S.P. Mandali's

R. A. Podar College
Of
Commerce and Economics (Autonomous)
Matunga, Mumbai

Syllabus

For

Post Graduate Programme

M.Com *(Behavioral Finance)*
Semester III & IV

CHOICE BASED CREDIT AND GRADING SYSTEM
(CBCGS)

With effect from academic year 2023-24

www.rapodar.ac.in

M.Com
(Behavioral Finance)
Under Choice Based Credit, Grading and Semester System
Course Structure

M.Com I & M.Com- II

No. of	Semester I	Credits	No. of	Semester II	Credits
	Core Courses (CC)			*Core Courses (CC)*	
1.	Introduction to Behavioural Finance	**06**	3	Behavioural Finance II	**06**
3	Business Ethics	**06**		Behavioural Economics	**06**
	Discipline Specific Courses			*Discipline Specific Courses*	
	Psychological Aspect of Investing	**06**		Introduction to Data Science I	**06**
	Ability Enhancement Compulsory Courses (AECC)			***Ability Enhancement Compulsory Courses (AECC)***	
	Statistical Tools and Techniques for Research	**06**	4	Research Methodology for Business	**06**
	Total Credits	**24**		**Total Credits**	**24ₚ**

No. of Courses	Semester III	Credits	No. of Courses	Semester IV	Credits
	Core Courses (CC)			*Core Courses (CC)*	
1	Risk management in Behavioral Finance	**06**	1	Personal Finance and Wealth management	**06**
2	Financial Frauds	**06**	2	Behavioral Finance in Investment Markets	**06**
	Elective Courses (EC)			*Elective Courses (EC)*	
3	*Any one course from the following list of courses A. Machine learning and Mining Algorithms B. Financial Accounting and Analysis C. Behavioural Approaches to Decision Making	**06**	3	*Any one course from the following list of courses A. Advance Data Science II B. Analytics for Investment Banking C. Supply chain Design and Management	**06**
4	Project Work- I	**06**	4	Project Work- II	**06**
	Total Credits	**24**		**Total Credits**	**24**

Note: *Project work is considered as a special course involving application of knowledge in solving/ analyzing/ exploring a real life situation/ difficult problem. Project work would be of 06 credits. A project work may be undertaken in any area of Elective Courses*

Syllabus of Courses of Master of Commerce (M.Com)
Behavioural Finance Programme at Semester III

Core Courses (CC)

1. **Risk Management in Behavioural Finance**

Modules at a Glance

SN	Modules	No. of lectures
1	Principles of Risk and Risk Management	15
2	Practice of Risk Management	15
3	Risk Assessment	15
4	Hedging, Speculation and Managing Risk - Return Balance	15
	Total	**60**

SN	Objectives
1	To explore the various sources and types of risk information that will aid in identification of risks.
2	The aim of this subject is to explore issues of corporate governance, risk oversight, internal control and assurance in a global marketplace.
3	To analyze the way in which crises are managed are key to learning lessons for building resilience and handling such events in the future.

SN	Modules/ Units
1.	**Principles of Risk and Risk Management**
	Concepts and Definitions of Risk and Risk Management: Definitions of risk, impact of risk on organizations, introduction to types of risk, definitions and development of risk management, principles and aims of risk management. **Risk Management Standards:** General risk management standards, alternative risk management approaches. Enterprise Risk Management: COSO 2004, enterprise risk management, implementing ERM, establishing the context for risk management.
2.	**Practice of Risk Management**
	The Global Business Environment: The business environment and risk environment, organisational vision and values, risk management's contribution to business success and value added, sector specific and geographical issues. **Risk Strategy and Framework:** Risk architecture, strategy and protocols, risk management documentation and responsibilities. **Risk culture, appetite and tolerance:** Organisational behaviour and culture, risk appetite and tolerance, risk training and communication, and risk practitioner competencies. **Risk and Organisations:** Introduction to corporate governance, identifying stakeholders, including regulatory bodies, introduction to project risk management, operational risk management and supply chain management, Case Studies. **Risk assurance and reporting:** The control environment, internal audit function, risk assurance techniques, risk reporting and corporate reputation.
3.	**Risk Assessment**
	Types and Sources of Risk Information: Sources of risk information, sources of risk, understand your organisation (external and internal context, the context of the risk management process), internal and external sources of information and risk classification. **Risk Identification Techniques:** Risk identification, considering opportunities and threats, identification techniques, effective facilitation of risk identification, appropriate risk descriptions, distinguishing between issues and real risks and when to implement risk identification. **Qualitative Risk Analysis:** Risk prioritisation, objectivity in risk rating, likelihood, impact, risk appetite and tolerance, qualitative assessment tools and techniques, and using likelihood and impact, additional prioritisation. **Quantitative risk analysis and risk modelling:** From qualitative to quantitative assessment, basic accounting, quantitative assessment, preparation for modelling, probability, impact, basic modelling, pitfalls in quantitative assessment. **Presenting risk assessment information:** From risk assessment, storing risk information, the need for risk assessment information, sharing risk assessment information, who we share with, how we share, what we share, when we share.
4.	**Hedging, Speculation And Managing Risk - Return Balance**
	Effect of taxation on investment decision, permissible deductions, exemptions, tax free investments, tax lots and loss harvesting. Asset allocation basics - as per IPS, tolerance definitions, substitution rules. Weighted average cost of capital, portfolio beta and risk---- premium. Using fundamental analysis for security selection and technical analysis for timing of orders Investor behavior analysis - cyclic nature, need induced decisions, tax dependencies, risk and return expectations, modeling using intelligence derived from behavioral analysis

REFERENCES:

George Rejda, Principles of Risk Management and Insurance, Pearson Education.

