor productivity – augmented Solow model.
III	Unlimited growth – increasing returns –endogenous growth – innovations – learning by doing – positive spillovers – modern concept of capital – factor mobility and growth – governments and markets – public-private partnership – social issues – health and education in development.
IV	Endogenous growth models – growth engines – knowledge capital – human capital – public utilities and infrastructure – R&D – trade – social capital – formal and informal institutions.
V	Modern development issues – cost-benefit analysis – planning and development – Indian plan models.
Course Outcomes	• After successful completion of this course, the students are expected to: • Students will get benefit of conceptual approach of growth models which are appli of the nation. • • Students can understand about good infrastructure, R& D and public facilities will always induce the economic development. • Students can be aware of the implementation of Indian5 year plan models which induce the Indian economy.
Reading List (Print and Online)	• Robert J. Barro and Xavier Sala-i-Martin: Economic Growth. • P. Aghion and S. Durlauf: Handbook of Economic Growth. • Kaushik Basu: The Less Developed Economy. • Debraj Ray: Development Economics.

Method of Evaluation:

Internal	External	Total
25	75	100

Methods of assessment:

Recall (K1) - Simple definitions,Concept definitions
Understand/ Comprehend (K2) -Short essays, Concept explanations, Short summary or overview
Application (K3) - Suggest idea/concept with examples, Observe, Explain
Analyse (K4) - Differentiate between various ideas.
Evaluate (K5) - Longer essay
Create (K6) - Discussion, Presentations

Map course outcomes for each course with programme outcomes (PO) in the 3-point scale of Strong, Medium and Low

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10
CO 1	S	M	M	M	S	M	M	M	M	M
CO 2	M	M	M	M	M	M	M	M	M	M
CO 3	M	M	M	M	M	M	M	M	M	M
CO 4	M	M	M	M	M	M	M	M	M	M
CO 5	M	M	M	M	M	M	M	M	S	S

S-Strong M-Medium L-Low

Course	Elective
Title of the Course:	**Database for Econometric Analysis**
Credits:	**3**
Pre-requisites, if any:	Basic Readings in Economics
Course Objectives **Recall (K1) -** List, Identify, Enumerate, Define **Understand/Comprehend (K2) -** Describe, Explain, Outline, Briefly Summarise **Apply Knowledge (K3)** - Interpret, Calculate, Select, Employ, Generalise **Analyze and Evaluate (K4 and K5) -** Compare and Contrast, Differentiate, Evaluate, Critically Assess, Review an Idea **Create (K6)** - Conceive, Theorise, Conceptualise etc	The main objectives of the course are to: • Expose the economic and social data sources to the students for analyzing and understanding the economic problems and finding out solutions • Understanding demographic structure of the country and world • Describe the components of National Income and their contribution to the economic growth • Explore the social and international economic database available worldwide such as IMF, World Bank, WHO, WTO, UNCTAD etc. • Understand the indices of economic development • Comprehend the basic characteristics of economic development and economic growth
Units	
I	Census – history of population census – demographic indicators – definitions – schedules – dissemination – database – types – other data sets from census – sample registration system - economic census – education census – agricultural census.
II	National income accounting – base year – methods of estimation – types of reporting – BoP and NI – SDP – district income.
III	NSSO – sample – large and small samples – rounds – reports – ASI – coverage – definition of terms – reports – price and wage statistics – socioeconomic statistics – NFHS – district handbooks.
IV	RBI – balance sheet approach – banking statistics – money supply – foreign exchange reserve – exchange rate – stock market statistics
V	International data – World bank, IMF, ILO, WTO, UNCTAD, UN and other international agency data – World Value Surveys –

	Gallop Poll.
Course Outcomes	• Understand National Income database for macroeconomic analysis • Gain an in-depth understanding of population census and use of population census for demographic analysis • Throw light on available sample survey data such as NSSO for using in economic analysis and use RBI dataset for Macroeconomic analysis and financial markets • Learn to use international datasets for international comparison of economic and social development • Prepare students for employment in development research related jobs
Reading List (Print and Online)	Websites and reports of respective ministries and organizations, like Directorate of Census Operations, CSO, NSSO of GOI, SEBI, RBI. Reports of Statistics Departments in State Governments. World organisations.

Method of Evaluation:

Internal	External	Total
25	75	100

Methods of assessment:

Recall (K1) -Concept definitions
Understand/ Comprehend (K2) -Concept explanations,
Application (K3) - Suggest idea/concept with examples, Suggest formulae, Solve problems, Observe, Explain
Analyse (K4) - Differentiate between various ideas.
Evaluate (K5) -Critique or justify with pros and cons
Create (K6) – Discussion.

Map course outcomes for each course with programme outcomes (PO) in the 3-point scale of Strong, Medium and Low

	PO 1	**PO 2**	**PO 3**	**PO 4**	**PO 5**	**PO 6**	**PO 7**	**PO 8**	**PO 9**	**PO 10**
CO 1	L	M	S	S	M	S	L	L	M	S
CO 2	M	M	S	S	M	S	L	L	M	S
CO 3	M	L	S	S	M	S	M	M	M	S
CO 4	M	M	S	S	M	S	M	M	S	S
CO 5	M	S	S	S	S	S	S	S	S	S

S-Strong M-Medium L-Low

Course	Core
Title of the Course:	**Pricing of Financial Instruments**
Credits:	**4**
Pre-requisites, if any:	
Course Objectives **Recall (K1) -** List, Identify, Enumerate, Define **Understand/Comprehend (K2) -** Describe, Explain, Outline, Briefly Summarise **Apply Knowledge (K3)** - Interpret, Calculate, Select, Employ, Generalise **Analyze and Evaluate (K4 and K5) -** Compare and Contrast, Differentiate, Evaluate, Critically Assess, Review an Idea **Create (K6)** - Conceive, Theorise, Conceptualise etc	**1.** Identify how securities are priced and affected by the institutional arrangements in securities markets, including taxes and other government regulations **2.** Describe the importance of financial instruments to the financial point of an entity, its performance, and cash flow statements. **3.** To calculate the bond price and interpret the yield curve. **4.** Compare financial statements of subsidiaries, associates, and joint ventures. **5.** Differentiate marketable and non-marketable instruments, and categorize all forms of financial securities. **6.** Theorize the technical analysis and indicators of a firm.
Units	
I	Risk and return – measures – expected value – time value of money – future – present – annuity – intra-year compounding.
II	Financial statements – GAAP – financial ratios – standardised financial statement – applications.
III	Bond prices – yield – yield curve – risk – rating of bonds – determinants of interest rate – convertible bonds.
IV	Equity valuation – balance sheet valuation – dividend discount model – free cash flow model – earnings multiplier approach – price ratio – sum of parts method – equity portfolio management.
V	Company analysis – strategy analysis – accounting analysis – financial analysis – intrinsic values – technical analysis – technical indicators.
Course Outcomes	**1.** To calculate the expected rate of return of a security

