



CHRIST
(DEEMED TO BE UNIVERSITY)
LAVASA, PUNE, INDIA

Department of Commerce & Management
CHRIST (Deemed to be University),
LAVASA

Syllabus for 2020-2023
Bachelor of Commerce- Financial Analytics

DEPARTMENT OVERVIEW

The Department of Commerce and Management, CHRIST (Deemed to be University), Lavasa endeavours to develop and foster students who excel in academics as well as holistic individuals anchored to a strong value system. Analytics being the thrust area of the Department, it offers two programme viz; Bachelor in Commerce – Financial Analytics and Bachelor in Business Administration- Business Analytics. The focus of student training involves imparting knowledge in Finance, Accounting and Analytics as a core area. In addition to knowledge based activities students are exposed to Industrial visits, guest lectures by Corporates, Inter- Collegiate meet. The students gain industry exposure through internships and which are phased out in the first 2 years culminating in a live-project towards the end of the third year of the programme. Inter-disciplinary open electives, skill enhancement certificate programmes and capstone projects are some of the other highlights of the programmes offered.

VISION

To be the pioneer department in Finance and Business Analytics as an amalgam of Commerce and Management education

MISSION

To impart impactful training nurturing young minds through knowledge driven education in Commerce & Management and Analytics

B.Com (Financial Analytics)

Bachelor of Commerce program at Christ (Deemed to be University) offers significant flexibility and diversity for students. The program is designed with special focus on finance, accounting and analytics. Students will acquire the skills and knowledge to meet the challenges of a changing business environment and financial markets, develop the ability to critically analyse emerging business issues, and interpret insights from huge amount of financial data. The University also gives special importance to expose student community to scholarly research in the national and global business arena. Achieving these academic and professional qualities will lead a commerce graduate to a wide range of business-related professions and careers, or progress to more advanced studies.

The degree comprises core courses on Commerce embedded with courses like Introduction to Business Analytics, Data Visualisation softwares, Basics of R programming. The discipline specific mandatory courses include Applied Excel, Financial modelling are geared towards analysis of financial data. Inter-disciplinary

open electives, skill enhancement certificate programs certified by Moody's Analytics, projects and internships are certain other unique aspects of this program.

B.Com – Financial Analytics Programme Objectives

- To prepare students to become a Financial Analyst
- To inculcate domain knowledge in Commerce with focus on Finance and Accounting
- To train students to be industry-ready through application of analytical tools

B.Com- Financial Analytics Programme outcomes

- Student will be prepared to use their competencies in financial analysis and decision making
- Pursue career in the field of Risk management, Investment banking and allied professions in the field of Finance and Accounting
- Gain experiential learning through well-structured internships and live-projects.

CHRIST (Deemed to be University), LAVASA
Department of Commerce
Syllabus for Bachelor of Commerce- Financial Analytics
2020-2023 batch

SEMESTER 1

Course Code	Course Title	Course Type	No. of Hrs/ week	Marks	Credits
COA131L	Financial Accounting	Core	4	100	4
COA132L	Business Mathematics	Core	4	100	4
COA133L	Principles & Practice of Management	Core	4	100	4
COA134L	Business Economics	Core	4	100	4
AEN121L	Language	AECC	3	50	2
ENG121L	English	AECC	3	50	2
COA161L	Basics of Programming	GE	2	100	2
COA111L	Overview of Financial system	SEC	3	Grade	-
HOL111L	Holistic Education	SEC	1	Grade	--
COA112L	Introduction to Microsoft Excel	SEC	2	50	2
	TOTAL		30		24

SEMESTER II

Course Code	Course Title	Course Type	No. of Hrs/week	Marks	Credits
COA231L	Corporate Accounting-I	Core	4	100	4
COA232L	Business Environment	Core	4	100	4
COA233L	Business Statistics	Core	4	100	4
COA234L	Introduction to Business Analytics	Core	4	100	4
AEN221L	Language	AECC	3	50	2
ENG221L	English	AECC	3	50	2
COA212L	Applied Capital markets	Certification course SEC	3	Grade	-
COA261L	Introduction to Web Scraping	GE	2	100	2
	Environmental Studies	AECC	--	Grade	2
HOL211L	HED	SEC	1	Grade	1
	TOTAL		28		25

SEMESTER III					
Course Code	Course Title	Course Type	No. of Hrs/week	Marks	Credits
COA331L	Corporate Accounting II	Core	4	100	4
COA332L	Management Accounting	Core	4	100	4
COA333L	Basics of R programming for Analytics	Core	4	100	4
COA334L	Research Methodology	Core	4	100	4
COA335L	Machine Learning	Core	4	100	4
COA361L	Environmental Social Governance	GE	2	100	2
COA311L	Introduction to global investment & securities- CISI	SEC	2		1
COA382L	Organization study	SEC	-	Grade	1
COA313L	Advanced excel for financial modeling	Certification course SEC	3	Grade	-
HOL333L	HED	SEC	1	Grade	-
	TOTAL		28		24

SEMESTER IV

Course Code	Course Title	Course Type	No. of Hrs/week	Marks	Credits
COA431L	Financial Management	Core	4	100	4
COA432L	Introduction to Data Visualisation tools	Core	4	100	4
COA433L	Practices of Banking and Insurance	Core	4	100	4
COA434L	Auditing and Corporate governance	Core	4	100	4
COA435L	Cost Accounting	Core	4	100	4
COA436L	Business Law	Core	4	100	4
COA461L	Dynamics of Indian Society	GE	2		2
COA414L	ADVANCED R AND PYTHON FOR FINANCIAL ANALYTICS	Certification course SEC	3	Grade	0
COA415L	BUSINESS ETHICS	SEC	2	50	2
HOL416L	HED	SEC	1	Grade	1
	TOTAL		32		29

SEMESTER V					
Course Code	Course Title	Course Type	No. of Hrs/week	Marks	Credits
COA541L	Financial Modelling (including Time series analysis)	DSE	4	100	4
COA542L	Big data Analytics	DSE	4	100	4
COA531L	Taxation Laws	Core	4	100	4
COA532L	Advanced Accounting	Core	4	100	4
COA533L	Risk analytics (Risk in financial Services)	Core	4	100	4
COA534L	Strategic Financial management	Core	4	100	4
COA581L	Capstone project- Analytics	SEC	-	50	2
COA515L	APPLIED FINANCIAL MODELING WITH EXCEL VBA(MOODY'S) -	Certification course SEC	3	GRADE	-
	TOTAL		27		26

SEMESTER VI

Course Code	Course Title	Course Type	No. of Hrs/week	Marks	Credits
COA641L	Investment Analysis and Portfolio Management (should include Portfolio analytics)	DSE	4	100	4
COA642L	Introduction to Artificial Intelligence	DSE	4	100	4
COA631L	Accounting Standards & Financial Reporting	Core	4	100	4
COA632L	Financial securities and derivatives	Core	4	100	4
COA633L	International Finance	Core	4	100	4
COA634L	Entrepreneurship Development	Core	4	100	4
COA681L	Capstone project- Analytics	SEC	-	100	2
COA616L	ANALYTICS WITH BLOOMBERG/REUTERS	Certification course	3	GRADE	-
	Indian Constitution	AECC			1
	TOTAL		27		27

SEMESTER	CREDITS
I	24
II	25
III	24
IV	29
V	26
VI	27
TOTAL	155

Semester I: **Course: Financial Accounting**

Course Code: COA131L
Total Credits: 04

Course Type: Core
Total Hours: 60

Course Description:

Accounting is referred as the language of business. This course presents the underlying framework and concepts of Financial Accounting in the context of how accounting fits into the overall business environment of contemporary society. This course on Financial Accounting is offered as a compulsory paper in the first semester. Students will learn how accounting is an information development and communication system that supports economic decision-making and provides value to entities and society. As a prerequisite, the students should be having basic knowledge of Accountancy.

Course Objective:

- To equip the students with the knowledge of different aspects of accounting including valuation of stock in case of fire.
- To acquaint the students with accounting for Hire Purchase and Installment Systems.
- To develop understanding of students in allocation of common expenses and incomes, preparation of final accounts of branches.
- To familiarize them with the treatment in case of sale of Partnerships.
- To develop accounting knowledge relating to Royalty accounts.
- To accustom them with the conversion of single entry to double entry system of maintenance of accounts.

Unit 1: Insurance Claim

Hours: 10

Level of Knowledge: Conceptual and Working

Introduction – Need – loss of stock policy – preparation of statement to ascertain value of stock on the date of fire – Treatment of salvage – valuation of stocks prior to date of fire – calculation of GP Ratio when GP Ratio is not given – Treatment of Average Clause, Treatment of Abnormal items.

Unit 2: Accounting for Hire Purchase and Installment Systems

Hours: 10

Level of Knowledge: Conceptual and Working

Hire Purchase - Meaning - Legal provisions, [including repossession, only theory] - Calculation of interest - when rate of interest and cash price is given - when cash price and total amount payable is given when rate of interest and installments amount are given but cash price is not given - Calculation of cash price under annuity method - Journal entries and Ledger accounts in the books of hire-purchaser and hire-vendor. Installment system- Meaning - Difference between hire purchase and installment system (Theory only).

Unit 3: Accounting for Inland Branches

Hours: 14

Level of Knowledge: Conceptual and Working

Concept of dependent branches, Accounting aspects, Debtors system. Independent branches: Concept- Accounting treatment: important adjustment entries.

Unit 4: Sale of the Partnership Firm

Hours: 16

Level of Knowledge: Conceptual and Working

Sale to a limited company - Introduction - need for conversion - meaning of purchase consideration - methods of calculating purchase consideration - net payment method - net asset method - passing of journal entries and preparation of ledger accounts in the books of vendor-treatment of certain items-dissolution expenses-unrecorded assets and liabilities- assets

and liabilities not taken over by the purchasing company - contingent liabilities - non-assumption of trade liabilities- in the books of purchasing company - passing of incorporation entries - treatment of security premium - fresh issue of shares and debentures to meet working capital - preparation of balance sheet as per 'Companies Act'.

Unit 5: Conversion of Single Entry to Double Entry System of Book-keeping

Level of Knowledge: Conceptual and Working

Hours: 10

Converting single entry into double entry system - steps in conversion - ascertainment of sales, purchases, stocks, cash and bank balances, capital etc - preparation of final accounts

Skill development

- Preparation of a claim statement with imaginary figures to submit to Insurance Company.
- List of procedure for filing a fire insurance claim.
- Collection and recording of Hire Purchase Agreement.
- Ascertainment of Cash Price and Interest with imaginary figures under Hire Purchase System
- Collection of transactions relating to any branch and prepare a branch account.
- List of procedures to be followed in case of conversion of Partnership to Limited Company

Essential Reading:

1. Jain & Narang, (2016). *Financial Accounting*. Mumbai: Kalyani.
2. Gupta, R.L., & Radhaswamy, M., (2016) *Financial Accounting* (18ed.). New Delhi: Sultan Chand & Sons.

Recommended Reading

1. Maheswari S. N. & Maheswari S. K. (2017). *Advanced accountancy*. New Delhi: Vikas
2. Shukla M. C. & Grewal T. S. (2017). *Advanced accountancy* (15 Ed.). New Delhi: S. Chand

Course: Business Mathematics

CourseCode:COA132L

Total Credits: 04

Course Type: Core

Total Hours: 60

In recent times Mathematics has emerged as the key for major decision making process. The subject is introduced to provide the basic knowledge giving emphasis on the applications in business. Understanding of mathematical models is essential to project the real life scenario in simplified form in business. The study of matrices helps to handle mathematical models with many variables. The decision making environment is so complex that the right and appropriate decision can only be made with good analytical skills.

Course Objective:

- To enable students to appreciate and apply mathematical concepts in decision making.
- To understand Mathematical equations and inequalities and their solutions.
- To be able to adopt appropriate Mathematical models.
- To understand commercial arithmetic and calculus.
- To be able to interpret mathematical analysis.

Learning Outcome:

- The student will be able to understand basic concepts in Mathematics.
- They will be able to appreciate wide applications of mathematical models in business.
- They will be able to take data driven decisions.

Unit - I

10 Hrs

Linear Models

Level of Knowledge: Basic

Linear equations and inequalities in one variable, linear functions, slope and equations of a line, linear mathematics models, constructing mathematical models.

Unit - II

10Hrs

System of Linear Equations and Matrices

Level of Knowledge: Conceptual

Addition of matrices – System of linear equations, addition and multiplication of Matrices –Determinants – Inverse of a matrix by Gauss Jordan method. Application of matrices and Determinants – Solution of a system of linear equations- Gauss elimination method.

Unit III – Linear Programming Problems

10Hrs

Level of Knowledge: Application

Definition – Linear Programming Problem – Formulation – Solution by Graphical method – simplex method – minimization and maximization problems

Unit-IV

10Hrs

Probability and Probability Distributions:

Level of Knowledge: Basic

Introduction to Probability, Basic Concepts of Probability, Conditional Probability, Independent Events, Bayes' Theorem. Probability Distributions – Binomial, Poisson and Normal distributions, Expected Value.

Unit V - Commercial Arithmetic 10hrs

Level of Knowledge: Basic / Conceptual / Analytical

Simple interest – Compound Interest, Equivalent Rate–Depreciation - Present value. Annuity – Sinking Fund

Unit VI–Calculus

10Hrs

Level of Knowledge: Application

Limits – Differentiation - Methods of differentiation – Second order derivative – Maxima and Minima. Application to commerce and Economics. - Revenue Function Costfunction–Profit function – Elasticity of demand – Breakeven point.

Essential Reading :

1. Sancheti, D. C., & Kapoor, V. K. (2009). Business Mathematics. New Delhi: Sultan Chand and Sons.

Recommended Reading

1. Gupta, J.D., P.K., & Man Mohan. Mathematics for Business and Economics. Tata McGrawHill Publishing Company Limited.
2. Navaneetham, P. Business Mathematics and Statistics. Anand Publishers.
3. Padmalochan, H. (2010). A TextBook of Business Mathematics, NewDelhi: Sultan Chand andSons.
4. Singh, J.K. (2013). Business Mathematics, NewDelhi: Himalaya Publishing House
5. Vohra, N. D. (2009). Quantitative Techniques in Management (4th ed.). New Delhi: TMH Publishers

Course: Principles and Practice of Management

Course Code: COA 133L

Course Type: Core

Total Credits: 04

Total Hours: 60

Course Description:

The knowledge of principles gives managers an indication on how to manage an organization. The principles enable managers to decide what should be done to accomplish given tasks and to handle situations which may arise in management. Students under this course are acquainted with the different principles and functions of management so that they can implement these in their work in future.

Course Objectives:

The objective is to prepare students to choose careers in the management field. It is aimed at equipping the students with the knowledge of different aspects of management including evolution and approaches to management, techniques of efficient planning, organizing, staffing and the upcoming trends followed in the organization with respect to human resource.

Unit-1 Nature and Importance of Management

Hours: 08

Introduction, meaning of management, definition of management, functions of management, levels of management. Importance of management, managerial roles and skills, difference between administration and management. Mintzberg Managerial Roles, Changing context of management

Unit-2 Evolution of Management Thought

Hours: 12

Early history, classical school of management (Scientific Management, Administrative Management, Bureaucratic Management) behavioural school (Human Relations, Behavioural Science), quantitative approaches to management (Management Science, Operations, Management Information System), Systems school of thought; and Contingency school. Critical appraisal of various schools of management thoughts, Present day shifts in focus in management thoughts.