S. Balachandran, General Insurance, Insurance Institute of India.

S. Balachandran, Karve, Palav, Life Insurance, Insurance Institute of India.

M. Y. Khan, Indian Financial System, Tata McGraw-Hill.

Bharti Pathak, Indian Financial System, Pearson Education.

C. Arthur, William Jr., Michael Smith, Peter Young, Risk Management and Insurance, McGraw-Hill

Trieschmann, Gustavson, Hoyt, Risk Management and Insurance, South Western College Publishing.

Gupta, P. K, Insurance and Risk Management, Himalaya Publishing House

Insurance Theory and Practice , Nalini Prava Tripathy & Prabir Pal, Prentice – Hall of India , Pvt Ltd, New Delhi.

2.Financial Fraud

Modules at a Glance

SN	Modules	No. of lectures
1	Introduction & Overview of Financial Fraud	15
2	Forensic Investigation Engagement & Process	15
3	Forensic Audit	15
4	Monitoring & Controlling of Financial Fraud	15
	Total	**60**

SN	Objectives
1	To learn the definition, concepts, and principles related to fraud including
2	To understand core concepts related to fraud identification, deterrence, and fraud detection.
3	To understand the entire fraud investigation process from planning to reporting.
4	To find out what fraud is and understand examples of fraudulent activities such as theft of plant, inventory, or cash, false invoicing, and payroll fraud.

SN	Modules/ Units
1	**Introduction & Overview of Financial Fraud**
	Introduction: What is Fraud • Meaning and Definition under the Companies Act, 2013 and Criminal Procedure Code, 1973 • Elements of Fraud • What is Audit; Forensic Audit • Need and Objectives • Fraud and Forensic Audit, Forensic Audit vis-a-vis Auditing.
	Overview Of Financial Fraud - The prevalence of financial fraud -The fraud triangle and its three elements-Different types and channels of financial crime - Types of fraud : Accounting fraud, Asset misappropriation, Consumer fraud, Data theft, Tax fraud - Channels of financial crime perpetration: In-person, Over the phone, Banking systems, Digital channels, Cross-channels - Understanding the "Bad Actors" : "Dark Triad" personalities, Non-personality related factors - Combating financial crime: Legal landscape, Government organisations, Private sector organisations, Individuals
2	**Forensic Investigation Engagement & Process**
	Forensic Investigation Engagement - Investigation methodology - Hallmarks of a robust allegation response plan - Governance over forensic investigations -Stakeholders identification and constitution - Assembling an investigation team - Confidentiality and security considerations - Goals and scope of the investigation- The fraud theory approach - Adaptive process analysis- Designing an investigation programme. **Conducting The Forensic Investigation** - Evidence collection -Organisation sources of information- Non-organisation sources of information - Discovery process - The interview process: effective interview techniques- Evidence preservation and documentation -Evidence analysis.
	Preparing the forensic investigation report- Stakeholders reporting-Developing a comprehensive monitoring framework for the implementation of remediation measures
3	**Forensic Audit:**
	Audit and Investigations:
• Tools for handling Forensic Audit and the Role of Company Secretary • Investigation Mechanism • Field Investigations • Methods of Investigations • Red Flags • Green Flags
	Forensic Audit: Laws and Regulations: Information Technology and Business Laws • International Laws and Practices; • UK Bribery Act • US Foreign Corrupt Practices Act • Indian Laws • ICSI Anti Bribery Code.
The Role Of Advanced Technology In Forensic Investigations Amid An Increasingly
Technology Driven World -Understanding digital forensics - Transforming digital media into
forensic evidence - Data collection: Data examination, Analysis, Reporting- Leveraging the power of
data analytics in forensic investigations
4	**Monitoring & Controlling of Financial Fraud:**
	Preventive Measures: Damages Fundamentals- Underlying legal principles determining quantum – Compensation: Indemnity, Restitution, Others - Principle causation topics: Compliance with financial reporting standards, Compliance with auditing standards, Existence and nature of transactions -Quantifying losses using Discounted Cash Flow (DCF) models.
	Monitoring & Penal Action: Information Technology and Business Laws • International Laws and Practices; • UK Bribery Act • US Foreign Corrupt Practices Act • Indian Laws • ICSI Anti Bribery Code.
Fraud Risk Management: Fraud risk governance, Roles and responsibilities within an organization - The Three Lines Model, Essentials of a robust Fraud Risk Management Programme (FRMP)-Fraud risk assessment -Fraud risk mitigation: Preventive controls, Detective controls, leveraging technology, Identifying the red flags - Fraud risk analysis, reporting, and escalation -Continuous monitoring and FRMP reviews -Incident management and response plan.

REFERENCES:

- Robert N. Anthony, David F. Hawkins, Kenneth A. Merchant. Accountancy- text and cases. McGraw Hill Education (India) Private Limited, New Delhi.

- Maheshwari S. N., Maheshwari Sunil K., and Maheshwari Sharad K, An Introduction to Accountancy, Vikas Publishing House Pvt. Ltd.