	2. Assess the function of GAAP **3.** Enumerate the yield curve and rating of the bond **4.** Demonstrate the dividend discount model and free cash flow model **5.** Outline the technical analysis and technical indicators of a security
Reading List (Print and Online)	**1.** Prasanna Chandra: Investment Analysis & Portfolio Management, Tata McGraw Hill

Method of Evaluation:

Internal	External	Total
25	75	100

Methods of assessment:
Recall (K1) - Simple definitions, Recall steps, Concept definitions

Understand/ Comprehend (K2) -Short essays, Concept explanations, Short summary or overview

Application (K3) - concept with examples, Suggest formulae, Solve problems, Observe, Explain

Analyse (K4) - Problem-solving questions, Finish a procedure in many steps, Differentiate between various ideas.

Evaluate (K5) - Longer essay/ Evaluation essay.

Create (K6) - Check knowledge in specific, Discussion.

Map course outcomes for each course with programme outcomes (PO) in the 3-point scale of Strong, Medium and Low

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10
CO 1	S	S	L	S	S	M	M	L	S	S
CO 2	S	M	L	M	M	L	M	L	S	S
CO 3	S	S	S	S	S	M	S	M	L	M
CO 4	M	S	M	S	S	M	M	M	M	M
CO 5	S	M	L	M	M	M	L	M	M	S

S-Strong M-Medium L-Low

Course	**Core**
Title of the Course:	**Corporate Finance**
Credits:	**4**
Pre-requisites, if any:	
Course Objectives **Recall (K1) -** List, Identify, Enumerate, Define **Understand/Comprehend (K2) -** Describe, Explain, Outline, Briefly Summarise **Apply Knowledge (K3)** - Interpret, Calculate, Select, Employ, Generalise **Analyze and Evaluate (K4 and K5) -** Compare and Contrast, Differentiate, Evaluate, Critically Assess, Review an Idea **Create (K6)** - Conceive, Theorise, Conceptualise etc	• The main objective of the course is to provide the conceptual background, functions, financial sources and investment decisions of a corporate company. • To provide knowledge about different types of long term finances, cost of financial distress of a corporate company. • To help the students acquire the knowledge about capital structure and value of the firm. • To understand the valuation and capital budgeting for leveraged and weighted average cost of capital. • To provide knowledge of leasing finance and reason for leasing financing & suitable illustration.

Units	
I	Meaning and Definition of **C**orporate Firm - Goals & Objectives- Structure of The Firm - Functions of Financial Managers-Long Term Financing – Maximising Firm Value Vs Maximising Stockholder Interests-Statement of Cash Flow–Financial Ratios.
II	Planning and Designing of Capital Structure - Determinates of Capital Structure –Optimal Capital Structure - EBIT- EPS Analysis- Capital Structure Theories- Risks of Debt Financing- Effect of Financial Leverage - Break Even Analysis.
III	Investment Decisions-Capital Budgeting–Significance -Types of Capital Expenditure Decisions- Capital Budgeting Process and Techniques – Risk

	Analysis.
IV	Valuation and Capital Budgeting For Leveraged Firm-Leverage-Types of Leverages- Flow to Equity Approach –Weighted Average Cost of Capital – Capital Budgeting When Discount Rate Must Be Estimated – Beta and Leverage.
V	Dividend Policies–Different Types of Dividend–Factors Affecting Dividend Payment-Dividend Theories-Leasing-Types of Leases–Leasing Finance–Lease Valuation–Lease Cash Flow–Reason for Lease Financing.
Course Outcomes	• Students will understand the structure of the firm-raising of finance from various resources and performance of the firm which will depend upon decision on type of source, period of financing, cost of financing and the returns thereby • Enable the students to get the knowledge of maximization of the value of the corporate firm, capital structure and valuation of capital budgeting for leveraged firm • Students will be able to understand the concept of leverage, various types of leverages, relationship among various leverages. • Student can understand the dividend policies and different types of dividend of the companies, lease financing and causes of leasing finance.
Reading List (Print and Online)	● Stephen A.Ross, Randolph W.Westerfi and Brad D.Jordan: Fundamentals of Corporate Finance, McGrew Hill. ● Pierre Vernimmen: Corporate Finance – Theory and Practice, John Wiley & Sons.

Method of Evaluation:

Internal	External	Total
25	75	100

Methods of assessment:

Recall (K1) - Simple definitions, Recall steps, Concept definitions
Understand/ Comprehend (K2) -Short essays, Concept explanations, Short summary or overview

Application (K3) - Suggest idea/concept with examples, Suggest formulae, Solve problems, Observe, Explain

Analyse (K4) - Problem-solving questions, Finish a procedure in many steps, Differentiate between various ideas, Map knowledge

Evaluate (K5) - Longer essay/ Evaluation essay

Create (K6) - Check knowledge in specific or offbeat situations, Discussion, Debating or Presentations

Map course outcomes for each course with programme outcomes (PO) in the 3-point scale of Strong, Medium and Low

	PO 1	**PO 2**	**PO 3**	**PO 4**	**PO 5**	**PO 6**	**PO 7**	**PO 8**	**PO 9**	**PO 10**
CO 1	S	S	S	S	S	S	S	S	S	S
CO 2	S	S	S	S	S	S	S	S	S	S
CO 3	S	S	S	S	S	S	S	S	S	S
CO 4	S	S	S	S	S	S	S	S	S	S
CO 5	S	S	S	S	S	S	S	S	S	S