Unit-3 Planning and Decision making

Hours: 10

Planning - meaning, definition, characteristics, objectives, need and importance of planning, types / hierarchy of plans, steps in the process of planning, advantages of planning, limitations of planning, obstacles in planning, essentials of a good plan. Decision making - meaning, definition, characteristics of decision making, principles of decision-making, process of decision making, types of decisions – programmed and non-programmed, decision making styles, characteristics of good / effective decisions.

Unit-4 Organising and Managing Human Resource

Hours: 10

Meaning, definition, functions of organisation, organisational design, organisational structure, approaches to organizational structure, departmentalization, delegation and decentralization, - HR planning, recruitment, selection, placement, performance appraisal, training and HR development, recent trends in HR management.

Unit-5 Staffing and Leading

Hours: 12

Staffing: Concept of staffing, staffing process, Motivation: Concept, Importance, extrinsic and intrinsic motivation; Major Motivation theories - Maslow's Need-Hierarchy Theory; Herzberg's Two-factor Theory, Vroom's Expectation Theory. Leadership: Concept, Importance, Major theories of Leadership (Likert's scale theory, Blake and Mouten's Managerial Grid theory, House's Path Goal theory, Fred Fielder's situational Leadership), Transactional leadership, Transformational Leadership, Transforming Leadership

Unit-6 Recent trends in Management

Hours: 08

Rise of global business eco-systems, managing diverse business markets, virtual workspace, corporate innovations, total quality management, talent management, knowledge management, recent paradigm shifts / trends in business strategies and management practices.

References

1. Bhatia, R. C. (2013). *Principles of Management*. New Delhi: Sterling Publishers.
2. Koontz, H., & Wehrich, H. (2012). *Essentials of Management: An International and Leadership perspective* (9 ed.). New York: Tata McGraw Hill.
3. Stephen P Robbins and Madhushree Nanda Agrawal, (2016) *Fundamentals of Management: Essential Concepts and Applications*, Pearson Education
4. Tripathy, P. C., & Reddy, P. N. (2012). *Principles of Management* (5 ed.). New Delhi: Tata McGraw Hill.

Course: Business Economics

Course Code: COA134L

Course Type: Core

Total Credits: 04

Total Hours: 60

Course Description

The approach of this paper is to study the behaviour of a Unit and the analysis is generally static and in partial equilibrium with the framework. The modules incorporated in this Paper deal with the nature and scope of economics, the theory of consumer behavior, analysis of production function and equilibrium of a producer, the price formation in different markets structures and the equilibrium of a firm and industry. As a prerequisite, the students should have basic knowledge about the concepts relating to microeconomics.

Course Objective:

The objective of this paper is to make the students understand the behavior of an economic agent, namely, a consumer, a producer, a factor owner and the price fluctuation in a market.

Unit 1: Basic Concepts

Hours:10

Level of Knowledge: Conceptual

Ten principles of economics: How people make decisions, how people interact and how the economy as a whole works- Role of observations and theory in economics- Role of assumptions- Role of Economic models- Wants and resources; Problem of choice, Production Possibility Frontier; Opportunity cost; Basic economic problems common to all economies.

Unit 2: The Market Forces of Demand and supply

Hours: 11

Level of Knowledge: Conceptual

Law of demand, Reasons for the downward slope of the demand curve. Exceptions to the law; Changes in demand; Elasticity of Demand- Degrees of price elasticity with diagrams; Factors determining price elasticity, methods of measurement. Income elasticity demand; Cross elasticity demand; Demand forecasting- Methods; Laws of supply, Changes in supply- Consumers, Producers and the Efficiency of the Markets: Consumer's surplus (Marshall), Producer surplus and Market efficiency- Externalities and Market inefficiency- Public goods and common resources.

Unit 3: Theory of Consumer Choice and New Frontiers in Micro economic

Hours:12

Level of Knowledge: Conceptual

Cardinal utility analysis; Law of diminishing marginal utility; Consumer's surplus (Marshall), Ordinal utility analysis. Indifference curves- Properties, consumer's equilibrium, Price effect, Income effect and substitution effect.

Unit 4: Theory of Production and Cost

Hours: 12

Level of Knowledge: Conceptual

Production function; Law of variable proportions; Laws of returns, Economies of scale; Producer's Equilibrium with the help of iso-quants and iso-cost lines. Cost function- Important cost concepts. Short run and long run cost analysis (traditional theory) Modern theory of cost- Long run and short run. Revenue analysis. AR and MR.

Unit 5: Product Pricing and Factor Pricing

Hours: 15

Level of Knowledge: Conceptual

Market structure- Perfect competition, Price and output determination- Role of time element in market price determination. Monopoly- Price output determination, Price discrimination Monopolistic Competition. Price and Output determination. Selling costs. Product differentiation- oligopoly; Price determination (collusive pricing, price leadership).

Essential Reading:

1. N. Gregory Mankiw (2012). *Principles of Microeconomics* (4 ed). Cengage Learning India.

Recommended Reading:

1. Lipsey, R.G. and K.A. Chrystal (2011). *Principles of Economics* (IX ed.). Oxford University Press: Oxford
2. Ramsfield, E. (2012). *Micro Economics* (IX ed.). New York: W.W Norton and company.
3. Ray, N.C. (2014). *An introduction to Microeconomics*, Macmillan Company of India Ltd: New Delhi
4. Samuelson, P.A and W.D. Hague (2012). *A textbook of Economic Theory*. ELBS Longman group: London.

Course: Introduction to Microsoft Excel

Course Code: COA112L
Credits: 2

Course Type: SEC
Total Hours: 30

Course Description

This course provides the knowledge base for understanding the workings of excel. The primary objective of the course is to familiarize the students with the basics of Microsoft excel. The course introduces the students to financial and statistical analysis, further the course also deals with practical application of Microsoft excel in day to day business activities. As a prerequisite, the students should have basic knowledge about computers and MSOffice.

Course Objectives

- To provide students with the fundamental knowledge of the use of computers in business.
- To provide exposure to the students on MS OfficeExcel.
- To apply MS excel functions inbusiness.

Unit 1: Introduction to Excel (12 Hours)

Basic Excel functions: Structure of an excel function, functions such as SUM(), MIN(), MAX (), AVERAGE (), COUNT (), AUTOSUM, AUTOFILL. **Working with an Excel List:** Understanding Excel List Structure, Sorting a List Using Single Level Sort, Sorting a List Using Multi-Level Sorts, Using Custom Sorts in an Excel List, Filter an Excel List Using the AutoFilter, Creating Subtotals in a List, Format a List as a Table, Using Conditional Formatting to Find Duplicates, Removing Duplicates. **Excel Data Validation:** Understanding the Need for Data Validation, Creating a Validation List, Adding a Custom Validation Error, Dynamic Formulas by Using Validation Techniques

Unit 2: Excel Pivot Tables: (8 Hours)

Understanding Excel PivotTables, Creating an Excel PivotTable, Modifying Excel PivotTable Calculations, Grouping PivotTable Data, Formatting PivotTable Data, Drilling Down into PivotTable Data, Creating Pivot Charts, Filtering PivotTable Data, Filtering with the Slicer Tool.

Unit 3: Conditional Functions and Working with Large Excel Data Sets (8 Hours)

Conditional Functions: Working with Excel Name Ranges, Using Excel's IF () Function, Nesting Functions, Using Excel's COUNTIF () Function, Using Excel's SUMIF () Function, Using Excel's IFERROR () Function. **Working with Large Sets of Excel Data:** Using the Freeze Panes Tool, Grouping Data (Columns and/or Rows), Consolidating Data from Multiple Worksheets.

Unit 4: Look Up and Text Based Function (6 hours)

Excel's Lookup Functions: Using Excel's VLOOKUP() Function, Using Excel's HLOOKUP() Function, Using Excel's INDEX() and MATCH() Functions. **Excel's Text Based Functions:** Using Excel's functions such as LEFT(), RIGHT() and MID(), LEN(), SEARCH(), CONCATENATE().

Unit 5: Finance Functions: (11 Hours)

Introduction to Finance: Time value of money - present value of money – concepts (Theory), Long term and short term investment decisions - capital budgeting, Net present value, Internal rate of return (Theory) Financial Functions: Depreciation (DB, DDB, VDB), Simple

Interest (PMT, NPER, INTRATE) - Present Value, Net Present Value, Future Value (PV, NPV, FV), Annuity, Internal Rate of Return(IRR).

Semester II:

Course: Corporate Accounting-I

Course Code: COA231L

Total Credits: 04

Course Type: Core

Total Hours: 60

Course Description:

This course provides comprehensive understanding of corporate accounting practices and presentation of financial statements as per legal requirements in organizations. It provides an overview of the corporate practice in maintaining the books as per accounting standards especially in company final accounts, valuation of shares, holding company accounting etc. As a pre-requisite, students must have basic knowledge about the concepts relating to finance and accounts.

Course Objective:

- To provide comprehensive understanding of all aspects relating to corporate accounting practices and presentation of financial statements in organizations.
- To enable the students to understand the procedure of preparing the accounts of corporate enterprises with the help of the principles and regulations governing the same.
- To know how the companies issue shares and debentures. To acquaint students with the legal formats and procedures pertaining to buyback and redemptions of preference shares and debentures.
- To know how banking companies and non-banking companies differ in their preparation of financial statements.
- To familiarize the students about the procedure of revaluation of assets and liabilities by the subsidiary companies.
- To develop the skill of students for valuation of goodwill and shares of the companies.
- To develop the skill of preparation of consolidated balance sheet of holding company and its subsidiary company.

Unit 1: Final Accounts

Hours:13

Level of Knowledge: Conceptual and working

Legal position regarding final accounts of companies – Compliance with Accounting standards- Form and contents of Statement of Profit or Loss and Balance Sheet as per SCHEDULE III – General Instructions for preparation of Statement of Profit and Loss and Balance Sheet – Disposal of company profits – dividend tax deducted at source-Declaration of dividends out of reserves-Transfer to Reserves etc., excluding calculation of managerial remuneration.

Unit 2: Accounting for Alteration of Share Capital

Hours: 08

Level of Knowledge: Conceptual and working

Meaning of Alteration of share capital – Accounting treatment- Bonus shares-Characteristic of Bonus shares- circumstances for issue of bonus shares-SEBI guidelines for issue of bonus shares-Accounting Treatment for Bonus shares-Buy-back of shares- advantages-Accounting entries in buy-back of shares - equity shares with differential rights, employee stock option (theory only).

Unit 3: Accounting for Redemption of Preference Shares and Debentures

Hours: 13

Level of Knowledge: Conceptual and working

Redemption of debentures- Problems by using Sinking fund method – Redemption of Preference shares: -Meaning – legal provisions – Treatment regarding Premium on redemption – Creation of Capital Redemption Reserve Account (CRR) – Fresh issue of shares – Arranging for cash balance for the purpose of redemption – Minimum number of shares to be issued for redemption – Issue of bonus shares – Preparation of Balance Sheet after redemption.

Unit 4: Valuation of Goodwill and Valuation of Shares**Hours: 13****Level of Knowledge: Conceptual and working**

Valuation of Goodwill – Meaning of Goodwill – Need for Valuation of Goodwill – Factors Affecting Valuation of Goodwill – Methods of Valuation – Average Profit Method – Super Profit Method – Annuity Method-Capitalization Method-Valuation of Shares – Need for Valuation –Factors Affecting valuation of Shares- Net Asset Method – Yield Method – Fair Value-Simple Practical Problems

Unit 5: Accounts of Holding Companies / Parent Companies**Hours: 13****Level of Knowledge: Conceptual and working**

Meaning of Holding & Subsidiary Company – Consolidation of Balance Sheet of Holding and Subsidiary Company - Relevant provisions of Accounting Standard (ICAI).Calculation of Cost of Control – Minority Interest –Treatment of Unrealized Profit on stock and assets-Revaluation of Assets and Liabilities- Inter Company Owing-Preference shares - Issue of bonus Shares by Subsidiary Company -Proposed Dividend – Preparation of consolidated balance sheet with one subsidiarycompany.

Skill Development

- Collect and fill the share application form of a limitedCompany.
- Collect Prospectus of a company and identify its salient features.
- Collect annual report of a Company and List out its assets and Liabilities.
- Collection of latest final accounts of a company and find out the intrinsic value of shares.
- Collect the annual reports of company and calculate the value of goodwill under different methods.

Essential Reading:

Jain, S.P. and K.L. Narang. *Corporate Accounting(2017)*. New Delhi: Kalyani Publishers.

Recommended Reading

1. Anil Kumar, Rajesh Kumar (2017). *Corporate Accounting*. Mumbai: Himalayan Publishing House /Student Edition,
2. M.C. Shukla, T.S. Grewal & S.C. Gupta (2017). *Advanced Accountancy*. New Delhi: S. Chand & Company Ltd.
3. R.L. Gupta & M. Radhaswamy (2017). *Advanced Accountancy*. New Delhi: Sultan Chand & Sons.
4. Dr. Maheshwari S.N & Dr.Maheshwari S.K (2017). *Advanced Accountancy Vol.1, Vol.-2*.NewDelhi: Vikas Publishing House Pvt.Ltd
5. Mukerjee&Hanif, *Modern Accountancy* (2017).New Delhi: Tata McGraw Hill.
6. S.K. Paul, *Accountancy*, (2017). New Delhi: New Central Book Agency (P) Ltd.

Course: Business Environment

Course Code: COA232L

Total Credits : 04

Course Type: Core

Total Hours: 60

Course Description:

This course provides the knowledge base for understanding and analyzing the impact of external and internal environment on business organisation. The main objective of the course is to impart students with the knowledge on the concepts and elements under Economical, Legal, Natural, Technological, Political, Socio-Cultural and Global Environment. The Course also provides thorough knowledge to students about the different policies and regulations being followed in India and also about the techniques of environment analysis as a foundation to corporate strategy, and as a prerequisite the students must know the basic environmental factors affecting the business and knowledge about business management. This course will also provide real life case studies or incident to students to understand and develop problem solving skill and technique to overcome the issues.

Course Objectives:

- To provide domain expertise and a comprehensive understanding to students on all aspects relating to business and factors affecting business(PESTLE).
- To make students understand about the different policies and company regulations.
- To acquaint students with analytical and critical thinking skills by teaching the techniques of environment scanning, business analysis and corporate strategies.
- To help students understand about the global and local business cultural environment and provide corporate awareness about social responsibility, ethics and governance.
- To develop problem solving and practical thinking skills by discussing various case studies related to factual business environment situation and to apply the knowledge in finding solutions for the same.

Course Learning Outcomes:

- Describe the nature and scope of business.
- Explain the process of environmental scanning and analysis.
- Analyze the impact of technology on society, economy, and on an individual plant.
- Understand the Indian industrial policies and regulations
- Describe the interface between socio-culture and business organisation.
- Explain how organisation implements social responsibility actions and adopt to corporate governance.

Unit 1: Conceptual Framework of Business Environment

Hours: 14

Level of Knowledge: Basic and Conceptual

Concept, Significance, and Nature of Business Environment – Internal, External, Micro and Macro; Environmental Analysis-Concept, Process, Limitation, Techniques of environmental analysis and Strategic Management (VRIO framework, Porter's five force model, Need Gap analysis, SWOT Analysis, QUEST, Blue ocean Strategy and PESTLE); Demographic dividend, Happiness index.