- Narayana swamy R. Financial Accounting: A Managerial Perspective. PHI Learning Pvt. Ltd., Delhi

- Garg CA Kamal, and Sehrawat Neeraj Kumar. Beginner`s Guide to Ind AS & IFRS. Bharat Law House Pvt. Ltd., New Delhi

Syllabus of Courses of Master of Commerce (M.Com)
Behavioural Finance Programme at Semester III
Elective Courses (EC)

Machine learning and Mining Algorithms

Modules at a Glance

SN	Modules	No. of lectures
1	Introduction	15
2	Artificial Neural networks and Deep learning	15
3	Data Mining Algorithms	15
4	Web mining and other data mining	15
	Total	**60**

SN	Objectives
1	To understand basic human learning concepts
2	To understand primitivities in learning process by computer
3	To understand nature of problems solved with machine learning

SN	Modules/ Units
1.	**Introduction**
	AI Basics: Foundations, History and State of the Art of AI. Intelligent Agents: Agents and Environments, Nature of Environments, Structure of Agents, Search strategies. **Types of learning**: -Basics and applications of supervised, unsupervised, evolutionary, inductive, Analytical and reinforcement learning.
2.	**Artificial Neural networks and Deep learning**
	Artificial Neural Networks-Artificial neuron, activation function, Neural networks-Multi-layered Neural Network, Feedforward network, Backpropagation network. **Deep Learning**-Deep neural networks-overview of Convolutional Neural networks, Recurrent neural networks and multi-layer perceptron. Deep Learning frameworks. **Applications of Deep Learning in Business:** Customer service, Marketing Campaign, Financial Fraud detection, Quality Control.
3.	**Data Mining Algorithms**
	Classification: Neural Network based Algorithms, Distance Based Algorithms. **Clustering**-Density Based methods, outlier detection and analysis, Clustering high dimensional data. **Mining frequent patterns**: Rule Based analytics, Apriori. **Prediction**-Time Series Forecasting, Accuracy of prediction. **Ensemble Methods**: Bagging, Boosting and cross validation **Case Studies**: Market basket analysis, stock market analytics, financial Risk Assessment.
4.	**Web mining and other data mining**
	Web Mining: Introduction to Web Mining- Web content mining-Web usage mining-Web Structure mining-Web log structure and issues regarding web logs. **Advanced techniques:-** Text Analytics , Sentiment Analysis, Spatial data mining,Temporal mining

REFERENCES:

- Introduction To Algorithms For Data Mining And Machine Learning by Yang Xin-She, Acad Pr.

- Data Mining and Machine Learning: Fundamental Concepts and Algorithms by Mohammed J. Zaki (Author), Wagner Meira Jr (Author)

- Leskovec, J & Rajaraman, A. & Ullman, J (2014). *Mining of Massive Datasets*. The book is available online from here.

- Bishop, C. (2007). *Pattern Recognition and Machine Learning*. More information supporting the book can be found here.

- James, G. & Witten, D. & Hastie, T. & Tibshirani, R. (2014). *An introduction to Statistical Learning: with Applications in R*. The book is available online from here.

- Murphy, K.P. (2012). *Machine Learning: A Probabilistic Perspective*. MIT Press. More information supporting the book can be found here.

- Mitzenmacher, M. and Upfal, E. (2005). Probability and Computing. Cambridge University Press. A PDF version of the book is available here

FINANCIAL ACCOUNTING & ANALYSIS

Modules at a Glance

SN	Modules	No. of lectures
1	Introduction to Accounting	15
2	Inventory Valuation	15
3	Financial Analysis-I Financial Statement Analysis	15
4	Capital Structure Decisions	15
	Total	**60**

SN	Objectives
1	To provide the information that is needed for sound economic decision-making.
2	To provide information about firm's performance to external parties such as investors, creditors, bankers,researchers and Government Agencies.
3	To use the analytical techniques and arriving at conclusions from financial information for the purpose of decision making.

SN	Modules/ Units
1.	**Introduction to Accounting**
	Importance - Objectives – Principles. GAAP: Accounting Concepts and Conventions. Accounting System: Double Entry System - Recording Business Transactions - Classification of Accounts - Accounting Cycle - Usersof Accounting Information. The Accounting Process Overview: Accounting Process. Books of Original Record: Journal - Ledger - Trial Balance (Problems) - Classification of Capital and Revenue Expenses - Final Accounts with Adjustments (Problems) - Cash Book and other Subsidiary books. (Only Theory)
2.	**Inventory Valuation**
	Methods of Inventory Valuation and Valuation of Goodwill, Methods of Valuation of Goodwill, Accounting fromIncomplete Records, Advantages and Disadvantages of Single Entry and Double Entry System and the Differences Between the Two, Preparation of Accounts and Ascertainment of Profit from Incomplete Records, Accounting Treatment as per the Statement of Affairs Method and Calculation of Missing Figures.
3.	**Financial Analysis-I Financial Statement Analysis**
	Analysis and Interpretation of Financial Statements from Investor and Company point of view - Horizontal Analysis and Vertical Analysis of Company Financial Statements - Liquidity - Leverage - Solvency and Profitability Ratios. (Problems) Techniques: Du Pont Chart - Window Dressing - Limitations of Financial Statements. Accounting Standards (AS) Issued by ICAI-IFRS. Case Study on Financial Reporting & Analysis(FRAs).
4.	**Capital Structure Decisions**
	Capital Structure Decisions - Meaning, Choice of Capital Structure, Importance, Optimal Capital Structure, EBIT-EPS Analysis, Cost of Capital, Capital Structure and Market Price of Share, Capital Structure Theories, Dividend Policy - Pay Out Ratio Business Risk and Financial Risk - Introduction, Debt v/s Equity Financing, Types of Investment. Objective/Criteria for Individuals/Non-business Purpose.