S-Strong M-Medium L-Low

Course	Core
Title of the Course:	**Banking and Insurance**
Credits:	**4**
Pre-requisites, if any:	Basic readings in economics
Course Objectives **Recall (K1) -** List, Identify, Enumerate, Define **Understand/Comprehend (K2) -** Describe, Explain, Outline, Briefly Summarise **Apply Knowledge (K3)** - Interpret, Calculate, Select, Employ, Generalise **Analyze and Evaluate (K4 and K5) -** Compare and Contrast, Differentiate, Evaluate, Critically Assess, Review an Idea **Create (K6)** - Conceive, Theorise, Conceptualise etc	• The main objectives of the course are to: • Make the students understand the various services offered and various risks faced by banks • Make students aware of various banking innovations after nationalization • Analyze the changes in sectoral priority in banking services • Give students an overview about insurance industry • Understand various principles, provisions that govern the Life and General Insurance Contracts • know and differentiate various insurance policies available in India
Units	
I	Banks – definition-process of credit creation – reserve requirements – banking regulation act – role of RBI – type of banks – PSU banks – private and foreign banks –NABARD and rural banks – nationalisation of banks – expansion of branches and social role of banks.
II	Priority sector lending – other lending – base rate and prime lending rate – deposit mobilisation – composition of deposits and lending – consortium of banks – NPA – issues and remedies.
III	Narasimhan committee of banking reforms – changes in banking regulation – deregulation of interest rates – capital adequacy and BASEL norms – governance issues.
IV	Insurance – basic issues – definition of insurance – risk pooling and risk transfer – economic and legal perspectives –,social vs private insurance – life vs non-life insurance – classification of

	life, health and general insurance policies.
V	Expected utility and demand for insurance – moral hazard and insurance demand – concept of risk management – essentials of risk management – elements of risk management – risk assessment – risk control and risk financing – worldwide risk sharing – concept of reinsurance – fundamentals of reinsurance – types of reinsurers – reinsurance distribution systems – reinsurance markets in developing countries.
Course Outcomes	• Lean the concepts and theories in banking and insurance sectors • Identify the various challenges and scope in the Banking and Insurance Sectors • Update on financial (banking & insurance)instruments available in the market and new policies implemented by the governing bodies / government • Critically analyse the impact of govt. policies such as monetary policy on the banking and insurance sectors • Employment Opportunities in Private & public sector banks and insurance entities
Reading List (Print and Online)	● D.L.Bickelhaupt: General Insurance, Irwin Inc., Burr Ridge, Ill. ● K.Black, K. Jr. and H.D. Skipper Jr.: Life and Health Insurance, Prentice Hall. ● Nityananda V. Sharma: Banking and Financial System, Cambridge Uni. Press .

Method of Evaluation:

Internal	External	Total
25	75	100

Methods of assessment:

Recall (K1) - Concept definitions

Understand/ Comprehend (K2) -Concept explanations

Application (K3) - Suggest idea/concept with examples, Suggest formulae, Solve problems, Observe, Explain

Analyse (K4) - Problem-solving questions,

Evaluate (K5) - Critique or justify with pros and cons

Create (K6) - Debating or Presentations

Map course outcomes for each course with programme outcomes (PO) in the 3-point scale of Strong, Medium and Low

	PO 1	**PO 2**	**PO 3**	**PO 4**	**PO 5**	**PO 6**	**PO 7**	**PO 8**	**PO 9**	**PO 10**
CO 1	S	M	M	M	S	M	S	M	M	S
CO 2	S	M	M	S	S	S	S	M	S	S
CO 3	S	M	M	S	S	S	S	S	S	S
CO 4	M	M	S	S	S	S	S	S	S	S
CO 5	S	S	S	S	S	S	S	S	S	S

S-Strong M-Medium L-Low

Course	Core
Title of the Course:	**Public Finance**
Credits:	**4**
Pre-requisites, if any:	
Course Objectives **Recall (K1) -** List, Identify, Enumerate, Define **Understand/Comprehend (K2) -** Describe, Explain, Outline, Briefly Summarise **Apply Knowledge (K3)** - Interpret, Calculate, Select, Employ, Generalise **Analyze and Evaluate (K4 and K5) -** Compare and Contrast, Differentiate, Evaluate, Critically Assess, Review an Idea **Create (K6)** - Conceive, Theorise, Conceptualise etc	**1.** To enumerate the economics of public expenditure and taxation. **2.** To explain the implications of policy for efficiency and equity. **3.** To brief the economic system and verify the effects of government intervention on the behavior of individuals, households, and firms. **4.** Critically assess the principles of functioning of the budgetary system and methodological tools of public finance management. **5.** To analyze policy applications including the role of government, tax policies such as income taxes and consumption taxes, and theory of public expenditure **6.** Develop conceptual apparatus of public finances and introduce the basic techniques of increasing budgetary resource management of the state.
Units	
I	Role of government – public goods and externalities – private property and law – imperfect market and regulation – welfare state and redistribution – role of state in economic growth – public finance and public sector economics.
II	Principles of taxation – tax incidence – taxation and efficiency – optimal taxation – taxation of income and wealth – taxation of consumption and trade – taxation and environment – tax incentives, compliance and enforcement – Trends in Indian tax revenue.
III	Theories of public expenditure – measuring size of public sector – public expenditure and economic growth and development – composition of public expenditure and welfare state – public expenditure in India – trends and composition – pattern of financing deficit – FRBM – FRL – issues in union financial transfers.

IV	Fiscal policy – process of budgeting in India –classification of budgets trends – evaluation systems – types of deficits – fiscal policy – indicators — taxation – centre, state and local – public debt and management.
V	Fiscal federalism in India – theories of fiscal federalism – vertical and horizontal fiscal imbalances in India – Inter-governmental financial transfers in India – political economy of Indian fiscal federalism.
Course Outcomes	**1.** To enumerate clarity of public expenditure and revenue theories **2.** To identify the principle of optimal taxation in analyzing various governments tax policies **3.** Outline and integrate Equity and Efficiency Economics principles to analyze public expenditure and consumption **4.** Demonstrate administrative, political, and economic constraints to public finance reforms **5.** To Draft budgeting and performance evaluation systems for public sector institutions
Reading List (Print and Online)	**1.** R.A.Musgrave and P.Musgrave: Theory of Public Finance. **2.** Joseph E Stiglitz: Economics of the Public Sector. **3.** Sudipto Mundle: Public Finance: Policy Issues for India, OUP. **4.** C.Rangrajan and D.K.Srivastava: Federalism and Fiscal Transfers in India, OUP. **5.** EPW and Journal articles

Method of Evaluation:

Internal	External	Total
25	75	100

Methods of assessment:

Recall (K1) - Simple definitions,Recall steps, Concept definitions

Understand/ Comprehend (K2) -Short essays, Concept explanations, Short summary or overview

Application (K3) - Suggest idea/concept with examples, Suggest formulae, Solve problems, Observe, Explain

Analyse (K4) - Problem-solving questions, Finish a procedure in many steps, Differentiate between various ideas.