Unit 2: Economic Environment and Legal Environment

Hours: 14

Level of Knowledge: Basic and Conceptual

Economic Environment: Concept of Economic system, Objectives, Industrial policy 1991 (Industrial Licensing, Foreign Investment, Foreign Technology Agreements, Public Sector Policy and MRTP Act); NITI Aayog, Functions and initiative; Effect of recession on Business and remedies.

Legal Environment: Company regulatory legislation in India, Competition Act and its salient features, FEMA, Monetary policy, Fiscal policy and Latest EXIM policy.

Unit 3: Natural Environment and Technological Environment**Hours: 12****Level of Knowledge: Basic and Conceptual**

Natural Environment: Meaning and significance, Natural environmental factors affecting business, The Environment Protection Act 1986; Paris Climate Agreement. Technological Environment: Innovation, Technological leadership and followership, Sources of technological dynamics, Technology and competitive advantage, Transfer of technology and its problems, Management of technology, Impact of technology on business and society (Artificial Intelligence and Augmented Reality)

Unit 4: Political Environment and Socio-Cultural Environment**Hours: 14****Level of Knowledge: Basic and Conceptual**

Political Environment: Three political institutions: Legislature, Executive and Judiciary, Brief note on Fundamental rights and Duties, Rationale and extent of state intervention, Role of Government – Regulatory, Promotional and Entrepreneurial, Government's responsibility to business, Business's responsibility to Government; Brief overview about Make in India. Socio-Cultural Environment: Corporate Social responsibility of business- Business Ethics and Corporate Governance, Social audit, impact of culture on business- Cross-Cultural Business Environment.

Unit 5: Global Environment**Hours: 06****Level of Knowledge: Basic and Conceptual**

Foreign Collaborations and Indian Business, Benefits and problems from MNCs, New Foreign Direct Investment policy of India; World Trade Organisation- objectives and principles, implications for India; Trading Blocks-Meaning and types.

Essential Reading:

1. K. Ashwathappa, *Essentials of Business Environment*, Bangalore: Himalaya publications. DOI: www.himpub.com (Latest Edition)

Recommended Reading:

1. Francis Cherunilam, *Business Environment*, Mumbai: Himalaya publishing house. (Latest Edition)
2. S.K. Mishra, *Economic Environment*, Delhi: Himalaya publishing house. (Latest Edition)
3. K Chidambaram, *Business Environment*, Vikas Publications. (Latest Edition)

Course: Business Statistics

Course Code: COA233L
Total Credits: 04

Course Type: Core
Total Hours: 60

Course Description: Business Statistics is the science of collecting, organizing, and summarizing data to provide information, stated in numerical form, for the purpose of making objective business decisions. This course on Business Statistics is offered to the students of first semester. In today's scenario, the issue facing managers is not a shortage of information but how to use the available information to make evidence based decisions. This course prepares students to learn to apply commonly used statistical methods in business contexts and how to interpret analyses performed by others. As a prerequisite, the students should be having basic knowledge about mathematical discipline that logically should have been acquired by the students earlier in their education.

Course Objectives:

The aim of this paper is to make the students gain knowledge on the concepts of statistics, various data collection methods, averages, dispersion, correlation and regression, and time Series and also introduces to student inferential statistics to enable them use these tools in the research work.

Unit 1: Introduction to Statistics

Hours: 05

Level of knowledge: Conceptual

Meaning, Definition, Features, Importance and limitations of statistics. Meaning and difference between primary and secondary data, data collection methods. Classification and tabulation of data (problems).

Unit 2: Measures of Central Tendency

Hours: 12

Level of knowledge: Analytical

Meaning, measures of Central Tendency- Arithmetic Mean, median, mode, geometric mean and harmonic mean(only theory), and partition values- quartiles, deciles, percentiles.

Unit 3: Measures of Dispersion and Skewness

Hours: 12

Level of knowledge: Analytical

Meaning, Definitions, Properties of dispersion - Range, Quartile Deviation, Mean Deviation from Mean and Median, Standard Deviation and coefficient of variation. Skewness-meaning, difference between dispersion and skewness, Karl Pearson's and Bowley's measures of skewness.

Unit 4: Correlation and Regression

Hours: 11

Level of knowledge: Analytical

Meaning, Definition and Use of Correlation, Scatter diagram, Types of correlation Karl Pearson's correlation coefficient, Spearman's Rank correlation, Probable Error. Regression- Meaning and utility of Regression analysis, Comparison between Correlation and Regression, regression lines - X on Y, Y on X, Regression Equations and Regression Coefficients.

Unit 5: Time Series**Hours: 08****Level of knowledge: Analytical**

Meaning, Components of time series, Calculation of Secular Trend-Moving Average method (2, 3, 4 & 5 years) and method of Least Squares.

Unit 6: Introduction to Inferential statistics**Hours: 12**

Introduction to testing of Hypothesis: Procedure for testing hypothesis - Setting of Hypothesis -Null and alternative hypotheses, - Computation of Test statistics, - Types of errors in hypothesis testing - Level of significance, - Critical region and value - Decision making. Test of significance for Large and small sample tests, Z and t tests for mean and proportion, one way ANOVA,(Excel) Chi-square test for goodness of fit and independence of attributes. Simple problems only.

Essential Reading:

1. C.M.Chikkodi, & Satyaprasad, B. (2014). *Business statistics*. Mumbai: Himalaya Publishing House.
2. P.N Arora (2009) S. Chand Publications..

Recommended Reading:

1. Aggarwal,S.,& Bhardwaj,S. (2014). *Business Statistics*. Ludhiana: Kalyani.
2. Wilson,M.(2014).*Business Statistics*. Mumbai: Himalaya publishing house.
3. Levin,R.I.,& Rubin, D.S.(2014).*Statistics for management*. Delhi:Pearson.
4. Gupta, S.C., & Gupta, I. (2014). *Business Statistics*, Himalaya publishing house.

Course: Introduction to Business Analytics

Course Code: COA 234L

Total Credits: 04

Course Type: Core

Total Hours: 60

Course Description

Information has been the crux for business success. The advancement in computing and information technology has created the opportunity for businesses to store, organize and analyze vast amounts of their customer data for decision making. This course provides an introduction to database analytics concepts, methods and tools with concrete examples from industry applications. Students will learn the fundamentals & advancement of data analytics driven strategies in creating an edge in today's competitive business environment. At the same time the course provides an introduction to the relatively more recent advancements in analytical methods on business data acquired through online channels, the new Practice of Web analytics.

Objectives:

This course is intended to expose students to the latest tools of Business Analytics and applying those tools for effective decision making.

- Understand and articulate a business problem and convert it into a viable Analytics question
- Apply Data visualization for exploratory analysis and communicate effectively to diverse audience
- Evaluate various analytical approaches and select the most appropriate for the given problem
- Build Analytics solutions and assess their effectiveness;

Unit 1: Introduction to Business Analytics.

4 hours

Concept of analytics, Types of Analytics, Application fields - Marketing Analytics, Finance Analytics, HR Analytics, Operation Analytics, organization and source of data, importance of data quality, dealing with missing or incomplete data, Role of Data Scientist in Business & Society.

Unit 2: Data Bases, Data Warehousing and Data Mining

6 hours

Types of Data Sources- Structured Vs Semi structured Vs Unstructured data, Data Warehouse Vs Databases, Relational Database vs Non-Relational Database, RDBMS Data structures, Columnar Data structures. Data Mining meaning, Association Rules and clustering, Decision trees, Random forests.

Unit 3: Analytics Methodology

8 Hours

Introduction to Analytics Methodology, preparing objectives & identifying data requirements, Data Collection, Understanding data, Data preparation – Data Cleansing, Normalisation, Data preparation, Data Blending, Data Modelling, Evaluation & feedback

Unit 4: Visualisation of Data

8 hours

Introduction, Data summarization methods; Tables, Graphs, Charts, Histograms, Frequency distributions, Relative Frequency Measures of Central Tendency and Dispersion; Box Plot; Basic probability concepts, conditional probability, Probability distributions, Continuous and discrete distributions, sequential decisionmaking.

Unit 5: Time series**12 hours**

Trend Analysis, Seasonality and cyclical behaviour, Moving Average, Exponential smoothing methods – Single exponential, double exponential, HOLT-WINTERS, ARIMA, Multiple linear regression based forecasting.

Unit 6: Predictive Analysis**6 Hours**

Simple linear regression: coefficient of determination, significance tests, residual analysis, confidence and prediction intervals. Multiple linear regression: coefficient of multiple coefficient of determination, interpretation of regression coefficients, categorical variables, heteroscedasticity, multi-collinearity, outliers, autoregression and transformation of variables.

Unit 7: Business Analytics Future Trends**6 Hours**

Role of Artificial Intelligence in Business, Machine Intelligence, Competitive Intelligence, Text Mining, Web Analytics (Web content mining, Web usage mining, Web structure mining), Role of Intelligent Agents in e-business, e-commerce, m-commerce, Location Analytics, Intelligent Agent in search & retrieval, Personalization and Comparison), Social Networking Analysis, Big Data Tools & Techniques, Content Analytics (Sentimental Analysis & Opinion Analysis). Ethical and Legal considerations in Business Analytics

Essential Reading

- Turban E, Armonson, JE, Liang, TP & Sharda, Decision support and Business Intelligence Systems, 8th Edition, John Wiley & Sons, 2007
- Frank J. Ohlhorst, Big Data Analytics, 1st Edition, Wiley, 2012.
- Efraim Turban, Ramesh Sharda, Jay Aronson, David King, Decision Support and Business Intelligence Systems, 9th Edition, Pearson Education, 2009.

Additional Reading

- Microsoft Office 2007 Business Intelligence - Reporting, Analysis, and Measurement from the Desktop, Doug Harts, TATA McGraw-Hill Edition, 2008
- Data Mining for Business Intelligence: Concepts, Techniques, and Applications in Microsoft Office Excel with XLMiner, Galit Shmueli, Nitin R. Patel, Peter C. Bruce, Wiley Publication, 2010
- The New Science of Retailing: How Analytics are Transforming the Supply Chain and Improving Performance, Ananth Raman, Marshall Fisher, HBR Book Press, 2010
- Data Mining: Concepts and Techniques”, Morgan Kaufmann Publication, 3rd Edition, 2011.
- Decision Support and Business Intelligence Systems, Turban, E., Aronson, JE., Liang, T. Sharda R, Prentice Hall Publisher, 10th Edition, 2011
- Data Science for Business – What you need to know about data mining and data-analytic thinking, Foster Provost, Tom Fawcett, O’ Reilly Media Publication, 2013
- IDEA from CASEWARE

Semester III:

Course: Corporate Accounting II

Course Code: COA331L
Total Credits: 04

Course Type: Core
Total Hours: 60

Course Description:

The paper aims to provide the students' knowledge about corporate accounting in conformity with the provision of companies' Act and latest amendments. It provides an overview of the corporate practices in maintaining the books as per accounting standards especially in case of underwriting, mergers and acquisitions, liquidation etc. As a prerequisite, students should have a basic knowledge about finance and accounts.

Course Objectives: The aim of the course is to make the students understand the underwriting of shares, profit prior to incorporation, internal reconstruction, liquidation of companies, and to understand the recent trends in accounting.

Unit 1: Underwriting of Shares and Debentures Hours: 08

Level of Knowledge – Conceptual

Introduction– Meaning of underwriting– Underwriting commission– Types of underwriting– Marked and Unmarked applications– Journal entries in the books of the company and underwriters– Calculation of underwriters liability.

Unit 2: Profit Prior to Incorporation Hours: 08

Level of Knowledge - Conceptual

Meaning – Calculation of Profit with the help of Time – Sales – Weighted Ratio's - Ascertainment of Profit or Loss Prior to incorporation; Problems relating to Profit and Loss statements and Statement of Balance Sheet based on sales ratios, time ratios and weighted ratios.

Unit 3: Internal Reconstruction Hours: 08

Level of Knowledge - Conceptual

Introduction - Meaning, Importance- Legal provision relating to Capital Reduction- steps in reconstruction - Accounting entries on Internal Reconstruction - Re-organization through Surrender of shares - Preparation of reconstructed Balance sheet.

Unit 4: Liquidation of Companies Hours: 12

Level of Knowledge - Conceptual

Meaning of Liquidation - Types of Liquidation - Preparation of Liquidators final statement under voluntary Winding up or Winding Up by the Court - Order of Payment - Liquidation Expenses - Liquidators Remuneration - Calculation of Preferential Creditors - Pro-Rata Payment – List of Contributors - Treatment of capital surplus - Return of capital to shareholders having the same capital rights but different paid-up capitals.

Unit 5: Accounting for Business Combinations Hours: 16

Level of Knowledge - Conceptual

Introduction – Definitions - Business Combinations - Accounting procedure as per Ind AS 103, Purchase consideration - Accounting Entries in the Books of the Acquirer and acquiree

company Reconstruction - Accounting Entries in the Books of the Transferor and Transferee company - Disclosure in Financial Statements.

Unit 6: Recent Trends in Accounting

Hours: 08

Level of knowledge: Conceptual and Working

a. Human Resource Accounting: Need for HRA – Reasons for HRA – Development of HRA – Meaning (Concept) of HRA – Objectives of HRA – Valuation of Human Resources – Historical Cost Approach – Replacement Cost Approach – Opportunity Cost – Standard Cost approach – Present Value Approach – Recording and Disclosure in Financial Statements – Benefits of HRA – Limitations of HRA – Position of HRA in India (only theory).

b. Social Responsibility Accounting: Social Responsibility of Business – Meaning of social accounting – Approaches to social accounting – Measurement of Social Cost benefit (only theory).

c. Introduction to forensic accounting: Introduction – Meaning – Objectives – advantages and limitations - Methods and techniques (only theory)

d. Inflation Accounting (Accounting for price level changes)

Introduction to inflation accounting– meaning– limitation of historical accounting - objective – advantages and limitations – methods of inflation accounting (only theory).

Skill Development

- Calculation of Purchase consideration with imaginary figures.
- Analyze any 5 cases of business combination of Joint Stock Companies.
- List out legal provisions in respect of internal reconstruction.
- List out the companies adopted Human Resource Accounting and the valuation methods followed.

Essential Reading:

Jain S.P. & Narang K.L (2017). *Corporate Accounting*. New Delhi: Kalyani Publishers, REP/Edition

Recommended Reading:

1. Anil Kumar, Rajesh Kumar (2017). *Corporate Accounting* (5th ed). Mumbai: Himalayan Publishing House /Student Edition,
2. M.C. Shukla, T.S. Grewal & S.C. Gupta (2017). *Advanced Accountancy* (13thed.) New Delhi: S. Chand & Company Ltd.
3. R.L. Gupta & M. Radhaswamy (2017). *Advanced Accountancy*. New Delhi: Sultan Chand & Sons.
4. Dr. Maheshwari S.N & Dr. Maheshwari S.K (2017). *Advanced Accountancy Vol.1, Vol.-2*. New Delhi: Vikas Publishing House Pvt. Ltd
5. Mukerjee & Hanif, *Modern Accountancy* (2017). New Delhi: Tata McGraw Hill. S.K. Paul, *Accountancy*, (2014). New Delhi: New Central Book Agency (P) Ltd.