REFERENCES:

• Dhanesh K. Khatri, Financial Accounting & Analysis, TMH, New Delhi.

• PK Jain and K. L. Narang, Financial Accounting & Analysis, Kalyani Publications.

• Narayana Swamy, Financial Accounting & Analysis, PHI.

• V. Rajasekharam, Financial Accounting & Analysis, Pearson Education, New Delhi.

• Ranjan Kumar Bal, Financial Accounting & Analysis, S. Chand, New Delhi.

• Maheswari, Financial Accounting, IBH.

Behavioural approaches to Decision Making

No.	Modules	No. of lectures
1	Utility and Prospect theory	15
2	Game theory	15
3	Biases in decision-making	15
4	Key behavioural theories in decision-making	15
	Total	**60**

No.	Objectives
1	To appreciate the key behavioural drivers for decision-making.
2	To enable the student to apply the behavioural finance theories in situations involving options and decisions.
3	To provide contrasts between the old- and new-school of thought underlying human decisions.

Modules/ Units

1	**Utility and Prospect theory**
	a. The characteristics of utility functions for a) non-satiation, and b) risk-aversion as behavioral traits.
	b. Numerical work around first and second derivatives of various utility functions viz. quadratic, logarithmic, power functions.
	c. Absolute and relative risk aversion with calculation of 'certainty equivalent.' State dependent utility functions based on 'wealth.'
	d. Appreciate how the prospect theory replaces the conventional risk-averse/ risk-seeking decreasing marginal utility theory with a concept of value defined in terms of gains and losses with respect to a reference point.

2	**Game theory**
	a. Introduction to payoffs and games
	b. Prisoner's dilemma
	c. Competitive equilibrium and the game theory
	d. Bounded rationality
	e. Nash equilibrium
	f. Extensive games with perfect information
	g. Bargaining games
	h. Repeated games.

3	**Key behavioral biases in decision-making**
	skills
	f. Hindsight bias – events that happen will be thought as having been predictable prior to the event, and events that do not happen as unlikely prior to the event.
	g. Confirmation bias – tendency to look for evidence that confirms one's point of view
	a. Representative Heuristics – the ease of imagination and amount of detail provided raises the apparent likelihood.

4	**Key behavioral theories in decision-making**
	a. Framing and question wording – framing of choices and wordings of the question's enormous impact on the answer given or the decision made
	b. Myopic loss aversion – linkage to the prospect theory, however considering 'repeated choices' rather than a 'single gamble.'
	c. Hyperbolic discounting – a cognitive bias where smaller, immediate rewards are chosen over larger, later rewards.
	d. Mental accounting – tendency to separate related events and decisions, and not aggregate.
	e. Ambiguity aversion – the preparedness to pay a premium for rules and the linkage to the growth of financial guarantees, financial derivatives and insurance products
	Regret aversion – the tendency to minimize the possibility of regret by sticking with existing arrangements.

References:

- Chandra, P. (2017). Behavioural finance.

- Shiller, R. J. (2015). Irrational exuberance. In *Irrational exuberance*. Princeton university press. Thaler, R. H., & Ganser, L. J. (2015). Misbehaving: The making of behavioral economics.

- Osborne, M. J. (2004). *An introduction to game theory* (Vol. 3, No. 3). New York: Oxford university press. Kapoor, S., & Prosad, J. M. (2017). Behavioural finance: A review. *Procedia computer science*, *122*, 50-54. Tversky, A. (1975). A critique of expected utility theory: Descriptive and normative considerations. *Erkenntnis*, 163-173.

- Sebora, T. C., & Cornwall, J. R. (1995). Expected utility theory vs. prospect theory: Implications for strategic decision makers. *Journal of Managerial Issues*, 41-61.

- Leonard, T. C. (2008). Richard H. Thaler, Cass R. Sunstein, Nudge: Improving decisions about health, wealth, and happiness: Yale University Press, New Haven, CT, 2008, 293 pp

- Barberis, N., Huang, M., & Santos, T. (2001). Prospect theory and asset prices.
- *The quarterly journal of economics*, *116*(1), 1-53.

- Edwards, K. D. (1996). Prospect theory: A literature review. *International review of financial analysis*, *5*(1), 19-38.

- Kahneman, D., & Tversky, A. (2013). Prospect theory: An analysis of decision under risk. In *Handbook of the fundamentals of financial decision making: Part I* (pp. 99-127).

- Levy, J. S. (1992). An introduction to prospect theory. *Political psychology*, 171-186.

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- Taylor, Nigel. "Making actuaries less human." *Staple Inn Actuarial Society* (2000).

- Benartzi, S., & Thaler, R. H. (1995). Myopic loss aversion and the equity premium puzzle.

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- van Dolder, D., & Vandenbroucke, J. (2022). Behavioral Risk Profiling: Measuring Loss Aversion of Individual Investors. *Available at SSRN*.

- Plous, Scott. *The psychology of judgment and decision making*. Mcgraw-Hill Book Company, 1993.

Syllabus of Courses of Master of Commerce (M.Com)
Behavioural Finance Programme at Semester IV

Core Courses (CC)

1. Personal Finance and Wealth Management

Modules at a Glance

SN	Modules	No. of lectures
1	Basics of Personal Financial Management	15
2	Computation of Return and Risk of Personal Investment	15
3	Introduction To Wealth Management And Economic Environment	15
4	Wealth Management Process, Products & Ethics	15
	Total	**60**

SN	Objectives
1	This course aims to equip individuals with skills to manage their personal finances and private wealth.
2	To benefit students aspiring to enter the financial planning and wealth management industry.