Evaluate (K5) - Longer essay/ Evaluation essay.

Create (K6) - Check knowledge in specific or offbeat situations, Discussion, Presentations

Map course outcomes for each course with programme outcomes (PO) in the 3-point scale of Strong, Medium and Low

	PO 1	**PO 2**	**PO 3**	**PO 4**	**PO 5**	**PO 6**	**PO 7**	**PO 8**	**PO 9**	**PO 10**
CO 1	S	M	M	L	L	M	M	M	S	S
CO 2	S	M	L	M	M	M	L	S	S	S
CO 3	S	L	M	M	M	M	M	L	M	S
CO 4	S	S	M	S	S	M	M	S	S	S
CO 5	S	S	M	M	L	M	L	S	S	S

S-Strong M-Medium L-Low

Course	Elective
Title of the Course:	**Econometric Applications to Finance**
Credits:	**3**
Pre-requisites, if any:	
Course Objectives **Recall (K1) -** List, Identify, Enumerate, Define **Understand/Comprehend (K2) -** Describe, Explain, Outline, Briefly Summarise **Apply Knowledge (K3)** - Interpret, Calculate, Select, Employ, Generalise **Analyze and Evaluate (K4 and K5) -** Compare and Contrast, Differentiate, Evaluate, Critically Assess, Review an Idea **Create (K6)** - Conceive, Theorise, Conceptualise etc	The main objectives of the course are to: • Equip students with various forecasting techniques and knowledge. Develops clear understanding of different forecasting models • Understand difference between cross section and time series data • Decomposing various components of time series analysis • Understating the data generating process • Predict / forecast the future values of the time series using advanced models • Compare various time series models and choosing appropriate model for forecasting series with different data structures
Units	
I	Classical time series analysis – utility of time series analysis – components of time series data – measurement of trend, seasonality and cycles – moving averages and smoothing techniques to time series analysis - classical time Series decomposition models – additive and multiplicative models – forecasting using smoothing techniques and time series decomposition methods – applications in finance .
II	Tools of modern time series analysis – **s**tochastic and stationary process – tests of stationary – trend vs difference stationery process – Dickey-Fuller and augmented Dickey-Fuller tests – spurious regression and co-integration of time series – Engle-Granger test – CRDW test – error correction mechanism.
III	Univariate time series analysis and forecasting – linear time series analysis – autocorrelation function and partial auto-correlation

	function – auto-regressive (AR) models, moving average (MA) models, Box-Jenkins (BJ) ARMA and ARIMA models – identification – estimation and forecasting with ARIMA models – economic applications.
IV	Multivariate time series analysis and forecasting – vector autoregressive (VAR) models – advantages and problems – estimation and forecasting with VAR – impulse response function – Johansen Co-integration test on VAR – Granger causality test – applications in finance.
V	Modeling volatility and auto-correlation in time series – **m**otivation and test for non-linearity – historical and implied volatility – auto-regressive conditional hetroscdasticity (ARCH) model – generalised ARCH model – applications in finance.
Course Outcomes	• Understand the advantage and necessity of forecasting in various situations • Define and decompose time series components, Explain trend, seasonality, cyclicality and irregularity • Use a range of time series models to produce forecasts • Know how to choose an appropriate forecasting method in a particular environment. • Improve forecast with better statistical models (ARIMA, VAR, ARCH, GARCH, etc.) • Develop fundamental research skills (such as data collection, data processing, and model estimation and interpretation) in applied time series analysis. Apply ideas to real world time series data and interpret outcomes of analyses
Reading List (Print and Online)	● D.N.Gujarati and Sangeetha: Basic Econometrics, Tata McGraw-Hill. ● Chris Brooks: Introductory Econometrics for Finance, Cambridge University Press. ● T.M.J.A. Cooray: Applied Time Series – Analysis and Forecasting, Narosa Publications.

Method of Evaluation:

Internal	External	Total
25	75	100

Methods of assessment:

Recall (K1) - Concept definitions
Understand/ Comprehend (K2) - Concept explanations.
Application (K3) - Solve problems, Observe, Explain
Analyse (K4) - Problem-solving questions, Finish a procedure in many steps,
Evaluate (K5) - Critique or justify with pros and cons
Create (K6) -Debating or Presentations

Map course outcomes for each course with programme outcomes (PO) in the 3-point scale of Strong, Medium and Low

	PO 1	**PO 2**	**PO 3**	**PO 4**	**PO 5**	**PO 6**	**PO 7**	**PO 8**	**PO 9**	**PO 10**
CO 1	M	S	M	S	S	M	S	S	S	S
CO 2	S	M	S	S	M	S	M	L	M	S
CO 3	S	S	S	S	S	S	S	S	S	S
CO 4	S	M	M	S	S	S	S	S	S	S
CO 5	S	S	S	S	M	S	S	S	M	S

S-Strong M-Medium L-Low

Course	Elective
Title of the Course:	**Industrial Economics**
Credits:	**3**
Pre-requisites, if any:	
Course Objectives **Recall (K1) -** List, Identify, Enumerate, Define **Understand/Comprehend (K2) -** Describe, Explain, Outline, Briefly Summarise **Apply Knowledge (K3)** - Interpret, Calculate, Select, Employ, Generalise **Analyze and Evaluate (K4 and K5) -** Compare and Contrast, Differentiate, Evaluate, Critically Assess, Review an Idea **Create (K6)** - Conceive, Theorise, Conceptualise etc	• This course aims at providing an in-depth knowledge in theories of product pricing, public utilities and market structure. • The objective of the course is to provide knowledge of the industrialisation in India. • To provide knowledge about the measurement of productivity numerically by using the mathematical techniques. • To introduce to the students, the functions and role of the various domestic as well as international financial institutions for industrial development. • To provide knowledge about the role of the ILO and WTO, impact of ICT on industrialisation and impact LPG on MNCs .
Units	
I	Firm and organisation – Hoffman's hypothesis of market economies – Simon Kuznet's concept of secular changes in industrial development – Chenery's patterns of industrial change – theories of industrial location – Weber and Sargent Florence – product differentiation – market concentration – economies of scale – market structure – diversification of the firm, size and growth, profitability, productivity, efficiency and capacity utilisation of firm – theories of product pricing – pricing of public utilities.
II	Industrialisation in India – trends and pattern – public and private sectors – industrial growth in India – large, medium and small scale industries – capital and consumer goods industries – industrial policy – public-private partnership – exports and imports – issues in industry – productivity – concentration, employment and labour – social security – technology – industrial relations –