Course: Management Accounting

Course Code: COA332L

Total Credits: 04

Course Description:

Course Type: Core

Total Hours: 60

This subject will enable the students to understand the importance of analysis and interpretation of financial statements, calculation of ratios and their analysis.

Course Objective:

- To prepare funds flow and cash flow statement to know the changes in financial position,
- To be able to prepare marginal cost sheet with a view to prepare management reports for decision making.

Unit-1 Introduction

5 Hrs

Level of Knowledge: Basic and Conceptual

Evolution of Management Accounting, Meaning and Definition, Nature, Scope and Importance of Management Accounting, objectives and Functions of Management Accounting, relationship between Financial, Cost and Management Accounting, distinction between Management accounting and financial Accounting, distinction between Management Accounting and Cost Accounting, Management Accountant: His status and Functions, duties of a Management Accountant

Unit-2 Analysis and Interpretation of Financial Statements

7 Hrs

Level of Knowledge: Working Knowledge

Concept and types of Financial Statements, significance and importance of Financial Statements, methods of analysis of financial statements, techniques of analysis and interpretation – Comparative Income Statements, Comparative Balance Sheets, Common Size Income Statements, Common Size Balance Sheets, Trend Analysis (problems on the above topics).

Unit-3 Ratio Analysis

10 Hrs

Level of Knowledge: Working Knowledge

Meaning of Ratio, objectives of Ratio Analysis, Significance of Ratio Analysis, Limitations of Ratio Analysis, Classification of Ratios, calculation and interpretation of profitability ratios, liquidity ratios, solvency ratios, advanced problems on the above (including preparation of Income statement and Balance sheet).

Unit-4 Funds Flow Statement and Cash Flow Statement

18 Hrs

Level of Knowledge: Working Knowledge

Introduction & Meaning of Funds Flow Statement, Concept of Fund, Concept of Flow of Fund, Uses and Limitations of Funds Flow Statement, Schedule of Changes in Working

Capital, Calculation of Funds From Operations, Statement of Sources and Application of Funds – basic problems on the above. Introduction & meaning of CFS, differences between FFS and CFS, utility and limitations of CFS, Preparation of CFS – advanced problems (only indirect method) according to accounting standard 3.

Unit-5 Marginal Costing

10 Hrs

Level of Knowledge: Working Knowledge

Introduction, meaning of marginal cost and marginal costing, distinction between Absorption costing and Marginal costing, Contribution, Profit Volume Ratio, break Even Point, Margin of Safety, and Sales to earn a desired profit. Application of Marginal costing in pricing, accepting special order or Foreign Market Order, Profit Planning, Decision to Make or Buy, Problem of Limiting or Key factor and Choice of Profitable Mix.

Unit-6 Budgetary Control and Management Reporting

10 Hrs

Level of Knowledge: Conceptual Knowledge

Introduction – Meaning – Objectives – Essentials of Budgetary Controls – Classification of Budgets – Steps in Budgeting – Preparation of Cash Budget and Flexible Budget

Meaning of Reporting and Reports, Essentials of an ideal report, Designing and Installation of Reporting system, Types of Reports, Drafting of Reports under different situations.

Text Books and Reference Books:

1. R.K. Sharma, Shashi k Gupta (2015). Cost & Management Accounting. New Delhi: Kalyani Publishers

Essential Reading / Recommended Reading

1. Khan,M.Y.&.Jain,P.K.(2012) Management Accounting (4ed). New Delhi: Tata McGraw. Hill
2. Arora,M.N. (2012). Cost and Management Accounting. Mumbai: Himalaya Publishing House.
3. Dr.Maheswari, S.N (2012).Management Accounting. New Delhi: Sultan Chand & Sons.
4. E.Gordon, Sundram.N (2011). Management Accounting. Mumbai: Himalaya Publishing House.

Course: Basic R Programming for Analytics

Code: COA333L
Total Credits: 04

Course Type: Core
Total Hours: 60

Course Description

This course is used to provide an Introduction to R programming language that combines standard programming capabilities with statistical analysis. The course also gives students the ability to do data analysis and statistical computing. The course also covers basic data types and operations, functions and packages, charts and graphs. The course also covers elementary statistics.

Course Objectives

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

- Ø Analyse data using the statistical tool R.
- Ø Create vectors, lists, matrices, arrays and data frames using R.
- Ø Draw charts and graphs using R.

Unit 1 Introduction (12 hours)

Features of R – How to install and run R – Comments in R – Reserved words – Identifiers – Constants – Variables – Operators (Arithmetic, Relational, Logical, Assignment, Miscellaneous Operators) – Operator Precedence – Strings.

Unit 2 Basic Data Types, Vectors, Lists and Matrices (12 hours)

Basic Data Types (Numeric, Integer, Complex, Logical, Character) – Creating, combining vectors – Accessing Vector Elements – Modifying Vectors – Deleting Vectors- Vector arithmetic and Recycling – Vector Element Sorting – Reading Vectors – Creating Lists – Accessing List elements – Updating List Elements –Merging Lists – List to Vector conversion – Creating matrices – Accessing Matrix Elements – Matrix Arithmetic – Matrix Manipulation – Matrix Operations.

Unit 3 Arrays, Factors and Data Frames (12 hours)

Creating Arrays – Accessing Array Elements – Array Element Manipulation – Array Arithmetic – Creating factors – Accessing Factor Components – Modifying factors – Creating Data Frames – Accessing Data Frames Components – Modifying Data Frames – Aggregating Data – Sorting Data – Merging Data – Reshaping data – Sub-setting data – Data Type Conversion

Unit 4 Flow Control & Functions (12 hours)

Decision making (using if statement - if...else statement - Nested If...Else statement - ifelsefunction - Switch statement) – Loops (for loop – while Loop – repeat Loop) – Loop

Control statements – break statement – next statement – Function definition and Function Calling – Function without arguments – Built-in functions (Mathematical functions – Character functions – statistical functions – date and time functions – other functions – Recursive function)

Unit 5 Charts & Graphs

(12 hours)

Bar charts (Plotting bars vertically and horizontally – Plotting categorical data – Grouped bar chart – Stacked bar chart) – Histogram (Simple histogram – Histogram with labels, breaks and density lines) – Line graphs (Simple line graph & Graphs with Multiple lines) – Pie charts (Simple Pie chart – Pie chart with slice percentages – 3D Pie charts)

Essential Reading

1. W. N. Venables, D. M. Smith, *An Introduction to R*, R Core Team, 2018.
2. John Verzani, *simpleR – Using R for Introductory Statistics*, CRC Press, Taylor & Francis Group, 2005.

Recommended Reading

1. Beginner's guide for Data Analysis using R Programming by Dr. Jeeva Jose.

Course: Research Methodology

Code: COA334L
Total Credits: 04

Course Type: Core
Total Hours: 60

Course Description

Research Methodology helps the students to accumulate knowledge which are essential for gathering, analyzing and interpretation of the problems confronted by humanity. This paper introduces the nature of Social and Business research, and provides the techniques of research, identification of problem, research design, data collection, sampling, hypothesis, processing, and interpretation of data and preparation of reports. As a prerequisite, students should have a basic knowledge about the concepts relating to research, basic statistics and business.

Course Learning Objectives:

- To understand the various research approaches and research methods
- To articulate the research problem
- To review research articles
- To apply various research designs appropriately
- To test hypothesis
- To apply appropriate methods of data collection
- To apply sampling design
- To write a research article

Unit 1: Introduction to Research Methodology

11 Hours

Research – Meaning - Definition – Characteristics – Purpose – Types – Significance – Attributes of a Good Research and a Good Researcher – Social Research – Objectives – Assumptions - Deductive and Inductive Methods - Significance and Difficulties of Social Research. Business Research- Research and Business Decisions. Ethics in research Scope of Research in Business and Commerce – Research in India. Formulation of Research Problem – Criteria, Sources, Selection of Research Problem

Unit 2: Literature Review and Research Design

11 Hours

Literature Review: Sources – Library Usage – Different Types of Literature Review - Process of Literature Review – Different Formats of presenting Literature Review - Identification of Research Gap – Softwares available for Literature Review and Citation - APA 6th edition formats. Research Design: Meaning – Characteristics – Importance – Types of Variables – Classification of Research Design.

Unit 3: Sampling Techniques and Data Collection

8 Hours

Sampling Techniques: Census Survey and Sample Survey – Characteristics of Good Sample – Sampling Design Process – Types of Sampling Techniques – Probability and Non-

Probability Sampling, Sampling and Non-Sampling Errors, Calculation of Sample Size. Sources of Data - Primary Data & Secondary Data: Primary Data Vs Secondary Data - Interview – Questionnaire – Schedule – Observation – Case Study. Secondary Data: Sources (Different Databases available for Secondary sources of data), Collection, Organization & Evaluation.

Unit 4: Hypothesis Formulation and Testing

11 Hours

Hypothesis: Meaning of Hypothesis – Importance - Characteristics – Limitations - Concepts – Basic concepts concerning testing of hypothesis – Null Hypothesis and Alternate hypothesis- Type I and Type II errors- Level of significance- Two tailed and One Tailed test - Parametric Vs Non Parametric Tests.

Unit 5: Data Analysis and Data Processing(Using Spss/E-Views/MS Excel) 11 Hours

Introduction to Data Processing – Editing – Coding – Classification – Tabulation –Pictorial And Graphical Presentation – Problems In Processing of Data. Introduction to Data Analysis – Factors Influencing Data Analysis – Measures of Central Tendency, Dispersion, Distribution, Validating questionnaire through Pilot Study, Introduction to simple Data Analysis Tools (ANOVA– Chi Square Test – Sign Test – Rank Correlation) and interpretation of the outputs (Practical).

Unit 6: Research Reports and Applications

8 Hours

Reporting: Introduction – Meaning – Importance – Problems – Qualities of a good Research Report – Types of Reports – Steps in writing reports – Ethics in Research.

Essential Reading:

1. Gupta, S.K. RangiPraneet. (2016) *Business Research Methods*. Ludhiana: Kalyani Publishers.

Recommended Reading:

1. Bhandarkar, W. T. (2006). *Methodology and Techniques of Social Research*. Mumbai: Himalaya Publishing House.
2. Krishnaswami, O. (2012). *Research Methodology*. Mumbai: Himalaya publishing House.
3. Trochim, M.K. (2009). *Research Methods*. New Delhi: Sultan Chand.
4. Malhotra, N. K. (2008). *Marketing research: An applied orientation, 5/e*. Pearson Education India.

Course Name: Machine Learning - I

Course Code: COA335L

Course Type: Core

Total Credits: 04

Total Hours: 60

I. Nature and scope of Econometrics

II. Statistical Inference

- i. Normal distribution; chi-sq, t- and F-distributions
- ii. Estimation of parameters
- iii. Testing of hypotheses
- iv. Defining statistical hypotheses
- v. Distributions of test statistics
- vi. Testing hypotheses related to population parameters
- vii. Type-I and Type-II errors; Power of a test
- viii. Tests for comparing parameters from two samples.

III. Simple Linear Regression Model: Two Variable Case

- i. Estimation of model by method of ordinary least squares
- ii. Properties of estimators
- iii. Goodness of fit
- iv. Testing of Hypotheses
- v. Scaling and units of measurement
- vi. Confidence intervals
- vii. Gauss Markov Theorem
- viii. Forecasting

IV. Multiple Linear Regression Model

- i. Estimation of parameters
- ii. Properties of OLS estimators
- iii. Goodness of fit- R^2 and Adjusted R^2
- iv. Partial regression coefficients
- v. Testing Hypotheses: Individual and Joint
- vi. Functional Forms of Regression Models
- vii. Qualitative (dummy) independent variables

V. Violations of Classical Assumptions: Consequences, Detection and Remedies

- i. Multicollinearity
- ii. Heteroscedasticity
- iii. Serial Correlation
 - Omission of a relevant variable
 - Inclusion of irrelevant variable
 - Tests of specification

SEMESTER IV

Course: Financial Management

Course Code: COA431L
Total Credits: 04

Course Type: Core
Total Hours: 60

Course Description:

This paper is offered as a core paper in the fourth semester. It develops an understanding among the students towards corporate financial activities. It helps to study the role and responsibilities of finance manager, finance function, management of finance, accounting and financial information to management for decision making and will cover management of capital, working capital management and dividend policy. As a prerequisite, the students should be having basic knowledge about elementary concepts of finance.

Course Objectives:

- Explain various concepts relating to financial management and financial decisions.
- Develop skill in using MS Excel for basic financial calculations.
- Apply the techniques of time value of money in all investment decisions - personal or professional.
- Integrate the various components of working capital for effective functioning of day-to-day business operations

Unit-1 Introduction

(06 Hours)

Level of Knowledge: Conceptual

Meaning - scope and functions of Finance - Financial management – Nature, Characteristic, Functions, Scope & Process - Objectives of financial management – profit maximization - wealth maximization - Time value of money - present value of money – concepts-simple practical problems.

Unit-2 Financial Decision

(12 Hours)

Level of Knowledge: Analytical

Sources of financing - capital structure - Factors determining capital structure - liquidity and capital structure - profitability and capital structure - Calculation of E.P.S - Concepts of leverages - operating leverages - financial leverages - combined leverages.

Unit-3 Investment Decision – Capital Budgeting

(12 Hours)

Level of Knowledge: Analytical

Long term and short term investment decisions - capital budgeting - importance – procedure - Factors Determining Capital Budgeting - Steps in Capital Budgeting - Methods of capital budgeting - payback period: Meaning, Advantages & Disadvantages – It's Applicability (Problems) - Accounting rate of return - Meaning, Advantages & Disadvantages – It's Applicability (Problems) - Net present value & profitability index - Meaning,

Advantages & Disadvantages– It's Applicability (Problems) - Internal rate of return -

Meaning, Advantages & Disadvantages – It's Applicability (Problems) - Problems in capital budgeting

Unit-4 Investment Decision – Working Capital (10Hours)

Level of Knowledge: Analytical

Internal Meaning - concept of working capital, need for working capital - types of working capital - Factors affecting working capital - adequacy of working capital - Sources of Working Capital, Management of working capital –Principles of Working Capital - working capital cycle - working capital estimation and calculation

Unit-5 Management of Cash and Accounts Receivables (10Hours)

Level of Knowledge: Analytical

Meaning of cash - motives for holding cash - Objectives of cash - management of cash ,Meaning of receivables - Meaning of receivables management, purpose of receivables management - Cost of maintaining receivables - Factors affecting - Policies for managing receivables - Factoring services, over and under trading

Unit-6 Dividends Decision (10 Hours)

Level of Knowledge: Conceptual

Dividend decision and valuation of firm - Relevance of dividend policy - Walter model - Gordon model Residual theory of dividend policy - Modigliani and Miller theory - Dividend policy retained earning - Dividend payout ratio - Stability of dividend - Forms of dividend

Essential Reading:

1. R. K Sharma, Shashi .K Gupta ;(2012) *Financial Management*.New Delhi: Kalyani Publishers.

Recommended Reading:

1. Khan, M.Y. & Jain, PK(2010) *Financial Management*. New Delhi: Tata McGraw Hill Publishing Co. Ltd.
2. Chandra, Prasanna, (2009) *Financial Management*. New Delhi: Tata McGraw Hill Publishing co. Ltd.
3. Kulkarni, P.V.(2011) *Financial Management*. Bombay: Himalaya Publishing House
4. Maheshwari, S.N. (2012) *Principles of Financial management*.Delhi: Sultan Chand & Sons.
5. Pandey, I.M. (2010): *Financial Management*.New Delhi: Vikas Publishing House (P)Ltd.