SN	Modules/ Units
1.	**Basics of Personal Financial Management**
	The Personal Financial Planning Process, Preparation of Personal Budget, Personal Financial Statements, Personal Income Tax Planning. Case studies on the personal financial planning of individuals. Personal Savings & Investment: Investment Criteria- liquidity, safety, and profitability. Savings instruments of Post Office and Banks. Chit Funds. Investment in Shares, Debentures, Corporate and Government Bonds, and Mutual Funds. Investment in Physical Assets – Real Estate, Gold, and Silver. Risk and Return associated with these investments. Case studies on risk and return perception of retail investors on various investments.
2.	**Computation of Return and Risk of Personal Investment**
	Present Value and Future Value of a Single Amount and an Annuity. Computation of interest, dividend, and capital gains on personal investments. Impact of leverage on return. Personal tax planning. Retirement Savings Plans: Pension Plans- Defined Contribution Plan and Defined Benefit Plan. Provident Fund, Gratuity. Life Insurance Plans. General Insurance Plans. Reverse Mortgage Plans
3.	**Introduction To Wealth Management And Economic Environment**
	Scope and components of wealth management. Outlook of the Wealth management industry. World wealth reports. Types of wealth firms. Financial Literacy-initiatives and regulators. Interest rate and yield curve analysis. Inflation and real rate of return.
4.	**Wealth Management Process, Products & Ethics**
	Developing a wealth management plan. Essentials of a comprehensive wealth management plan. Components of a plan. Investment risks and its types. Risk profiling and asset allocation. Life cycle model, asset allocation strategies, goal based financial planning. Active and passive strategies. Portfolio Management services-players, regulations, types. Structured products-types, features, risk/return tradeoff. Ethical issues in financial advisory. Code of ethics. Regulatory changes. Ethical standards.

REFERENCES:

- Benedict KOH and Wai Mun FONG (2017), "Personal Financial Planning", 5 th edition, Pearson-Prentice Hall.

- Benedict KOH and Wai Mun FONG (2017), "Personal Investments", 2 nd edition, Pearson-Prentice Hall.

- S. Murali and K.R. Subbakrishna (2020) Personal Financial Planning (Wealth Management)

- Singhanar V.K: Students' Guide to Income Fax; Taxmann, Delhi.

- Prasaci, Bhagwati: Income Tax Law & Practice: Wiley Publication, New Delhi,

- Girish Ahuja and Ravi Gupta: Systematic approach to income tax: Sahitya Bhawan Publications, New Delhi.

- Ranganathan and Madhumathi: Investment Analysis and Portfolio Management: Pearson, New Delhi

- George Rejda: Principles of Risk Management and Insurance: Pearson, New Delhi

2. Behavioural Finance in Investment Market

Modules at a Glance

SN	Modules	No. of lectures
1	Key behavioural biases in investment markets – I	15
2	Key behavioural biases in investment markets – II	15
3	Key behavioural theories in investment markets – I	15
4	Key behavioural theories in investment markets – II	15
	Total	**60**

SN	Objectives
1	To appreciate the key behavioral drivers for decision-making among organized fund management and individual/ proprietary investment positions.
2	To enable the student to apply behavioral finance theories in situations involving investment decisions.
3	To provide contrasts between the old- and new-school of thought underlying investment decisions.

Modules/ Units
1   **Key Behavioural Biases in Investment Markets – I**
a. Anchoring and adjustment – Rupee Cost Averaging, Treating of out-of-the-money investment b. Prospect theory – decisions based on the present prospects of an investor and how the prospects change based on investment mandate e.g., fund managers, proprietary traders, etc. c. Status quo bias – Fund manager's conviction and case study d. Recency bias – IPOs with new themes, thematic investments, AIFs.
2   **Key behavioural biases in investment markets – II**
a. Availability bias – Index tracking funds and other new investment instruments b. Hindsight bias – Post shakeup views in investment c. Confirmation bias – Herd mentality in equity and debt markets d. Representative Heuristics – Asset allocation and lifestyle investing.
3   **Key behavioural theories in investment markets – I**
a. Framing and question wording – the effect on investment decisions based on expectations (framing) of professional investors e.g., ESG, leverage, consumer segmentation, technology. b. Myopic loss aversion (MLA) – The equity premium puzzle associated with MLA, loss aversion from a standpoint of prospect, as developed from the prospect theory c. Hyperbolic discounting – effect on the development of long-term savings and pensions as arises from the investor preference toward smaller, immediate gains rather than larger, later well-being.
4   **Key Behavioural theories in Investment Markets - II**
a. Mental accounting – Averaging, Views on allocation, risk-return parameters b. Ambiguity aversion – The growth of the financial products that address the removal of ambiguity e.g., financial derivatives (options, swaps, CDOs), life insurance with guarantees of sum assured, and general insurance to cover liability and indemnify against losses. c. Regret aversion – the tendency of investment managers to retain existing arrangements (e.g., asset allocation, alpha investing philosophy, sector preference) in order to minimise the possibility of future regret.