	exit policy – industrial finance – sickness – trade unions – disputes – regulation – manufacturing policies.
III	Institutional finance – ICICI, EXIM Bank, NHB, IDBI, IFCI, IIBI , SFCs, NIDC, SIDBI, SIDCS, UTI, LIC, General Insurance Corporations, commercial banks – international finance – FDI – joint ventures – domestic market resources.
IV	**S**ervice sector in India – growth – pattern – share in employment, trade, exports – impact of ICT on industrialisation.
V	International organisations and industry – ILO – WTO – bilateral and multilateral trade agreements – MNCs – impact of globalisation, privatisation and liberalisation.
Course Outcomes	• The students will be able to learn the determinants of the size and structure of firms' market. • This outcome equips the students to understand the the pricing behaviour by firms with market power, product differentiation and price discrimination. • The students will be able to understand the basic principles of public-private partnership, industrial relations and policies. • The students learn the functions and role of the various financial institutions for industrial development. • Student can understand the effect of ICT on industrialisation and impact of LPG on MNCs.
Reading List (Print and Online)	● R.R.Barthwal: Industrial Economics, Wiley Eastern Ltd. ● F.Cherunilam: Industrial Economics: Indian Perspective, Himalaya. ● S.C.Kuchhal: Industrial Economy of India, Chaitanya Publishing House. ● Reserve Bank of India: Report on Currency and Finance.

Method of Evaluation:

Internal	External	Total
25	75	100

Methods of assessment:

Recall (K1) - Simple definitions, Concept definitions

Understand/ Comprehend (K2) -Short essays, Concept explanations, Short summary or overview

Application (K3) - Observe, Explain

Analyse (K4) - Differentiate between various ideas.

Evaluate (K5) - Longer essay.

Create (K6) - Discussion, Presentations

Map course outcomes for each course with programme outcomes (PO) in the 3-point scale of Strong, Medium and Low

	PO 1	**PO 2**	**PO 3**	**PO 4**	**PO 5**	**PO 6**	**PO 7**	**PO 8**	**PO 9**	**PO 10**
CO 1	S	L	L	M	M	M	S	L	M	S
CO 2	L	M	L	M	S	M	S	M	M	M
CO 3	M	M	M	M	S	M	M	M	M	M
CO 4	M	M	L	M	S	M	M	M	M	M
CO 5	M	M	L	M	S	M	M	M	M	M

S-Strong M-Medium L-Low

Course	**Core**
Title of the Course:	**International Finance**
Credits:	**4**
Pre-requisites, if any:	
Course Objectives **Recall (K1) -** List, Identify, Enumerate, Define **Understand/Comprehend (K2) -** Describe, Explain, Outline, Briefly Summarise **Apply Knowledge (K3)** - Interpret, Calculate, Select, Employ, Generalise **Analyze and Evaluate (K4 and K5) -** Compare and Contrast, Differentiate, Evaluate, Critically Assess, Review an Idea **Create (K6)** - Conceive, Theorise, Conceptualise etc	• The main objectives of the course are to: • Explain Theory of International Trade with Theory of Absolute and Comparative Advantages • Explain liberalization of international trade, Evaluate globalization and developments in international trade • Explain exchange markets, and exchange rate systems • Understanding Balance of Payments and learn mechanisms in adjusting BoP disequilibrium • Explain international monetary systems, gold standard, and Bretton- Woods Systems, role of IMF, and World Bank • Relate relationship between Theory of Foreign Trade and Economic Development
Units	
I	International Trade & Finance – Gains from trade – Patterns of trade – How much to trade – national Income accounting for open economy – Current account, capital account and foreign indebtedness - concepts of balance of payments and Exchange rates
II	Foreign Exchange Markets – Domestic and foreign prices – Exchange rate and relative prices – Characteristics of foreign Exchange markets - Spot Rates, forward rates, financial Swaps - Futures and options - Demand for foreign currency assets
III	Interest rates and Exchange rates – interaction of Money supply and demand for money – Money supply and exchange rate in short run – Linking money, interest rate and exchange rate – Money supply and price level Inflation and exchange rate dynamics – Price level and

	exchange rate in the long run – Purchasing power parity – International interest rate differences and real exchange rates
IV	Fixed Exchange rates and foreign exchange intervention – Why study fixed exchange rates – Sterilization – Stabilization policies with fixed exchange rates – Adjustments to fiscal and monetary policy and exchange rate changes
V	Optimum currency areas and the Euro – What is optimal currency area - How European single currency evolved – The theory of Optimum currency areas, Economic integration and benefits of exchange rates – Decision to join a currency area - Euro crisis and future of EMU
Course Outcomes	• Understand the theories and models of Supply and Demand within the context of International Trade. • Establishes the relationship between foreign trade theory and economic development and Explain liberalization of world trade, and international trade through agreements such as GATT, TRIPS, etc. • Impart knowledge in exchange markets, and analyze exchange rate systems • Analyze international monetary systems and its importance, Evaluate role of IMF, and World Bank in international monetary systems • Gain in-depth knowledge on Foreign Payments Balance-influences, causes and importance of disequilibrium in the balance of payments and adjustment mechanism
Reading List (Print and Online)	1. Paul R. Krugman, Maurice Obstfeld, Marc Melitz, (2017), "International Finance: Theory and Policy" (10th Edition), Pearson Publications 2. Pilbean, Keth (2006) "International Finance", Third Edition, Palgrave Macmillan, New York. 3. Sercu, Piet (2009) "International Finance Putting Theory into Practice", Princeton University Press, London.
Recommended Texts	https://www.worldbank.org/en/home https://www.un.org/en/ https://www.wto.org/ https://www.adb.org/ https://europa.eu/european-union/index_en