Course: Data visualization tools

Course Code: COA432L

Course Type: Core

Total Credits: 04

Total Hours: 60

Course Description

Tableau is data visualization software that is used for data science and business intelligence. Tableau can create a wide range of different visualization to interactively present the data and showcase insights. It comes with tools that allow drilling down data and seeing the impact in a visual format that can be easily understood by any individual. Tableau also comes with real-time data analytics capabilities and cloud support. Students will be able to do Smart, strategic and real time decision making for the development of any organization.

Course Objectives:

- Understand a business problem through the data
- Understand TABLEAU interface components to create most effective presentation through powerful visualization
- Build and interactive dashboards
- Sharing workbook through publish options

Unit 1: Introduction to tableau

7 Hrs

BI Evolution - Legacy vs Tableau - Qlikviewvs Tableau - Tableau Products- Tableau Desktop Workspace –Tableau get started, Navigation, Design flow, Tableau file and data types and terminology. First Worksheet-Split, Pivot, Alias, Live vs Extract, Filter, Custom sql - Measure Names - Number of Records -Calculated field introduction - Header for single measure

Unit II: Data visualization using charts

10 Hrs

Understanding continuous vs discrete- YOY, Packed bubble chart and word cloud. Dual Axis -Map, Line and Bar Chart, Quick Filters, Page Shelf.Calculated Field and Parameters, Dynamic measures, IF and Case statements, Histogram and Bins.Scatter Plot, Box-plot whisker Chart, Bullet Chart.High light table, Text Table, Heat map Table Calculations, Sub/Grand Total, Aggregate vs Non-AggregateTool Tip.

Course: Practices of Banking & Insurance

Course Code: COA433L
Total Credits: 04

Course Type: Core
Total Hours: 60

Course Description

This course introduces the students to basic Concepts of Banking - its various segments-functioning- activities and regulations. It also introduces the student to the basic principles of insurance- types of insurance and its legal framework in India. Through this course the student gets an understanding of both the sectors and learns to appreciate the importance of these sectors in the growth of the Economy.

Course Objectives

- To make students understand the principles and theories of Banking and Insurance so that a clear understanding of concepts- structures and processes under both the domains can be achieved.
- To understand the working of Banking Organizations- it's Governance- and the facilities provided by Banks to consumers like cheques- transferring funds- creating deposits etc.
- To make oneself known about Insurance Organizations- their working and the rules governing them.
- To become aware of situations where Insurance providers may not accept to settle claim. These situations could either arise due to negligence- misrepresentation etc.
- Exposure to Banking and Insurance products
 - Importance of insurance and their types
 - Explore the different career option in insurance.
 - In dept knowledge about the regulation and legal framework of India banking system.

Unit 1: Introduction

Hours: 12

Level of Knowledge: Conceptual

Origin of banking: Definition –Development of Banking in India- banker and customer relationship - General and special types of customers - Types of deposits - Deposit Accounts - Opening Operations and Closure of Fixed Deposit Account - Recurring Account - Savings Account -Current Account - Deposit Schemes for NRIs - Types of banks - Commercial Banks- Origin and growth of commercial banks in India - Functions of Commercial Banks - Cooperative Banks- Regional Rural Banks- Agriculture and Rural Development Banks - Development Banks and NBFCs - Financial Services offered by banks - Changing role of commercial banks - Reserve Bank of India - Powers & Functions – Monetary Policy – Credit Control Measures.

Unit 2: Negotiable Instrument Act

Hours: 10

Level of Knowledge: Conceptual

Negotiable Instruments Act –Meaning- Characteristics - Types of NI- Cheques - Meaning - Precautions before honouring a cheque-Circumstances under which a cheque can be dishonoured – Crossing and endorsement - meaning- definitions- types and rules of crossing. Endorsement – Definition - Kinds of endorsement – Significance of endorsement – Paying Banker - Duties and Protection to paying banker- Collecting bankers – Duties - Statutory protection for holder in due course- Concept of negligence.

Unit 3: Bank Lending and Banking Reforms

Hours: 08

Level of Knowledge: Conceptual

Types of Loans and Advances - Principles of Sound lending - Secured vs. Unsecured Advances - Advances against various securities – Priority sector lending - Basel Norms I, II & III-Non-Performing Assets – SARFAESI Act- Banking Sector Reforms.

Unit 4: Digital Banking**Hours: 08****Level of Knowledge: Conceptual**

Meaning- Benefits- Home banking- Mobile banking- Virtual banking- Payment Banking-E-payments- ATM Card/Biometric card- Debit/Credit card- Smart card-Prepaid Instruments-NEFT- RTGS- ECS (credit/debit)- E-money- Electronic purse- Digital cash – Impact of IT on Banks- Soft banks- payment banks-e-wallet

Unit 5: Insurance**Hours: 10****Level of Knowledge: Conceptual**

Basic concept of risk- Types of business risk- Risk and return relationship - Assessment and transfer- Basic principles of utmost good faith- Indemnity- Economic function- Proximate cause- Subrogation and contribution –Insurance Terminology - Types of Insurance: Life and Non-life - Fire – Marine – Miscellaneous – Motor - Personal Accident – Health – Liability – Engineering – Aviation - Re-insurance – Underwriting - Online Insurance - New Insurance Products – Insurance Intermediaries - Present State of Insurance Industry in India – Careers in Insurance Industry; Rural and Social Sector obligations in Insurance Sector

Unit 6: Regulation & Legal Framework**Hours: 12****Level of Knowledge: Conceptual**

Power, functions and Role of IRDA - Essentials of General Contract under Indian Contract Act,1872- Essential Feature of Insurance Contracts-Salient Features of Insurance Act,1938- LIC Act,1956- GIC Act,1972- IRDA Act,1999 – Agency Law - Consumer Protection Act(COPA),1986 - The Insurance Ombudsman

Essential Readings:

1. Gordon, E., Gupta, P.K. (2012). *Banking and Insurance* (1st ed.) Mumbai: Himalaya Publishing House.
2. Murali,S.& Subbakrishna,,K.R. (2010). *Bank Credit Management*. Mumbai: Himalaya Publishing House.

Recommended Readings:

1. Mishra, & Sukhwinder (2011) *Banking Law and Practice*. New Delhi: S.ChandPublications
2. Periasamy,P. (2011) *Principles and Practice of Insurance*. Mumbai: Himalaya Publishing.
3. Bodla, B.S., Garg, M.C., Singh,K.P.,(2010) *Insurance Fundamenatals, Environment and Procedures*. New Delhi : Deep & Deep Publications
4. IC - 01 – PRINCIPLES OF INSURANCE – Year of Edition 2010 (Revised)

Course: Auditing and Corporate Governance

Course Code: COA434L
Total Credits: 04

Course Type: Core
Total Hours: 60

Course Description:

This course is designed to enable the students to understand the nature and objectives of audit in general as well as audit procedures and techniques practiced in India. The specific objective is to impart knowledge about the principles and methods of auditing and their applications in the corporate sector. It also highlights the significance of an Auditor's role and position in a Joint stock company. The central goals of the course are to develop students' skills in understanding the Auditing and Assurance standards.

Course Objective

- To enable the students acquire an understanding of the tools, techniques and procedure of audit.
- To familiarize and educate the students with the concepts of auditing in India
- To develop an understanding of the duties, responsibilities and liabilities of a company auditor
- To acquaint students with legal formats for preparation of tax and statutory audit reports

Learning Outcomes

- Explain the concept of vouching along with procedure for treating receipts and payments.
- List out preparations required for audit by the auditor
- Differentiate between Internal check, internal control and internal audit.
- Apply tools, techniques and procedures for verification and Valuation of Assets & Liabilities
- Design an audit program and plan the audit assignments.
- Identify various auditors' rights, duties and Liabilities.

Unit 1: Introduction

Hours 10

Level of Knowledge: Conceptual and Working

Auditing: Introduction, Meaning, Objectives, Basic Principles and Techniques; Classification of Audit, Audit Planning, Audit programme, Internal Control – Internal Check and Internal Audit; difference between Investigation and Auditing

Unit 2: Vouching

Hours 08

Level of Knowledge: Conceptual and Working

Meaning, definition, importance of vouching, routine checking and vouching, types of vouchers, vouching of receipts, audit of cash sales, receipts from debtors, bills receivable, proceeds from the sale of investments and buildings; Vouching of payments - vouching of cash purchases - payments of creditors, bills payables, purchase of building, plant and machinery and patent rights, vouching of deferred revenue expenditure.

Unit 3: Verification and Valuation of Assets and Liabilities

Hours:8

Level of Knowledge: Conceptual & Working

Definition general principles, difference between verification and valuation - Auditor's position as regards valuation of assets - Verification and valuation of fixed assets- good will- land and building - plant and machinery - patents and trademarks – investments - Current

assets - cash in hand, cash at bank, sundry debtors, stock in trade and bills receivable, methods of valuing stock in trade, verification of liabilities,

Unit 4: Audit of Companies

Hours: 9

Level of Knowledge: Basic and Conceptual

Audit of Limited Companies: Company Auditor- Qualifications and disqualifications, Appointment, Rotation, Removal, Remuneration, Rights and Duties of auditor, Auditor's Report- Contents and Types. Liabilities of Statutory Auditors under the Companies Act 2013, Consideration of Standards on Auditing while drafting audit report.

Unit 5: Special Areas of Audit

Hours:10

Level of Knowledge: Conceptual & Working

Special Areas of Audit: Special features of Cost audit, Tax audit, and Management audit; Recent Trends in Auditing: Basic considerations of audit in EDP Environment; Computer aided audit techniques and tools; Auditing Standards; Relevant Case Studies/Problems;

Unit 6: Liability of the Auditor

Hours: 07

Level of Knowledge: Basic and Conceptual

Nature of auditor's liability, professional negligence, civil liability under Companies Act, Criminal liability under companies Act, liability under Chartered Accountants Act and Income tax Act

Unit 7: Corporate Governance

Hours: 08

Level of Knowledge: Basic and Conceptual

Conceptual framework of Corporate Governance: Theories & Models, Broad Committees; Corporate Governance Reforms. Major Corporate Scandals in India and Abroad: Common Governance Problems Noticed in various Corporate Failures. Codes & Standards on Corporate Governance, Audit committee, specific provisions in companies Act relating to governance.

Skill Development

- Collect the information about types of audit conducted in any one organisation.
- Visit an audit firm, write about the procedure followed by them in Auditing the books of accounts of a firm
- Draft an investigation report on behalf of public limited companies
- Record the verification procedure with respect to one fixed asset followed an audit firm
- Prepare and draft an audit report.

Essential Reading:

1. Aruna Jha, Auditing. Taxmann Publication.

Suggested Readings:

1. Ravinder Kumar and Virender Sharma, Auditing Principles and Practice, PHI Learning
2. ArunaJha, Auditing. Taxmann Publication.
3. K. Singh, and Gupta Lovleen. Auditing Theory and Practice. Galgotia Publishing Company.
4. Anil Kumar, Corporate Governance: Theory and Practice, Indian Book House, New Delh
5. MC Kuchhal, Modern Indian Company Law, Shri Mahaveer Book Depot. (Publishers)

Course: Cost Accounting

Course Code: COA435L
Total Credits: 04

Course Type: Core
Total Hours: 60

Course Description

This paper is offered as a core paper in the third semester. It develops and creates cost consciousness among the students and prepares students for careers in the areas of costing. Students will be aware of various aspects of cost, cost classification and also decision making skills in terms of cost benefit and profit. As a prerequisite, students should have a basic knowledge about the concepts relating to cost, costing, and cost accounting.

Course Objectives: The aim of this subject is to impart knowledge on the concepts, elements and methods of costing.

Unit 1: Introduction

Hours: 06

Level of Knowledge: Conceptual and Analytical

Meaning, objectives and advantages of cost accounting; Difference between cost accounting and financial accounting; Cost concepts and classifications; Elements of cost; Installation of a Costing system; Format of Cost Sheet - Tenders and Quotations (Problems on above).

Unit 2: Elements of Cost: Material and Labour

Hours: 10

Level of Knowledge: Conceptual and Analytical

(a) Materials: Material/inventory control techniques. Accounting and control of purchases, storage and issue of materials. Materials Stock Level, Methods of pricing of materials issues FIFO, LIFO, Simple and Weighted Average methods.

(b) Labour: Accounting and Control of labour cost; time keeping and time booking. Concept and treatment of idle time, over time, labour turnover and fringe benefits. Methods of wage payment and the Incentive schemes- Halsey and Rowan.

Unit 3: Elements of Cost: Overheads

Hours: 08

Level of Knowledge: Conceptual and Analytical

Collections and Classification of Overheads - Allocation & Apportionment – Primary Distribution - Secondary Distribution - Reapportionment of Service Department Costs to Production Departments (Simultaneous Equation Method); absorption of Overheads and Computation of Machine Hour Rate.

Unit 4: Methods of Costing - I

Hours: 14

Level of Knowledge: Conceptual and Analytical

(a) Job and Batch Costing - Meaning - Features of Job Costing - Types of Job Costing - Preparation of Job Cost Sheet - Batch Costing – Meaning - Its Application

(b) Contract Costing - Definition - Difference between Job Costing and Contract Costing - Contract Ledger - Ascertainment of Profit/Loss on Contract – Work In Progress and Balance Sheet - Cost Plus and Estimated Contracts

Unit 5: Methods of Costing– II**Hours: 12****Level of Knowledge: Conceptual and Analytical**

- (a) Process Costing - Normal Loss - Abnormal Loss/gain - (Including Inter-Process Profit and Equivalent Production) Preparation of Process Accounts and Joint and By-Products (Theory Only).
- (b) Operating Costing – Concept - Features - Performance of Operating Costing and Problems on Transport Costing Only

Unit 6: Recent Development in Cost Accounting (Theory only) Hours: 10**Level of Knowledge: Conceptual and Analytical**

Target Costing, Life cycle Costing, Activity based Costing (including simple problems), Transfer pricing and Throughput Accounting – Theory of Constraint.

Essential Reading:

1. Jain. S.P, Narang, K. L & Simmi Agrawal (2014). *Cost Accounting* (2nd ed.). Delhi, India: Kalyani Publishers.
2. Arora M. N. (2016). *Methods and Techniques of Cost Accounting* (4th ed.). India: Himalaya Publishing House.

Recommended Reading:

1. Charles T. Horngren, Srikant M. Datar, Madhav V. Rajan, (2014) *Cost Accounting: A Managerial Emphasis*, Pearson Education.
2. Banerjee, B. (2012). *Cost Accounting Theory and Practices* (12th ed.). PHI Learning Pvt Ltd
3. Narang, J. &. (2012). *Advanced Cost Accounting*. Delhi: Kalyani Publishing House
4. S.N. Maheshwari. (2014) *Advanced Cost Accounting*. New Delhi: Sultan Chand Publishing House.

Course Name: Business Laws

Course Code: COA436L

Total hours: 60 Hrs

Course type: GE

Credits: 4

Course Description: This course covers important components of Business Laws such as Contract Law, Intellectual Property Law, Consumer Protection Law, Competition Law, Law of Sale of Goods and Cyber Law.