REFERENCES:

- Chandra, P. (2017). Behavioural finance.
- Shiller, R. J. (2015). Irrational exuberance. In *Irrational exuberance*. Princeton university press. Thaler, R. H., & Ganser, L. J. (2015). Misbehaving: The making of behavioral economics.
- Osborne, M. J. (2004). *An introduction to game theory* (Vol. 3, No. 3). New York: Oxford university press. Kapoor, S., & Prosad, J. M. (2017). Behavioural finance: A review. *Procedia computer science*, *122*, 50-54.
- Tversky, A. (1975). A critique of expected utility theory: Descriptive and normative considerations. *Erkenntnis*, 163- 173.
- Sebora, T. C., & Cornwall, J. R. (1995). Expected utility theory vs. prospect theory: Implications for strategic decision makers. *Journal of Managerial Issues*, 41-61.
- Leonard, T. C. (2008). Richard H. Thaler, Cass R. Sunstein, Nudge: Improving decisions about health, wealth, and happiness: Yale University Press, New Haven, CT, 2008, 293 pp
- Barberis, N., Huang, M., & Santos, T. (2001). Prospect theory and asset prices. *The quarterly journal of economics*, *116*(1), 1-53.
- Edwards, K. D. (1996). Prospect theory: A literature review. *International review of financial analysis*, *5*(1), 19-38. Kahneman, D., & Tversky, A. (2013). Prospect theory: An analysis of decision under risk. In *Handbook of the fundamentals of financial decision making: Part I* (pp. 99-127).
- Levy, J. S. (1992). An introduction to prospect theory. *Political psychology*, 171-186.
- O'neil, C. (2017). *Weapons of math destruction: How big data increases inequality and threatens democracy*. Crown. Taylor, Nigel. "Making actuaries less human." *Staple Inn Actuarial Society* (2000).
- Benartzi, S., & Thaler, R. H. (1995). Myopic loss aversion and the equity premium puzzle. *The quarterly journal of Economics*, *110*(1), 73-92.
- van Dolder, D., & Vandenbroucke, J. (2022). Behavioral Risk Profiling: Measuring Loss Aversion of Individual Investors. *Available at SSRN*.
- Plous, Scott. *The psychology of judgment and decision making*. Mcgraw-Hill Book Company, 1993.

Syllabus of Courses of Master of Commerce (M.Com)
Behavioural Finance Programme at Semester IV
Elective Courses (EC)

Advanced Data Science

Modules at a Glance

SN	Modules	No. of lectures
1	Introduction	15
2	Data Processing	15
3	Basic Machine Learning Algorithms	15
4	Clustering	15
	Total	**60**

SN	Objectives
1	To familiarize the learners with the concept and Foundation of Data Science
2	To enable learners to understand the scope and complexity of data science

SN	Modules/ Units
1.	**Introduction**
	Big Data and Data Science – Datafication – Current landscape of perspectives – Skill sets needed; Matrices – Matrices to represent relations between data, and necessary linear algebrai-coperations on matrices - Approximately representing matrices by decompositions (SVD and PCA).
2.	**Data Processing**
	Data cleaning – data integration – Data Reduction Data Transformation and Data Discretization.Evaluation of classification methods – Confusion matrix, Students T-tests and ROC curves- Exploratory Data Analysis – Basic tools (plots, graphs and summary statistics) of EDA, Philosophy of EDA – The Data Science Process.
3.	**Basic Machine Learning Algorithms**
	Association Rule mining - Linear Regression- Logistic Regression - Classifiers - k-Nearest Neighbours (k-NN), k-means -Decision tree - Naive Bayes- Ensemble Methods - Random Forest. Feature Generation and Feature Selection - Feature Selection algorithms - Filters; Wrappers; Decision Trees; Random Forests.
4.	**Clustering**
	Clustering: Choosing distance metrics - Different clustering approaches – hierarchical agglomerative clustering, k-means (Lloyd's algorithm), - DBSCAN - Relative merits of each method - clustering tendency and quality.

Suggested Readings

- Cathy O'Neil and Rachel Schutt, "Doing Data Science, Straight Talk from The Frontline", O'Reilly, 2014.

- Jiawei Han, Micheline Kamber and Jian Pei, "Data Mining: Concepts and Techniques", Third Edition. ISBN 0123814790, 2011.

- Mohammed J. Zaki and Wagner Miera Jr, "Data Mining and Analysis: Fundamental Concepts and Algorithms", Cambridge University Press, 2014.ferences

- Matt Harrison, "Learning the Pandas Library: Python Tools for Data Munging, Analysis, and Visualization, O'Reilly, 2016.

- Joel Grus, "Data Science from Scratch: First Principles with Python", O'Reilly Media, 2015.

Analytics for Investment Banking

Modules at a Glance

S N	Modules	No. of lectures
1	Introduction to Investment Banking	15
2	Introduction to Financial Modelling & Valuation	15
3	Relative Valuation & Start-up Valuation	15
4	Merger & Acquisition along with LBO	15
	Total	**60**

S N	Objectives
1	To understand how investment banks can help in achieving these goals.
2	To have a sound understanding of how to assess the value creation potential of various investment projects.
3	To understand special topics in Corporate Finance like Mergers & Acquisitions, corporate restructurings, LBOs and corporate governance.