Method of Evaluation:

Internal	External	Total
25	75	100

Methods of assessment:
Recall (K1) - Simple definitions, Recall steps, Concept definitions
Understand/ Comprehend (K2) - Short essays, Concept explanations, Short summary or overview
Application (K3) - Suggest idea/concept with examples, Suggest formulae, Solve problems, Observe, Explain
Analyse (K4) - Problem-solving questions, Finish a procedure in many steps, Differentiate between various ideas,
Evaluate (K5) - Longer essay/ Evaluation essay,
Create (K6) - Check knowledge in specific, Discussion, Presentations

Map course outcomes for each course with programme outcomes (PO) in the 3-point scale of Strong, Medium and Low

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10
CO 1	S	S	L	M	M	S	M	M	S	S
CO 2	S	S	S	S	M	M	M	M	S	S
CO 3	S	S	M	S	S	M	S	S	S	S
CO 4	S	S	M	M	S	M	M	M	S	S
CO 5	S	M	M	M	S	M	M	M	S	S

S-Strong M-Medium L-Low

Course	**Core**
Title of the Course:	**Financial Derivatives**
Credits:	**4**
Pre-requisites, if any:	
Course Objectives **Recall (K1) -** List, Identify, Enumerate, Define **Understand/Comprehend (K2) -** Describe, Explain, Outline, Briefly Summarise **Apply Knowledge (K3)** - Interpret, Calculate, Select, Employ, Generalise **Analyze and Evaluate (K4 and K5) -** Compare and Contrast, Differentiate, Evaluate, Critically Assess, Review an Idea **Create (K6)** - Conceive, Theorise, Conceptualise etc	**1.** Enumerate the knowledge of all aspects of derivative market and the role they play in the financial markets **2.** Briefly summarize how derivative instruments can be used to hedge and evaluate risk, and pay-offs associated with trading the financial instruments **3.** Employ the risk management and trading strategies using futures and options **4.** Evaluate the techniques used to value options and the factors that determine the valuation **5.** Critically assess the four major types of derivatives: forwards, futures, options, and swaps **6.** Conceptualize the economic functions of hedging and speculating
Units	
I	Introduction – forward and futures markets – cost of carry model for futures and forwards – risk management – using futures and forwards – how and why do firms hedge?
II	Options and their payoffs – option markets – risk neutral valuation – binomial option pricing model.
III	Black-Scholes option pricing model – uses of options – simple option strategies – the Greeks of the Black-Scholes model.
IV	Warrants and convertible bonds – interest rate and currency swaps – caps floors and swaption.
V	Derivatives accounting – corporate risk management –risk management in financial institutions.
Course Outcomes	**1.** Summarize financial context and critically assess the role of financial derivatives

	2. Compare and contrast the derivative contracts **3.** Outline the pricing of forwards/futures, swaps, and options contracts **4.** Explain the hedging techniques of financial derivatives **5.** Demonstrate the trading strategies using derivatives
Reading List (Print and Online)	**1.** Jayanth Varma: Derivatives and Risk Management, Tata McGraw Hill. **2.** N.R.Parasuraman: Fundamentals of Financial Derivatives, Wiley India Limited. **3.** Susan Thomas: Derivatives Markets in India, Tata McGraw Hill.

Method of Evaluation:

Internal	External	Total
25	75	100

Methods of assessment:

Recall (K1) - Simple definitions,Recall steps, Concept definitions

Understand/ Comprehend (K2) -Short essays, Concept explanations, Short summary or overview

Application (K3) - Suggest idea/concept with examples, Suggest formulae, Solve problems, Observe, Explain

Analyse (K4) - Problem-solving questions, Finish a procedure in many steps.

Evaluate (K5) - Longer essay/ Evaluation essay.

Create (K6) - Check knowledge in specific, Discussion.

Map course outcomes for each course with programme outcomes (PO) in the 3-point scale of Strong, Medium and Low

	PO 1	**PO 2**	**PO 3**	**PO 4**	**PO 5**	**PO 6**	**PO 7**	**PO 8**	**PO 9**	**PO 10**
CO 1	S	M	M	S	S	M	S	M	S	S
CO 2	S	M	M	S	M	S	S	M	M	S
CO 3	S	M	L	S	M	S	S	S	M	S
CO 4	M	L	M	S	M	M	M	S	S	M
CO 5	M	M	M	S	S	S	M	M	S	M

S-Strong M-Medium L-Low

Course	Core
Title of the Course:	**Behavioral Finance**
Credits:	**4**
Pre-requisites, if any:	
Course Objectives **Recall (K1) -** List, Identify, Enumerate, Define **Understand/Comprehend (K2) -** Describe, Explain, Outline, Briefly Summarise **Apply Knowledge (K3)** - Interpret, Calculate, Select, Employ, Generalise **Analyze and Evaluate (K4 and K5) -** Compare and Contrast, Differentiate, Evaluate, Critically Assess, Review an Idea **Create (K6)** - Conceive, Theorise, Conceptualise etc	**1.** Identify what behavioral finance is, how it differs from modern and traditional finance, and how it impacts financial markets **2.** Describe the self-deception biases, their causes, and potential measures that can be taken to prevent them **3.** Interpret the Heuristics and biases in investment behavior **4.** Critically analyze the financial anomalies and equity premium puzzle **5.** Review an idea on January effect, small firm effect, and winner's curse **6.** Theorize the behavioral corporate finance and conceptualize the performance of investment managers
Units	
I	Standard financial theories and criticism – efficient markets hypothesis (EMH) evidence against EMH – theoretical foundations of efficient markets – limits to arbitrage – what hampers arbitrage exploitation? – BF model of an asset market – DeLong, Shleifer, Summers, Waldmann Model (DSSW model) – current BF research on financial markets.
II	Behaviourial finance – Kahnemenn and Tversky prospect theory – loss aversion – understanding of frame dependence – frame and accessibility – framing outcomes – framing and weighting of events – framing consequences – decision-making under risk – narrow framing – framing and mental accounting framing and insurance decisions.
III	Heuristics and biases in investment behavior – familiarity and investment – diversification heuristics – 1/n buffet rule –

	representativeness and investment – path dependence.
IV	Financial anomalies – January effect and small firm effect – winner's curse – equity premium puzzle – value premium puzzle.
V	Behavioural corporate finance – agency problem – performance of investment managers – IPOs – corporate social responsibility.
Course Outcomes	**1**. Employ analytical skills for financial decision-making. **2.** Critically assess the key anomalies in the markets proving the behavioral biases **3.** Review the behavioral bias and psychological characteristics of investors. **4.** Compare and contrast the expected utility theory with the prospect theory **5.** Recognize the nature and forecast the consequences of key behavioral biases of investors
Reading List (Print and Online)	**1.** Lucy Ackert and Richard Deaves: Behavioral Finance: Psychology, Decision Making, and Markets, Cengage Learning, USA. **2.** William Forbes: Behavioural Finance, Wiley, London.