Course Objectives: This course attempts to enable students to apply relevant theories and concepts to various aspects of Business Laws. It further aims to help the students to be comfortable in application of Legal concepts used in various Business entities.

Course Learning Outcomes: On having completed this course student should be able to:

- CLO1 Identify the role and importance of Contracts Laws.
- CLO2 Demonstrate the meaning and provisions of Special Contracts.
- CLO3 Interpret the role and nature of Intellectual Property Right Laws.
- CLO4 Examine the importance of Competition Laws in Modern Commerce.
- CLO5 Assess the relevance of Sale of Goods and Negotiable Instruments.
- CLO6. Explore the evolution of Consumer Protection Laws.
- CLO7. Delve into role of Cyber Laws in understanding technological growth.

Pedagogy: This course uses multiple pedagogies like interactive lecture, student's discussions and PPTs, research article, a field visit, and form of experiential learning.

Unit-1 Introduction to Law of Contracts

12 Hours

Meaning and Scope of Business Law – Sources of Indian Business Law. The Indian Contracts Act, 1872: Definition – types of contracts- Essentials of a Contracts. Discharge of a contract and remedies for breach of contract. Government Contracts: Article 299: Constitution of India. Concept of Equity, Fairness and Reasonableness, Doctrine of Promissory Estoppel vs. Executive Necessity, No person liability. E-Contracts: Meaning & need for Digital Goods, Unfair terms in E-contract. Indian Evidence Act: Basic Concepts.

Unit-2 Contract of Guarantee

5 Hours

Distinction between Indemnity and Guarantee, Kinds of Guarantee, Rights of Surety, Liability of Surety, and Discharge of Surety.

Unit-3 Intellectual Property Laws

10 Hours

Meaning and scope of intellectual properties – The Patent Act of 1970 and its amendments as per WTO agreement, back ground, objects, definition, inventions, patentee, true and first inventor, procedure for grant of process and product patents, WTO rules as to patents, rights to patentee – infringement – remedies. The Copyright Act, 1957- Meaning – Its uses and rights. The Trade Marks Act, 1999 - meaning, registration, procedures – infringement – Authorities concerned –Remedies.

Unit-4 Competition Law**8 hours**

The Competition Act, 2002- Concept of Competition, Development of Competition Law, overview of MRTP Act 2002, Anticompetitive Agreements, Abuse of dominant position, combination, regulation of combinations, Competition Commission of India; Appearance before Commission, Compliance of Competition Law. Types of Offence and penalty.

Unit-5 Law of Sale of Goods and Negotiable Instruments Law ***10 Hours**

The Sale of Goods Act, 1930- Definition of Goods, Sale and Agreement to Sell, Conditions and Warranties, Rights & Liabilities of a Buyer & Seller, Rights of an Unpaid Seller. The Negotiable Instruments Act, 1881- Statutory definitions, promissory note, bill of exchange or cheque payable. Dishonor of Negotiable Instrument. Types of Offences and penalty.

Unit-6 Law of Consumer Protection**10 Hours**

Consumer Protection Act 1986: Back ground – definitions – consumer, consumer dispute, Complaint Procedure, defect, deficiency, and service, Remedies, Consumer Protection Council, Consumer Redress Agencies, District Forum, State Commission and National Commission.

Unit-7 Cyber Laws**5 Hours**

Information Technology Act, 2000: Objectives, definitions and salient features, provisions pertaining to piracy and related offences and personalities.

Reference Books:

- Anson, W. R. (2009). Law of contract (29th edition), Oxford University Press, Oxford, New Delhi.
- Avtar, S. (2011). Principles of Mercantile Law (9th Edition), Eastern Book Company, New Delhi.
- Kapoor, N.D (2012.). Elements of Mercantile Law, Sultan Chand & Sons, New Delhi.
- Padmanabhan, A. (2012). Intellectual property rights: Infringement and remedies, LexisNexis Butterworth's, Nagpur.
- Tulsian, P.C. (2013). Business Laws, 5th Edition), Tata-McGraw Hill Education Limited, New Delhi

Recommended Book:

1. Gulshan, S.S. (2013). Business & Corporate Law, Excel Books, New Delhi.

Course: Big Data Analytics

Course Code: 542L

Total Credits: 04

Course Type: Core

Total Hours: 60

Course Description

This course provides practical foundation level training that enables immediate and effective participation in big data projects. The course provides grounding in basic and advanced methods to big data technology and tools, including MapReduce and Hadoop and its ecosystem.

Course objective:

- Learn tips and tricks for Big Data use cases and solutions.
- Able to apply Hadoop ecosystem components.

Unit I – Introduction to big data

(8 hours)

Introduction – distributed file system – Big Data and its importance, Four Vs, Drivers for Big data, Big data analytics, Big data applications. Algorithms using map reduce, Matrix-Vector Multiplication by Map Reduce.

Unit II – Introduction Hadoop (15 hours)

Big Data – Apache Hadoop & Hadoop EcoSystem – Moving Data in and out of Hadoop – Understanding inputs and outputs of MapReduce - Data Serialization. Practicals

Unit- III Hadoop architecture (12 hours)

Hadoop Architecture, Hadoop Storage: HDFS, Common Hadoop Shell commands , Anatomy of File Write and Read., NameNode, Secondary Name Node, and Data Node, Hadoop Map Reduce paradigm, Map and Reduce tasks, Job, Task trackers - Cluster Setup – SSH & Hadoop Configuration – HDFS Administering –Monitoring & Maintenance.

Unit IV – Big data privacy, ethics and security

(8 hours)

Privacy – Reidentification of Anonymous People – Why Big Data Privacy is self-regulating? – Ethics – Ownership – Ethical Guidelines – Big Data Security – Organizational Security.

Unit V - Security, compliance, auditing, and protection (8 hours)

Steps to secure big data – Classifying Data – Protecting – Big Data Compliance – Intellectual Property Challenge – Research Questions in Cloud Security – Open Problems.

Basic practical aspects of Big Data Analytics - (9 hours)

Course: Taxation Laws

Course Code: COA531L
Total Credits: 04

Course Type: Core
Total Hours: 60

Course Description:

The course intends to impart knowledge on direct tax. It provides basic knowledge of concept of income, basis of charge and determination of residential status. It provides thorough knowledge on computation of income five heads of income namely income from salary, income from house property, income from business or profession, income from capital gains and income from other sources. It also provides knowledge of various concepts and their application relating to direct tax laws with a view to integrating the relevance of these laws with tax planning and decisions. As a prerequisite, the students should be having basic knowledge about Taxation system and Tax provisions prevailing in India.

Course Objectives

- To help students understand basic concepts of income tax and provide knowledge on basis of charge.
- To enable student understand provision relating to computation of income under the head salary.
- To provide student knowledge on computation of income from house property and enable then choose the best alternative as self-occupied house.
- To enable students understand provisions relating computation of income from Business income, profession income and capital gains
- To provide overview of computation of income under the head income from other sources.

Unit-1 Introduction to Income Tax and Basis of Charge

09 Hours

Level of Knowledge: Basic and Conceptual

Concept of Income Tax-Finance Bill & Act; Definitions: Assesse, Person, Assessment year, Previous year, Income, Total Income and Agricultural Income – Concept of Capital & Revenue (a) Receipts (b) Payments (Expenditure). Charge of Income - Tax Residence Status of Individuals - Scope of Total Income - Income deemed to be received - Income Deemed to accrue or arise in India – problems on residential status.

Unit-2 Incomes from Salary

14 Hours

Level of Knowledge: Basic and Conceptual

Brief introduction – Income from Salary – Definition; Characteristics of Salary Income; Computation of Salary Income – Basic Salary – Allowances – Perquisites (Valuation of Perquisites excluded) - Leave Encashment - Commutation of Pension - Death-cum-Retirement Benefits – Gratuity -, Deduction from Gross Salary u/s 16 – Computation of income from salary.

Unit – 3 Income from House Property

12 Hours

Level of Knowledge: Conceptual & Analytical

Meaning – Types of House Properties - Annual value Determination in different situations: House- treatment of unrealized rent and vacancy- Deductions for let out House properties – Annual Value of Self Occupied House Property –Deduction for Self Occupied Property — Computation of Income from Let-Out House Property, Income From Self Occupied House Property.

Unit -4 Profits and Gains from Business and Profession **10Hours**

Level of Knowledge: Conceptual & Analytical

Computation of Income under this head - Allowable Expenses - Expenses expressly disallowed - Problems relating to business (sole trader only) and Problems on profession relating to Chartered Accountant, Advocate and Doctor.

Unit -5 Capital Gains **10 Hours**

Level of Knowledge: Conceptual & Analytical

Capital Asset – inclusions/exclusions; Short Term Capital Asset; Long Term Capital Asset, Definition of Transfer, Transactions not regarded as transfer(relevant to individuals only); Computation of LTCG and STCG, indexation benefit and exemption with reference to sections 54, 54B, 54D, 54EC, 54ED, 54F, 54G; Sec 54H (Basic Problems only)

Unit – 6 Incomes from Other Sources **05 Hours**

Level of Knowledge: Conceptual & Analytical

Meaning and Explanation – Various Incomes which are falling under this head – Deductions allowed – Expenses Not Deductible – Computation of Income.

Skill Development

- Filling Form No. 49A (PAN) and 49B.
- Preparation of Form 16
- Filling of Income Tax Returns.
- Computation of Income Tax and the Slab Rates with Imaginary figures.
- Computation of various heads of Income with Imaginary figures.
- Compute problems on Excel.

Essential Reading:

1. Mehrotra.H.C.(2018). *Income Tax Law and Accounts Including Tax Planning*. SahityaBhawan Publications.
2. Narang. & Gaur. (2018). *Income Tax*.Mumbai:Himalaya Publication House.

Recommended Reading:

- Prasad, B. (2018). *Direct Taxes-Law & Practice*. Wishwa Prakashana.
- Vinod,K.S. (2018). *Direct Taxes-Law && Practice*(24 ed.).New Delhi:Taxman Publication.
- Manoharan,T.N.(2018). *Students' Hand Book on Income Tax Law*.Chennai: Snow white Publications P. Ltd.

Course: Risk in Financial Services

Course Code: COA533L

Total Credits: 04

Elective: Finance and Investment

Course Type:DSE1

Total Hours: 60

Course Description:

The purpose of the course is to guarantee that students have an expansive comprehension of the general standards of risk in business, the key dangers that emerge inside the financial services industry, the impact of corporate administration, control and codes of conduct, and the methodologies that are regularly used to recognize, reduce and oversee particular parts of risk.

Course Objectives:

- Familiarize the students with Traditional and Modern risks in financial services.
- To study the different types of risks associated with business organizations.

Unit 1: Principles of Risk Management

Hours: 05

Level of Knowledge: Conceptual

Introduction to Risk in Business, Specific Risks in Financial Services, external sources of risk and their potential impact on a business: economic, political, competitive environment, social and market forces, technological including cyber security, shocks and natural events, external stakeholders and third parties.

Unit 2: International Risk Regulation

Hours: 10

Level of Knowledge: Theoretical & Conceptual

The Bank for International Settlements, role of the Bank for International Settlements, Basel Regulatory Capital, international guidelines and supervisory standards established by the Basel Committee, Capital Adequacy Assessment Process (ICAAP), principles of home-host state regulation, Regulatory Risk, differences between statutory and principles-based approaches to financial regulation.

Unit 3: Operational Risk and Credit Risk

Hours: 15

Level of Knowledge: Theoretical & Conceptual

Definitions of Operational Risk according to the Basel Committee on Banking Supervision, Basel operational risk event types: Internal Fraud, External Fraud, Employment Practices and Workplace Safety, Clients, Products, & Business Practice, Damage to Physical Assets, Business Disruption & Systems Failures, Execution, Delivery & Process Management, Operational Risk Policy, Operational Risk Framework: identification, measurement, management and control, management information, monitoring, escalation, remediation. Operational Risk Identification, Operational Risk Assessment and Measurement, Managing Operational Risk, Credit Risk: Identification of Credit Risk: understand the key components of credit risk and how they arise: counter Party risk, issuer risk, and concentration risk. Credit Risk Measurement: techniques for measuring credit risk, credit exposure, credit risk premium, credit ratings. Credit Risk Management: sound practice features of an effective Credit risk management function, reporting and escalation tools of credit risk management, Basel key stages of credit risk policy development.

Unit 4: Market Risk, Investment Risk & Liquidity Risk
Level of Knowledge: Theoretical & Conceptual

Hours: 15

Identification of Market Risk, different types of market risk: volatility risk, liquidity risk, currency risk, basis risk, Interest rate risk, commodity risk, equity risk. Market Risk Management: techniques and their application in managing market risk: hedging, market risk limits diversification. Concepts used in risk measurement and control: probability, volatility, regression, correlation coefficients alpha and beta, optimization. Value-at-Risk (VaR) approach to managing market risk. The Measurement of Investment Returns: basic concepts and measurement of investment related returns: nominal returns, real returns, total returns, holding period return. Identification and Measurement of Investment Risk, asset and portfolio investment risk, significance of alpha, beta and key investor ratios. Identification of Liquidity Risk: constituents of liquidity risk and how they can arise within the contexts of credit, market, investment and operational risk. Measurement of Liquidity Risk: funding liquidity risk analysis: liquidity gap analysis, stress testing, expected future funding requirement.

Unit 5: Model Risk, Risk Oversight and ERM
Level of Knowledge: Theoretical & Conceptual

Hours: 15

Overview of Model Risk: benefits and limitations of modeling, major models utilized in operational, credit, market and liquidity risks, the principles of effective governance of risk modeling. Risk Governance within Financial Services Organizations: general roles, responsibilities and relationships between the principal oversight functions and the role of senior management. Risk Culture and Leadership: factors determining a firm's risk and control culture: governance and policies, risk appetite / risk tolerance, transparency, integrity, ethics and social responsibility, education and development. Enterprise Risk Management (ERM): definitions of enterprise risk and ERM, goals and challenges of establishing and implementing an ERM programme in relation to: exception-based escalation, aggregation, accountability.

Recommended Reading:

1. Alexander, K., Dhumale, R., & Eatwell, J. (2006). *Global governance of financial systems : the international regulation of systemic risk*. New York: Oxford University Press.
2. Development., O. f.-o. (2010). *Risk and Regulatory Policy: Improving the Governance of Risk*. Paris: OECD Publishing.
3. Kross, W. K. (2007). *Organized opportunities : risk management in financial services operations*. Weinheim: Wiley-VCH.
4. MacNeil, I., & O'Brien, J. (2010). *The future of financial regulation* . Portland, Or: Hart Pub.

Course: Strategic Financial Management

Course Code : COA 534L
Total Credits: 04

Course Type: DSE3
Total Hours: 60

Course Description

This course will help the students to expand their understanding in applying core financial management concepts and techniques for strategic decision making. It covers basic concepts of finance, risk analysis, investment decision analysis, strategic aspects to - cost management, mergers, acquisitions and corporate restructuring; ethical considerations and the concept, need and implication of corporate governance.

Course Learning Outcome

- Student should be able to identify and evaluate risk associated with various sources of finance, their costs including CAPM and other models.
- This course enables students to assess potential investment decisions and strategies, understand strategic aspects to cost management.
- The student should possess in-depth understanding of corporate valuation techniques including EVA and MVA concepts, analysis of corporate growth and restructuring through mergers, acquisitions and other means and understand ethical considerations and corporate governance and their implications for organizations.