SN	Modules/ Units
1.	**Introduction to Investment Banking**
	Understanding what investment banking is. Recognizing the critical role investment banking plays in the capital formation process. Discovering how investment banking compares with traditional banking. Finding out how investment banking operations make their money. Looking at the different types of investment banks and what they do.
2.	**Introduction to Financial Modelling & Valuation**
	Basics of Financial Modelling, Philosophical Basis of Valuation, Biases in Valuation, Sources of Uncertainty, Sources of Complexity, Approaches to Valuation: Discounted Cash Flow and Relative Valuation.
3.	**Relative Valuation & Start-up Valuation**
	Relative Valuation takes into account how the market has valued similar companies to the company we are trying to value. This technique is more market oriented and is widely used in Equity Research and Valuation. Introduction, Steps in Comparable Analysis, Equity Value, Enterprise Value, EBITDA, Gross Profit Margin, Growth Metric, Credit Profile and Precedent Transaction Analysis.
4.	**Merger & Acquisition along with LBO**
	Merger and Acquisitions are happening very frequently these days as firms join hands or takeover their competitors. The financial modelling of the deal of merger and acquisition will be taught. Also, LBO which is a very unique technique to takeover a company has been used in the past by firms and investors have either made or lost a lot of money as the result of LBO. So, LBO financial modelling will be discussed in which all the important aspects of LBO will be covered. M&A Valuation and Merger Modelling: Introduction, Purchase Price and Stock Payment, Pro Forma Balance Sheet and Valuation of Target with Multiples. LBO Valuation and Modelling: Introduction, LBO Economics and LBO Valuation.

REFERENCES:

- Joshua Rosenbaum and Joshua Pearl:Investment Banking: Valuation, Leveraged Buyouts, and Mergers and Acquisitions.

- Paul Pignataro:Financial Modeling and Valuation: A Practical Guide to Investment Banking and Private Equity.

- Tom Lott:Vault Career Guide to Investment Banking.

- Thomas Liaw:The Business of Investment Banking: A Comprehensive Overview.

Supply Chain Design and Management

Modules at a Glance

SN	Modules	No. of lectures
1	Introduction to Supply Chain Management	15
2	Perspectives of SCM	15
3	Introduction to Logistics	15
4	Design of SCM, Logistics and Use of Internet	15
	TOTAL	**60**

SN	Objectives
1	To understand how Logistics, Supply Chain, Operations, Channels of Distribution fit in to various types of Business viz., Manufacturing, Service and Project.
2	To understand how Transportation and Warehouse functions fits into Logistics & Supply Chain Management.
3	To understand how Managers, take decisions in Logistics and supply chain management functional area.

SN	Modules/ Units
1.	**Introduction to Supply Chain Management**
	Supply Chain Management: Concept, Features, Evolution, Importance, Process and Barriers of SupplyChain Management. Principles and Strategies: Principles, Supply Chain Strategies – Organizations, Coordination,Innovation and Forecasting. Participants in SCM: Supply chain intermediaries- Concept and Types, Channels of Distribution for IndustrialGoods and Consumer Goods, Channel of Distribution at Services Level, Factors for selection of suitable channels.
2.	**Perspectives of SCM**
	Global perspectives: Measuring and analyzing the value and efficiency of global Supply Chain Networks,Global market forces, Types of global supply chain. Indian Perspectives: Measuring and Analyzing the value and efficiency of domestic Supply Chain Networks,Economic effects of supply chains. Customer Perspectives: Customer values, Role of customers and Ways of improving customer services in SCM.
3.	**Introduction to Logistics**
	Logistics Management: Concept and Process, Competitive Advantages and Three C's, Changing LogisticsEnvironment, Reverse Logistics, Importance of Inventory Control, Bull-whip effect Transportation and Warehousing: Transport Functions and Participants in Transportation Decisions,Transport Infrastructure- Forms, Warehouse Functions and Operations Packaging and Materials Management- Consumer and Industrial Goods Packaging - Importance, Factorsinfluencing Materials Planning, Preservation Safety and Measures of Materials Handling
4.	**Design of SCM, Logistics and Use of Internet**
	SCM Plan- Demand Planning, Source of Procurement, Production or Assembly Steps, Sales return ofdefective or excess goods Use of Internet in SCM- E-market places, E-procurement, E-logistics, E-fulfillment. Operative Systems inSCM: Enterprise Resource Planning (ERP), Performance Modeling of supply chains using Markov chains, Inventory Control Importance, Pareto's Law. New Horizon in Supply chain Management (Careers)

REFERENCES:

● Modeling the Supply Chain-2nd edition; Shapiro, Jeremy F, Duxbury Applied Series

 ● Logistics and Supply Chain Management; Christopher, M (1992), Pitman Publishing, London.

● Logistics and Supply Chain Management Cases and Concepts; Raghuram and Rangaraj, Macmillan

● Supply Chain Management; N. Chandrasekaran, Oxford

● Supply Chain Logistics Management-2nd Edition; Bowersox, Closs, Cooper, McGraw Hill

● Supply Chain Management; Dubey, Kumar Sai, New Century

EXAMINATION PATTERN

Under Choice Based Credit, Grading and Semester System

With Effect from Academic Year: 2022-23

Evaluation pattern

        1. Continuous Internal Evaluation (40 Marks)

        2. Semester End Exam (60 Marks)

Continuous Internal Evaluation (CIE)	40 marks
The internal evaluation of 40 marks for M.Com for each semester would be of tests and of class participation, project, case study analysis, Caselets, PowerPoint presentations, group discussion, book review, Research paper, article analysis and any other mode depending on the nature and scope of the course. Continuous Internal Evaluation (CIE), to be conducted by the subject teacher all through the semester. The total mark break up would be suitably divided and the total marks scored by the learner would be submitted to the Controller of Examination.	
Semester End Examination (SEE)	60 marks
TOTAL	100 marks

Maximum Marks: 60

Questions to be set: 04

Duration: 2 Hrs.

All Questions are Compulsory Carrying 15 Marks each.

Question No	Particular	Marks
Q1	Practical Question	15 marks
	OR	
Q1	Practical Question	15 marks
Q2	Practical Question	15 marks
	OR	
Q2	Practical Question	15 marks
Q3	Practical Question	15 marks
	OR	
Q3	Practical Question	15 marks
Q4	Practical Question	15 marks
	OR	
Q4	Practical Question	15 marks

Note: Full length question of 15 marks may be divided into two sub questions of 08 and 07 marks.