Method of Evaluation:

Internal	External	Total
25	75	100

Methods of assessment:

Recall (K1) - Simple definitions,Recall steps, Concept definitions
Understand/ Comprehend (K2) -Short essays, Concept explanations, Short summary or overview
Application (K3) - Suggest idea/concept with examples, Solve problems, Observe, Explain
Analyse (K4) - Problem-solving questions, Finish a procedure in many steps, Differentiate between various ideas,
Evaluate (K5) - Longer essay/ Evaluation essay,
Create (K6) - Check knowledge in specific or offbeat situations, Discussion, Debating or Presentations

Map course outcomes for each course with programme outcomes (PO) in the 3-point scale of Strong, Medium and Low

	PO 1	**PO 2**	**PO 3**	**PO 4**	**PO 5**	**PO 6**	**PO 7**	**PO 8**	**PO 9**	**PO 10**
CO 1	S	M	M	M	M	S	S	M	M	S
CO 2	S	M	S	M	M	M	M	M	S	S
CO 3	S	M	M	S	S	S	M	M	S	S
CO 4	S	M	S	M	S	M	S	S	S	S
CO 5	M	M	M	M	M	L	M	M	S	S

S-Strong M-Medium L-Low

Course	Elective
Title of the Course:	**International Economics**
Credits:	**3**
Pre-requisites, if any:	Basic knowledge in Economic concepts
Course Objectives **Recall (K1) -** List, Identify, Enumerate, Define **Understand/Comprehend (K2) -** Describe, Explain, Outline, Briefly Summarise **Apply Knowledge (K3) -** Interpret, Calculate, Select, Employ, Generalise **Analyze and Evaluate (K4 and K5) -** Compare and Contrast, Differentiate, Evaluate, Critically Assess, Review an Idea **Create (K6) -** Conceive, Theories, Conceptualise etc	The main objectives of the course are to: • Explain Theory of International Trade with Theory of Absolute and Comparative Advantages • Explain liberalization of international trade, Evaluate globalization and developments in international trade • Explain exchange markets, and exchange rate systems • Understanding Balance of Payments and learn mechanisms in adjusting BoP disequilibrium • Explain international monetary systems, gold standard, and Bretton- Woods Systems, role of IMF, and World Bank • Relate relationship between Theory of Foreign Trade and Economic Development
Units	
I	Theories of international trade – Adam Smith – David Ricardo – Heckscher Ohlin – factor accumulation – Rybczynski theorem – technical progress and international trade.
II	International trade policy – partial equilibrium analysis – general equilibrium analysis – distortions in domestic markets – imperfect competition.
III	Protection – types – agreements – theory of customs – import substitutions vs export promotion.
IV	BOP – market for foreign exchange – foreign trade and national income – capital movement.
V	: Exchange rate – determination of floating exchange rate – macro economics policy and exchange rate – exchange rate and policy coordination.
Course Outcomes	• Understand the theories and models of Supply and Demand within the context of International Trade. • Establishes the relationship between foreign trade theory and economic development • Explain liberalization of world trade, and international trade

	through agreements such as GATT, TRIPS, etc. • Impart knowledge in exchange markets, and analyze exchange rate systems • Analyze international monetary systems and its importance, Evaluate role of IMF, and World Bank in international monetary systems • Gain in-depth knowledge on Foreign Payments Balance-influences, causes and importance of disequilibrium in the balance of payments and adjustment mechanism5
Reading List (Print and Online)	• Carbaugh: International Economics, Thompson South – Western, New Delhi. • Paul Krugman and Maurice Obstfeld: International Economics: Theory and Policy, Pearson-Addison Wesley. • Bo Sodersten and Reed Geoffrey: International Economics, Macmillan Press Ltd.

Method of Evaluation:

Internal	External	Total
25	75	100

Methods of assessment:

Recall (K1) - Concept definitions

Understand/ Comprehend (K2) -Concept explanations.

Application (K3) - Suggest idea/concept with examples,

Analyse (K4) - Problem-solving questions,

Evaluate (K5) - Critique or justify with pros and cons

Create (K6) – Discussion.

Map course outcomes for each course with programme outcomes (PO) in the 3-point scale of Strong, Medium and Low

	PO 1	**PO 2**	**PO 3**	**PO 4**	**PO 5**	**PO 6**	**PO 7**	**PO 8**	**PO 9**	**PO 10**
CO 1	S	M	M	S	S	S	M	M	M	S
CO 2	S	S	S	S	S	S	S	S	S	S
CO 3	S	M	M	S	S	S	S	M	S	S
CO 4	S	M	M	S	S	S	S	M	S	S
CO 5	S	S	S	S	S	S	S	S	S	S

S-Strong M-Medium L-Low

Course	Elective
Title of the Course:	**Indian Economic Issue**
Credits:	**3**
Pre-requisites, if any:	
Course Objectives **Recall (K1) -** List, Identify, Enumerate, Define **Understand/Comprehend (K2) -** Describe, Explain, Outline, Briefly Summarise **Apply Knowledge (K3)** - Interpret, Calculate, Select, Employ, Generalise **Analyze and Evaluate (K4 and K5) -** Compare and Contrast, Differentiate, Evaluate, Critically Assess, Review an Idea **Create (K6)** - Conceive, Theorise, Conceptualise etc	1. To make awareness among the students about various economic issues, Obstacles to economic development, occupational pattern, etc. 2. To understand the causes of economic and non-economic factors and obstacle in economic development. 3. To provide a strong knowledge of various economic planning and policies based on India's economy. 4. To enrich the knowledge of students related to trends and growth of different sectors, export and import, capital formation, infrastructure in the Indian economy. 5. To give the awareness about the various globalisation issues of trade, climate, etc.
Units	
I	Economic and human development issues – non-economic factors in economic development – natural resource allocation issues – human and gender empowerment issues – education and health issues – environment and climate change issues – setting standards.
II	Basic issues in agriculture sector – agricultural costs and pricing – land holding and productivity issues – irrigation, fertilizer, price, power subsidy issues – WTO and Indian agriculture – agricultural growth concerns – conditions and problems of agricultural laborers – measures for improvement.
III	Issues in industrial sector – industrial production and productivity issues – problems of industrial development – performance issues – sick industries – industrial policies – industrial finance – MNCs and