Unit1: Introduction

Hours: 06

Level of Knowledge: Conceptual

Meaning of SFM - Reasons for managing business financially - 9-s model for SFM - Financial goals and strategy- Value Chain analysis- Cost Benefit analysis- Strategic Business Units- Strategic Planning process- Life –Cycle costing- Activity Based costing

Unit2: Risk analysis & Classification

Hours: 06

Level of Knowledge: Conceptual

Types of risk - Financial risk- market risk and credit risk, foreign exchange risk, interest rate risk, counterparty risk, systemic risk- operational risk, Strategic risk, Risk and return analysis (practical problems involving expected return and risk)- Difficulties in measurement of risk, Risk classification system-COSO

Unit 3: Investment decision and project cash flows

Hours: 10

Level of knowledge: Analytical

Long- term Investment decisions- Types of long term investment decisions- Phases in long term investment decisions- Different analyses for evaluating an investment proposal- Estimation of project cash flow- Initial cash flow, Sunk cost, Terminal cash flow (problems on estimation of cash flow) – Relevant cost analysis (concept)

Unit 4: Capital Budgeting Decisions

Hours: 12

Level of Knowledge – Conceptual & Working

Capital budgeting decisions-Traditional Capital Budgeting evaluation methods (PBP & ARR-revision of these concepts)Capital budgeting decisions under uncertainty and risky situations-Concept of probability & expected value Certainty Equivalent approach, Simulation and Decision tree analysis, Sensitivity analysis, Capital Rationing, Adjusted Net Present Value, Replacement decisions, Effect of inflation on CB decisions (case study)

Unit 5: Corporate Valuation & Shareholder value creation**Hours: 12****Level of Knowledge- Conceptual**

Reasons for valuation of business enterprise - Different Approaches to corporate valuation – Discounted Cash Flow valuation- FCFE, NOPLAT, FCFE, EVA- problems on DCF method of valuation- Traditional techniques of evaluating value- ROI, EBIT, EBIDTA, ROCE, RONA- New approaches to shareholder valuation

Unit 6: Expansion and Financial Re-structuring**Hours: 08****Level of Knowledge – Conceptual & Working**

Need for financial restructuring - Restructuring through privatization-Restructuring of sick companies - Mergers and amalgamations – Calculation of purchase consideration- Share exchange ratio- Evaluation of M&A decisions (problems)- legal procedure for merger – benefits and cost of merger; Corporate and distress restructuring – Demergers- Leverage buyout-share repurchases.

Unit 7: Ethical Aspects in SFM**Hours: 06****Level of Knowledge: Conceptual**

Ethical Dilemma faced by Financial Managers - Need for corporate social responsibility - Corporate governance- Key stakeholders of an organization-shareholders, lenders, directors, employees, customers, suppliers and the government- Principles of Corporate Governance- Audit Committee- Role of BOD- Good CG practices (case study)

Essential Reading:

1. Rustagi., R P (2010), 4th ed., *Financial Management - Theory, Concepts And Problem*, New Delhi: Taxman Publications Pvt. Limited.

Recommended Reading:

1. Pandey.I.M. (2015)*Financial Management*(9 ed). New Delhi: Vikas Publications
2. Jakothiya.,Girish. .(2000) .*Strategic Financial Management*.New Delhi: Vikas Publishing House.
3. Prasanna,C.(2011)*Corporate Valuation and Value creation*. New Delhi: TATA McGraw Hill.

Semester VI

Course: Investment Analysis & Portfolio Management

Course Code: COA 641L
Total Credits: 04

Course type: Core
Total Hours: 60

Course Description

This paper is offered as a finance elective in the sixth semester. It is tailored to strengthen the business acumen of the students in the areas of finance and investment. Students opting for this elective specialize in the various aspects of investments. Various investment schemes, investment process, return and risk associated with investment, valuation of different securities, security analysis fundamental, derivatives markets and portfolio management strategies etc. As a prerequisite, the students should have basic knowledge about the concepts relating to Investment Management, various avenues and tax planning methods.

Unit 1: Introduction to Investment

Hours: 06

Level of Knowledge: Conceptual and Basic

Meaning of investment – Financial and economic meaning, Investment vs speculation - Importance of investments –Reasons for investing, Essential features of a good investment Programme/Features- Factors influencing the investment decision - Qualities of a successful investment – Contrary thinking - Patience composure - Flexibility and openness and decisiveness - Portfolio Management Process - Common Errors in Investment Management – Investment strategies.

Unit 2: Investment Schemes

Hours: 08

Level of Knowledge: Working Knowledge

Non-Marketable Financial Assets: Bank Deposits- Company Deposits- Post-Office Deposits Schemes- Employees Provident Funds. Money Market Investments: Treasury Bills- Certificate of Deposits- Commercial Papers- Commercial Bills. Bonds or Fixed Income Securities: Govt. Securities- RBI Relief Bonds-debentures- Public Undertakings Bonds- Preference Shares- Equity Shares- Mutual Fund Schemes- Life Insurance Schemes- Real Estate - The Distinctive features and advantages of each scheme in detail.

Unit 3: Risk- Return Concepts

Hours: 06

Level of Knowledge: Basics and Conceptual

Components of returns yield - capital gain-expected return and realized return - Risk-meaning- Risk and Uncertainty – Causes for risk – Types of Risk - Systematic and Unsystematic risk Expected risk return trade-off - Calculation of expected return- calculation of risk- Beta- Calculation of beta.

Unit 4: Security Analysis

Hours: 10

Level of Knowledge: Working Knowledge

FUNDAMENTAL ANALYSIS - EIC ANALYSIS

Economy Analysis - Meaning, Key economic variables, **Industry Analysis** -Meaning, Industry life cycle, characteristics of an industry and Porter's model, **Company Analysis** - Analysis of financial statements, future prospects of a company

Technical Analysis - Meaning of Technical analysis and basic principles of technical analysis- Trends and Chart patterns Eliot wave theory Dow Theory, support and resistance level different types of Charts. Efficient market theory Mathematical indicators and Market indicators. Fundamental Vs technical analysis.

Unit 5: Security Valuation

Hours: 10

Level of Knowledge: Conceptual & Theoretical

Time value of money-Concept of present value. Debt instruments and valuations, yield, Running yield, YTM And bond durations convexity (simple problems).Equity instrument and valuations Earning valuations revenue valuations yield valuation(simple problems)

Unit 6: Introduction to Portfolio Management

Hours: 10

Level of Knowledge: Conceptual

Meaning-The Portfolio management Process Categories. Investment strategy objectives - Risk and Beta - Time value of money application to portfolio management - MPT and Dominance concept - SEBI guidelines for portfolio managers-Portfolio managers portfolio management service. **Asset Allocation:** Process, Types of asset allocation, Management style, Different approaches to allocation decision, and overview of allocation techniques.

Unit 7: Portfolio Selection and Construction

Hours: 10

Level of Knowledge: Conceptual and Analytical

Portfolios returnPortfolio risk, Portfolio diversifications. Feasible set of portfolios, Efficient set of portfolios, Selection of optimal portfolio, Markowitz model and its limitations, The sharp Index model Single index model Measuring security and portfolio's return and risk under single index model.

Capital Asset Pricing Theory, Assumptions ,Efficient frontier with risk less lending and borrowing security market line applications of the security market line The capital market line SML and CML, Pricing of securities with CAPM and its arbitrage theory.

ESSENTIAL READING

Pandian- P. (2005). *Security analysis and portfolio management*. (2ed.). Noida: Vikas publishing house Pvt Ltd.

RECOMMENDED READING

1. Singh, P. (2007). *Portfolio Management*. Mumbai: Himalaya Publications.
2. Bhalla, V. (2008). *Investment Management*. New Delhi: Sultan Chand Publications
3. Fischer, D. E., & Jordon, R. J. (2002). *Security Analysis and Portfolio Management* (6th Ed.). New Delhi: Prentice Hall Of India
4. S, Kevin. (2015). *Security Analysis and Portfolio Management*. New Delhi: Prentice Hall Of India.
5. Lee, A. F., & Lee, C. F. (2008). *Advances in Investment Analysis and Portfolio Management* (Vol. 3, New Series). United Kingdom: Elsevier Science Ltd.
6. Chandra, P. (2012). *Investment Analysis and Portfolio Management* (4th ed.). McGraw Hill Education.

Course : Introduction to Artificial intelligence

Course Code: COA642L
Total Credits: 04

Course type: Core
Total Hours: 60

Course Description

Driven by the combination of increased access to data, computational power, and improved sensors and algorithms, artificial intelligence (AI) technologies are entering the mainstream of technological innovation. These technologies include search, machine learning, natural language processing, robotics and image processing. The course is an introduction to AI from an applied perspective in Business and Society. It begins by describing what the latest generation of artificial intelligence techniques can actually do. After an introduction of some basic concepts and techniques, the course illustrates both the potential and current limitations of these techniques with examples from a variety of business applications. In a final project, groups of students will participate in the creation of an AI-based application.

Course Objective:

- Identify problems where artificial intelligence techniques are applicable
- Apply selected basic AI techniques; judge applicability of more advanced techniques.
- Participate in the design of systems that act intelligently and learn from experience.
- Raise students' awareness of the importance of AI and its application in business and society.

Course Content:

This course focuses on the fundamentals of Artificial Intelligence (AI) and their applications in business and society. Students will learn how to use various AI techniques to solve real-world business problems and gain hands-on experience in developing and using different AI tools. Topics to be covered include:

Unit 1: Introduction to Artificial Intelligence

10 Hrs

Introduction to Artificial Intelligence, AI History & Philosophy, Logic Based AI, Knowledge Based AI, Contemporary AI

Unit II: Philosophy of Artificial Intelligence

10 Hrs

Philosophy of Mind, Evolving Intelligence, Types of Memory, Human Like Problem Solving, Difference between Artificial Intelligence, Biological Intelligence, Natural Intelligence, Hard Computing and Soft Computing, Problem Solving, Knowledge and Reasoning, Intelligent Agent and Human Computer Interface

Unit III: Application of Artificial Intelligence

10 Hrs

Uses of AI in Business applications and Social Applications, AI in Governance, Commercial Artificial Intelligence Applications in Business (Financial Analysis, Sentimental Analysis & Behavioral Analysis), Computer Vision, Virtual Reality, Cognitive Intelligence, Smart City Project Implementation using Artificial Intelligence

Unit IV: Advanced Artificial Intelligence

10 Hrs

Evolutionary Programming, Artificial Neural Network, Fuzzy Logic, Genetic Algorithm, Genetic Programming, Machine Learning (A paradigm of learning, Classification of learning strategies (Rote Learning, Learning by analogy, Learning by instruction, learning by induction, Learning by deduction)), Common Sense Computing, Computer Vision, Virtual Reality, Cognitive Intelligence

Unit V: Case Study / Use Case

20 Hrs

Case Study in Conversational systems, Advanced Robotics, Drones, Automated Vehicles, Healthcare application, Gamification and Entertainment, Business Ethics and Artificial Intelligence

Text Book:

- Artificial Intelligence: A Modern Approach (2nd edition) by Stuart J. Russell, Peter Norvig, Prentice Hall, (2010)
- Artificial Intelligence and Machine Learning for Business: A No-Nonsense Guide to Data Driven Technologies, Steven Finlay, Relativistic, (2017).

Reference Book:

- Data Mining: Introductory and Advanced Topics by Margaret H. Dunham, Prentice Hall, ISBN: 0130888923

Course: Accounting Standards and Financial Reporting

Course Code: COA631L
Total Credits: 04

Course Type: Core
Total Hours: 60

Course Description

This paper enables the students to have a deep understanding of the theoretical framework of Accounting and also helps the students to have an in-depth knowledge of Accounting Standards to be followed while disclosing the books of accounts. It also familiarizes the students with the standards and procedures to be followed while valuing the various items of the Balance sheet. As a prerequisite, students should have a thorough understanding of various accounting concepts.

Course Learning Objectives

- To enable the students to have a deep understanding of the theoretical framework of Accounting.
- To familiarize the students with the disclosure requirements while preparation of Financial Statements by the Companies.
- To help the students to have an in-depth knowledge of Accounting Standards to be followed.
- To enable the students to understand International Accounting Standards and their importance to Global businesses.
- To motivate students for research in the accounting area.

Unit- 1 Accounting Concepts and Principles

4 hours

Level of Knowledge: Basic and Conceptual

Materiality concept, Money measurement concept, Cost concept, Conservatism, Accrual Vs Cash and Periodicity concept found relevant to be concept, Consistency concept, Business Entity concept, Going concern concept, Duality or Accounting equivalence concept, Realization concept, Matching concept, Full disclosure. Accounting principles, Selection of accounting principles, Measurement in accounting, Measurement Constraints in accounting, accounting principles vs. Accounting policies

Unit- 2 Accounting Standards 1-3

18 Hours

Level of Knowledge: Basic and Conceptual

Meaning, Objectives, Advantages, disadvantages, Procedure for issuing Accounting Standards by the ICAI, Scope of Accounting Standards: - Level-I Enterprises, Level- II Enterprises and Level- III Enterprises. Accounting Standards as per Companies Act 2013 and Income Tax Act 1961 to be included. NACAS and its role under Companies Act, 2013. IFRS, International Accounting Standards, IND AS and GAAP.

Disclosure of Accounting Policies AS -1

Scope, Need, Various areas where disclosure is mandatory, Change in Accounting Policies .Comparison of AS-1 with IND AS-1.

Valuation of Inventories AS -2

Objective, Definition, Measurement of Inventory – Cost inventories, Exclusion from the cost of inventories, Valuation of inventory – Specific identification method, First-in First- out method, Weighted Average cost, Standard cost, Retail inventory method, Net realizable

value, Valuation of containers and empties, Disclosure in the financial statement, Corporate Accounting practices (Problems). Comparison of AS-2 with IND AS-2.

Accounting for cash flow statement AS -3

Cash flows- Defined- Cash flows components- Operating activities, Investing activities, and Financing activities, Cash flow from foreign currency transactions. Treatment of tax, Investment in associates, subsidiaries and joint ventures, Acquisition and disposal of subsidiaries, Non- cash transactions, Cash and cash equivalents, Advantages of cash flow statements, Cash flows- Defined, Cash flows components- Operating activities, Investing activities, Financing activities, Cash flow from foreign currency transactions. Treatment of tax, Investment in associates, subsidiaries and joint ventures, Acquisition and disposal of subsidiaries, Non- cash transactions, Cash and cash equivalents, Problems to be worked out to give an in-depth knowledge. Preparation of cash flow statement. Applicability of CFS. Comparison of AS-3 with IND AS-7.

Unit- 3 Accounting Standards 9-11

15 hours

Revenue Recognition AS -9

Revenue definition- Exclusions- Revenue from sale of goods, Revenue from rendering services, Revenue from use of resources by others-Disclosure requirements-Timing of revenue recognition. Comparison of AS-9 with IND AS-18.

Property, Plant and Equipment AS -10

Definition, Objective, Recognition of assets Initial measurement ,Subsequent costs, Measurement subsequent initial recognition, Revaluations, Increase /Decrease due to revaluation , Depreciation as per Schedule II of the Companies act,2013 and Guidance note, Impairment, Compensation for impairment, De-recognition: Accounting Treatment , Disclosure; Corporate practices, (Problems). Comparison of AS-10 with IND AS-16.