	FDI issues – global standards and impacts – subsidies and taxation issues**.**
IV	Issues in service sector – growth and contribution of service sector in India – service sector employment growth – ICT development in India – IT and ITES industry – sustainability of service led growth in India.
V	Poverty and income distribution in India – concept of poverty line – incidence of poverty and multi-dimensional poverty – poverty alleviation programmes and strategies adopted in India – patterns of income distribution in India – causes of income inequalities – government policy measures to bridge gap – issues in employment programmes.
Course Outcomes	1. Students would become familiar with factors affecting economic growth and development, measurement of GDP PCI, HDI, etc 2. Students will be aware of the causes of various obstacles factors to an economic development and how different factors have affected this process. 3. Students will be able to understand how planning and infrastructure support can develop an economy. 4. Student will get knowledge about the economic five year planning, relationship between monetary policy, fiscal policy and economic development. Help the students in understanding the performance of the different sectors of the Indian Economy 5. Students will get to know about various economic issues at national and global levels.
Reading List (Print and Online)	● R. Dutt and K.P.M. Sundharm: Indian Economy, S. Chand & Co. ● S.K.Misra and V.K.Puri: Indian Economy, Himalaya Publication House. ● S.K.Misra and V.K.Puri: Economics of Development and Planning, Himalaya. ● Debraj Ray: Development Economics. ● Government of India: Economic Surveys.

Method of Evaluation:

Internal	External	Total
25	75	100

Methods of assessment:
Recall (K1) - Simple definitions, Recall steps, Concept definitions

Understand/ Comprehend (K2) -Short essays, Concept explanations, Short summary or overview

Application (K3) - Suggest idea/concept with examples, Observe, Explain

Analyse (K4) - Differentiate between various ideas.

Evaluate (K5) - Longer essay.

Create (K6) - Check knowledge in specific, Discussion,Presentations

Map course outcomes for each course with programme outcomes (PO) in the 3-point scale of Strong, Medium and Low

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10
CO 1	S	S	S	S	S	S	M	S	M	S
CO 2	M	M	M	M	M	M	M	M	M	M
CO 3	S	M	S	M	M	M	M	M	M	M
CO 4	S	S	M	S	M	M	S	M	M	M
CO 5	S	S	M	M	M	M	M	M	M	M

S-Strong M-Medium L-Low

Course	Elective
Title of the Course:	**Industrial Organisation**
Credits:	**3**
Pre-requisites, if any:	
Course Objectives **Recall (K1) -** List, Identify, Enumerate, Define **Understand/Comprehend (K2) -** Describe, Explain, Outline, Briefly Summarise **Apply Knowledge (K3)** - Interpret, Calculate, Select, Employ, Generalise **Analyze and Evaluate (K4 and K5) -** Compare and Contrast, Differentiate, Evaluate, Critically Assess, Review an Idea **Create (K6)** - Conceive, Theorise, Conceptualise etc	• The objective of the course is to provide information regarding market imperfect competition, product quality and price discrimination. • To provide information about monopoly and oligopoly markets barriers and price rigidity in the field of Industrial Organisation. • To provide knowledge on the quality product competition and differentiation. • To provide an awareness and understanding of innovation, patent networks and standards.
Units	
I	Imperfect competition and market distortions – pricing – rent seeking – costs – strategies of firms – product quality – asymmetric information – discrimination – advertisement.
II	Monopoly and regulation – barriers – Oligopoly models – Cournot, Bertrand, Hotelling, Stackelberg, Spencer-Dixit models – collusion – price wars – quality competition – price rigidity.
III	Vertical control – product differentiation – spatial competition – dynamic price competition – tacit collusion – cartel – entry costs – accommodation – merger – acquisition – exit – reputation – limit pricing – Milgrom-Roberts model – predation.
IV	Contestable markets – R&D – innovation – patent networks – networks and standards – joint ventures.

V	Concentration and market power – structure, conduct and performance theory – persistence of long run profits.
Course Outcomes	• By the end of the course, the student will acquire a theoretical understanding of market asymmetric information and discrimination. • The students will be able to understand the product quality competition and price rigidity in the markets. • . • This outcome equips the student's knowledge about product differentiation and dynamic price competition. • Students will be able to understand the importance of innovation, R&D and patent networks. • The students will obtain knowledge related to market power, market structure and long run profits.
Reading List (Print and Online)	● Jean Tirole: The Theory of Industrial Organisation, Prentice Hall. ● Luis Cabral: Introduction to Industrial Organisation, MIT Press. ● Dennis W.Carlton and Jeffrey M. Perloff: Modern Industrial Organisation, Cambridge University Press.

Method of Evaluation:

Internal	External	Total
25	75	100

Methods of assessment:

Recall (K1) - Simple definitions, Concept definitions

Understand/ Comprehend (K2) -Short essays, Concept explanations, Short summary or overview

Application (K3) - Suggest idea/concept, Explain

Analyse (K4) - Differentiate between various ideas.

Evaluate (K5) - Longer essay.

Create (K6) - Check knowledge, Discussion, Presentations.

Map course outcomes for each course with programme outcomes (PO) in the 3-point scale of Strong, Medium and Low

	PO 1	**PO 2**	**PO 3**	**PO 4**	**PO 5**	**PO 6**	**PO 7**	**PO 8**	**PO 9**	**PO 10**
CO 1	S	M	M	S	S	S	S	L	S	S
CO 2	M	M	M	M	M	M	M	M	M	M
CO 3	M	M	M	M	M	M	M	M	M	M
CO 4	M	M	M	M	M	M	M	M	L	M
CO 5	M	M	M	M	M	M	M	M	L	M

S-Strong M-Medium L-Low