Effects of changes in Foreign Exchange Rates AS- 11

Need and objective, Scope and applicability, foreign currency transactions, Definitions, Classification for accounting treatment - Category- I-Foreign currency transactions; Category- II-Foreign operations; Category- III-Forward exchange contracts. Comparison of AS-11 with IND AS-21.

Unit- 4 Accounting Standards 13, 16 &17

14 hours

Accounting for Investments AS-13

Investment defined, Exception, Classification of investment, Cost of investments and Valuation of investments. Disposal of investments, Re-classification of investment, Disclosure of investment in the financial statements, (Problems). Comparison of AS-13 with IND AS-32, AS-107 & AS-109.

Borrowing cost AS- 16

Meaning and coverage, Qualifying asset, Recognition of borrowing cost, Eligible items for borrowing cost, Specific borrowing, General borrowing, Capitalization ceiling, Commencement of capitalization, Conditions for capitalization, Suspension of capitalization, Cessation of Capitalization, (Problems). Comparison of AS-16 with IND AS-23.

Segment reporting AS- 17

Meaning, Objective, Need for segment reporting. Types: Business segment, Geographical segment, Segment revenue, Segment expenses, Segment result, Segment assets, Segment

liabilities, Primary and secondary segments. Corporate practices. Comparison of AS-17 with IND AS-108.

Unit- 5 Accounting Standards 25-26

9 hours

Interim Financial Reporting AS- 25

Meaning, financial statements, Need, Principles of recognition and measurements, Form and contents of interim financial statements, Disclosure requirements. Comparison of AS-25 with IND AS-34.

Intangible Assets AS- 26

Asset- Meaning, Types – Intangible assets- Meaning, Unidentifiable, Acquired identifiable, Internally generated identifiable intangible asset, Characteristics, Cost of intangible assets, Research and development, Accounting treatment of research and development cost, Determination of cost of internally generated brands, Amortization of intangibles – Different methods, Retirement and disposal, Disclosure of corporate practices. Comparison of AS-26 with IND AS-38.

Skill Development

- Analysis of published financial statements for at least two types of stakeholders.
- Preparation of notes to accounts for non-current assets.
- Preparation of interim financial report of any two companies.
- Disclosure of change in accounting policies in the annual reports of any two selected companies.
- Comments for recent development exposure draft in IFRS and Ind AS.

Essential Reading:

Rawat D.S, (2017). *Accounting Standards*. New Delhi: Taxmann Allied Services (p) Ltd.

Recommended Readings:

1. Saini A., (2016). *Accounting Standards for students*. Bombay: Himlaya Publishing House.
2. M.P, Vijay Kumar. (2016). *First Lessons on Accounting Standards*. Mumbai: Snow White Publications Pvt. Ltd.
3. Jain., Narang. (2016). *Accounting Theory*. New Delhi: Kalyani Publishers.
4. Aggarwal.Manav., (2015). *Accounting Theory and Practice*. New Delhi: Kalyani Publishers.

Course: Financial Securities and Derivatives

Code: COA632L
Total Credits: 04

Course Type: Core
Total Hours: 60

Course Description

This course presents and analyzes derivatives, such as forwards, futures, and options. These instruments have become extremely popular investment tools over the past several decades, as they allow one to tailor the amount and kind of risk one takes, be it risk associated with changes in interest rates, exchange rates, stock prices, commodity prices, inflation, weather, etc. They are used by institutions as well as investors, sometimes to hedge (reduce) unwanted risks, sometimes to take on additional risk motivated by views regarding future market movements. The course defines the main kind of derivatives, shows how they are used to achieve various hedging and speculating objectives, introduces a framework for pricing derivatives, and studies several applications of derivative-pricing techniques outside derivative markets.

Learning Objectives

The students will be able to:

- Identify and explain different types of derivative instruments.
- Illustrate the trading mechanism of futures and options
- To do basic problems on hedging strategies using futures and options
- Illustrate the settlement mechanism of futures and options
- Solve basic problems of future and option pricing
- To examine the utility of commodity derivatives in the Indian market

Unit 1: Introduction to Derivatives

Hours: 10

Level of Knowledge: Conceptual

Definition – Types of Derivatives-forwards, futures, options, swaps-Participants and Functions- Development of Exchange traded derivatives- Global derivatives markets- Exchange traded vs OTC derivatives markets- Derivatives trading in India- Requirements for a successful derivatives markets, Misuse and criticism of derivatives Myths about derivatives. (Simple problems)

Unit 2: Mechanics of Futures Markets-I

Hours: 10

Level of Knowledge: Conceptual & Practical

Forward & future contract: Meaning of forward contract and future contract classification of forward contract. Features of Forward contract – Difference between forward and spot contract.

Meaning and definition of Future contract – Features of future contract - Evolution of future Market, Types of future contract- Futures market in India, specification of future contract and terminology. Difference between forward and future - margin requirement, Mark to Margin. Basic concepts in future pricing – Basis, the repo rate, arbitrage, spread and convergence. Settlement of future contract. Significance of future market.

Unit 3: Mechanics of Futures Markets-II

Hours: 06

Level of Knowledge: Conceptual & Practical

Theories (Approaches or Models) of future prices – Cost to carry approach – The expectation Approach – The Normal Backwardation approach and – The CAPM (**simple problems**), Clearing Members, Clearing Mechanism, Settlement Procedure, Settlement of Futures Contracts. Market lot, Tick size; Types of margins - Initial margin, maintenance margin and margin calls. Simple problems related to calculation of margin balances.

Unit 4: Commodity Derivatives

Hours: 06

Commodity market and derivatives - Meaning and its importance. Historical changes and growth of global and domestic Commodities derivatives markets. FCR Act 1952 and Regulatory structure of Commodities Derivatives Markets in India Commodities Derivative Exchanges and design of the markets (Major Exchanges in India). Commodity Exchange, Role of Commodity Exchanges, Commodity Derivative Markets in India, Indian Commodity Exchanges. Global commodity exchanges. Latest development. Difference between Commodity and financial derivatives. Physical Settlement, Warehousing, Quality of Underlying Assets.

Unit 5: Mechanics of Options Markets

Hours: 12

Level of Knowledge: Theoretical and Practical

Introduction to Options contracts –basic principles. Types of options – Basic concepts or Terms used in Option trading - Options terminology. Trading and settlement of options. Difference between option and futures. Options pricing – Determinants of Option Pricing – Upper and Lower limits of option pricing – In the Money – at the money and out of the money - Binomial Option Pricing Model – One step binomial model – Risk neutral valuation- Two step binomial trees - Black and Scholes model- Idea underlying Black Scholes Merton Differential Equation. Application of Options. Settlement of option contracts.

Unit 6: Trading and Hedging Strategies using Futures and Options

Hours: 16

Level of Knowledge: Conceptual

Meaning of Hedging, Classification of futures hedging strategies, basis risk and hedging, implementation of a hedging strategy; Hedging strategies with Options; Option trading strategies- Straddle, Strangle, Bear Spread, Bull Spread and Butterfly Spread.; bullish option strategy; bearish option strategy and non-directional/neutral option strategies (Simple Problems). Greek Letters – Delta, Theta, Gamma, Rho. Emerging derivatives products like Currency Derivatives, Credit Linked Notes, Credit Default Swaps, Structured Finance, Securitization, CDO, Synthetic CDOs, ABS, Weather derivatives, Bitcoin futures, diamond derivatives, inflation indexed derivatives

Skill Development

1. Prepare the list of commodities traded on commodity market (NCDEX/MCX) along with all its specifications.
2. Prepare the list of options/futures traded in stock market.
3. Prepare a list of index futures/index options contracts along with its specifications
4. Enter into a synthetic trading strategy in the derivative segment.

Essential Reading:

1. Hull John C. (2016). Options, Futures and Other Derivatives. Prentice Hall of India
2. Srivastava,R.(2010). *Derivatives and Risk management*. IOU India.

Recommended Reading:

1. Mishra,B&Debasish,S.(2010). *Financial derivatives*. Maha Maya Publication.
2. Brahmaiah& P Rao Subba. (2010). *Financial futures and options* (1sted). Oxford. United Kingdom.

Course: International Finance

Course Code: COA 633L

Total Credits: 04

Course type: Core

Total Hours: 60

Course Description

This course seeks to provide an understanding of finance in an international setting. This course will explore the characteristics of international finance and evaluate the associated risks and benefits involved in operating globally. The course will emphasize on international currency issues when operating across national boundaries and the recent developments in international financing. The course aims at developing effective strategies for international financing and investment. As a prerequisite, the students should be having basic knowledge about concepts relating to financial management in domestic firms, business organization, basics of accounting and business management.

Unit 1: Introduction to International Finance

Hours: 05

Level of Knowledge: Basic and Conceptual

Scope- Relevance of IFM- International Financial Management & Domestic Management- Scope of International finance- International business activities & methods-Motivation for international business- Input market- output market

Unit 2: Balance of Payment

Hours: 08

Level of Knowledge: Basic and Analytical

Meaning- BOP manual- BOP accounting (Debit & Credit)- BOP statement & components- Current account-capital account- Official reserve account- Types and causes of disequilibrium-simple problems on preparation of BOP statement

Unit 3: The International Monetary System

Hours: 12

Level Knowledge: Basic and Conceptual

International monetary system- Gold standard system- Price specie-Gold exchange standard- Bretton Woods & post Bretton woods system- Alternative exchange rate regimes (all types of systems)- IMF & World bank- Objectives & Functions of IMF & World Bank-IMF classification of exchange rate regime- Capital and current account convertibility-

Unit 4: The Foreign Exchange Market

Hours: 12

Level of knowledge: Basic and Conceptual

Foreign exchange market-market participants- Functions of Forex market- Information and communication systems -Forex rates- Forex quotations- Cross rates- Problems on conversion of direct to indirect, cross rate calculation, spread & spot forward transactions- Arbitrage-simple problems on two-point arbitrage and three point arbitrage- Nostro, Vostro accounts – Forward and Future spot rates- simple problems-Purchasing Power Parity (simple problems)- International Fisher effect- (problems)

Unit 5: Managing Foreign Exchange Exposure

Hours: 15

Level of knowledge: Basic and Conceptual

Exchange risk-types of exposure-Tools & techniques of foreign exchange risk management-Management of Translation exposure-Functional versus reporting currency-Translation methods (simple problems related to methods of translation)-Management of Transaction exposure-Risk management products-Management of Economic exposure-Managing economic exposure- Marketing management of exchange risk-production management of exchange risk.

Unit 6: Multinational Working Capital Management
Level of Knowledge: Basic and Conceptual

Hours: 08

Cash management-Objectives of effective international cash management systems-Netting (problems on netting and investing excess cash)Management of receivables- Inventory management

Essential Reading:

1. VIJ, M. (2006). *International Financial Management*. (2nd ed.). New Delhi: Excel Books.

Recommended Reading:

1. Avadhani, V. (2011). *International Financial Management*. (2nd ed.). Bangalore: Himalaya Publishing House.
2. Apte, P. (2011). *International Financial Management*. (3rd ed.). New Delhi: The McGraw Hill companies.
3. Varghese, S.K. (2000), *Foreign Exchange and Financing of Foreign Trade*. Vikas Publishing House.
4. SubbaRao (2010), *International Business*. Himalaya Publishing House.

Course: Entrepreneurship (Submission course)

Course Code: COA634L

Total Credits: 02

Course Description

Course Type: SEC

Total Hours: 30

Entrepreneurship is not just about start-ups: it is a topic that is rapidly growing in importance in government policy and in the behavior of established firms. The course provides students with an understanding of the role and personality of the entrepreneur, and a range of skills aimed at successful planning of entrepreneurial ventures. Material covered includes fostering creativity and open-mindedness, knowledge acquisition and management, innovation systems, screening and evaluating new venture concepts, market evaluation and developing a marketing plan, legal Issues Including intellectual property, preparation of venture budgets, and raising finance. The major piece of assessment is the writing of a comprehensive business plan for a new venture.

Course Objective:

The major learning objective of this subject is to develop students' knowledge about entrepreneurship

Unit 1: Introduction

Hours: 06

Evolution, Characteristics, Nature, Types, Functions of Entrepreneur - Distinction between an Entrepreneur and a Manager, Concept, Growth of Entrepreneurship in India, Role of Entrepreneurship in Economic Development. Emerging trends of contemporary entrepreneurship – Information and Communication Technology (ICT), Globalisation, Changing demands, unemployment, changing demographics, institutional support, ease of entry in the informal sector.

Unit 2: The Entrepreneurial Process

Hours: 04

Steps in the Entrepreneurial Process: Generating Ideas, Opportunity Identification, Business concepts, Resources (Financial, Physical and Human), Implementing and managing the venture, harvesting the venture.

Unit 3: Creativity and Innovation

Hours: 06

Creativity, Principles of creativity, Source of New Idea, Ideas into Opportunities. Creative Problem Solving: Heuristics, Brainstorming, Synectics, Value Analysis Innovation and Entrepreneurship: Profits and Innovation, Principles of Innovation, Disruptive, Incremental and Open innovations, Nurturing and Managing Innovation, Globalization, Concept and Models of Innovation, Methods of protecting Innovation and creativity, Significance of Intellectual Property Rights.

Unit 4: Entrepreneurship Practice

Hours: 10

Essentials of Business Ownership: Types of ventures, Risk and Benefits, Legal and Regulatory Framework, Ethics and Social Responsibility, Market Research (venture opportunity screening), Feasibility Analysis, Start-up capital and Financial Statements, Introduction to the Business Plan, Developing the Business Model for starting a new venture. Venture Life Cycle: Stages of the venture life cycle, Venture Models, Importance of venture valuation, Venture Valuation Methods, E-Commerce and Growing the Venture: The

Internet and its impact on venture development, Approaches to E-Commerce, Strategies for E-Commerce Success,

Unit 5: International Entrepreneurship Opportunities

Hours: 04

The nature of international entrepreneurship, Importance of international business to the firm, International versus domestic entrepreneurship, Stages of economic development, Entrepreneurship entry into international business, exporting, Foreign Direct Investments, barriers to international trade.

Essential Reading:

- Allen, K. R. (2011), *“Launching New Ventures: An Entrepreneurial Approach”*, 6th Edition. Mason, Ohio: South-Western Cengage Learning.
- Kuratko, Donald F. *Entrepreneurship: (2010) Theory, Process, Practice* 9th Edition. Mason, Ohio: South-Western Cengage Learning.

Recommended reading:

- Scarborough, N. M. (2011), *“Essentials of Entrepreneurship and Small Business Management”*, 6th Edition. New Jersey: Prentice Hall.
- Verstraete, T. and Jouioson-Laffitte, E. (2012), *“A Business Model for Entrepreneurship”*, Cheltenham: Edward Elgar Publishing Ltd.
- Poornima Charantimath, (2007) *“Entrepreneurship Development-Small Business Enterprise”*, Pearson Education.
- Rober D Hisrich, Michael P Peters, Dean A Shepherd, (2007), *Entrepreneurship*, (6 ed.), The McGraw-Hill companies.
- Rajiv Roy, (2011), *Entrepreneurship*, (2 ed.) Oxford University Press.

Note: (CIA Based Examination which consists of CIA1 15 MARKS, CIA2 15 MARKS, CIA3 15 MARKS WITH B-PLAN SUBMISSION AND ATTENDANCE 05 MARKS)