Question Paper Pattern

(Theoretical Courses)

Maximum Marks: 60

Questions to be set: 04

Duration: 2 Hrs.

All Questions are Compulsory Carrying 15 Marks each.

Question No	Particular	Marks
Q 1	Full length Question OR	15 marks
Q 1	Full length Question	15 marks
Q2	Full length Question OR	15 marks
Q2	Full length Question	15 marks
Q3	Full length Question OR	15 marks
Q3	Full length Question	15 marks
Q4	Full length Question OR	15 marks
Q4	Full length Question	15 marks

Note: Full length question of 15 marks may be divided into two sub questions of 08 and 07 marks.

Sr. No.	Particular
1	**Standard of Passing:** The learner to pass a course shall have to obtain a minimum of 40% marks in aggregate for each course where the course consists of Continuous Internal Evaluation & Semester End Examination. The learner shall obtain minimum of 40% marks (i.e. 16 out of 40) in the Internal Assessment and 40% marks in Semester End Examination (i.e. 24 out of 60) separately, to pass the course and minimum of Grade D in the project component, wherever applicable to pass a particular semester. A learner will be said to have passed the course if the learner passes the Continuous Internal Evaluation & Semester End Examination together
2	**ATKT Rules:** 1) A learner shall be allowed to keep term for Semester II irrespective of number of courses of failure in the Semester I 2) A learner shall be allowed to keep term for Semester III irrespective of number of courses of failure in Semester I and II. 3) A learner shall be allowed to keep term for Semester IV Irrespective of number of courses of failure in semester I, II and III. However the mark sheet for IV semester shall be given only after he/ she passes the first three semester.

QUESTION PAPER PATTERN

SEM III & IV

Evaluation scheme

Scheme of Examination: The performance of the learners will be evaluated in two components. One componentwillbetheInternal Assessmentcomponentcarrying 40% marksandthesecondcomponentwill be the Semester End Examination component carrying 60% marks.

Internal Assessment: The Internal Assessment willconsistofoneclasstestof 40 marks for each course excluding projects. The pattern will be shown as below:

Internal Assessment (**I.A.**)**- 40 Marks**

(I) Class test: 20 Marks.

Question PaperPatternofIA

Maximum Marks: 20 marks

Questions to be set: 02

Duration: '/2 hour

Question No	Particular	Marks
	Objective Questions	05 marks
	Concept based short questions /case study Students to answer 3 sub questions out of 5 sub questions.	15 marks

(II) Assignment: 20 Marks

May Include Case studies, Research Papers, Oral presentation, Collaborative learning Activity, Article Review, Company analysis, Real world examples etc. in aligned with the learning objective of the individual course.

Semester End Examination (SEE)- 60 Marks

Question Paper Pattern of SEE

Maximum Marks: 60

Questions to be set: 04

Duration: 2 Hrs.

All Questions are Compulsory Carrying 15 Marks each.

Question no.	Particulars	Marks
Q1	A) Full length Questions Or B) Full length Questions	15
Q2	A) Full length Questions Or B) Full length Questions	15
Q3	C) Full length Questions ○ [D) Full length Questions	15
Q4	C) Full length Questions Or D) Full length Questions	15

Note: Full length question of 15 marks may be divided into two sub questions of 08 and 07 marks or 05 and 10 marks or 05, 05 and 05 marks.

Introduction: 100 marks project work each semester

Inclusion of project work in the course curriculum of the M.Com. programme is one of the ambitious aspects in the programme structure. The main objective of inclusion of project work is to inculcate the element of research work challenging thepotential of learner as regards to his/ her eager to enquire andability to interpret particular aspect of the study in his/ her own words. It is expected that the guiding teacher should undertake the counselling sessions and make the awareness among the learners about the methodology of formulation, preparation and evaluation pattern of the project work.

• There are two modes of preparation of project work

1. Project work based on research methodology in the study area

2. Project work based on internship in the study area

Guidelines for preparation of Project Work

Work Load

Work load for Project Work is 01 (one) hour per batchof 15-20 learners per week for the teacher. The learner (of that batch) shall do field work and library work in the remaining 03 (three) hours per week.

1. General guidelines for preparation of project work based on research methodology

- The project topic may be undertaken in any area of Elective Courses.
- Each of the learners has to undertake a Project individually under the supervision of a teacher-guide.
- The learner shall decide the topic and title which should be specific, clear and with definite scope in consultation with the teacher-guide concerned.
- University/college shall allot a guiding teacher for guidance to the students based on her / his specialization.
- Theprojectreportshallbeprepared as perthebroadguidelines givenbelow:
    - ñ   Font type: Times New Roman
    - ñ   Font size: 12-For content, 14-for Title
    - ñ   Line Space : 1.5-for content and 1-forintable work
    - ñ   Paper Size: A4
    - ñ   Margin : in Left-1.5, Up-Down-Right-1
    - ñ   The Project Report shall be bounded.
    - ñ   The project report should be 60 to 80 pages

Structure tobefollowed to maintain the uniformity in formulation and presentation of Project Work

(Model Structure of the Project Work)

- **Chapter No. 1: Introduction**
  In this chapter Selection and relevance of the problem, historical background of the problem, brief profile of the study area, definition/s of related aspects, characteristics, different concepts pertaining to the problem etc. can be incorporated by the learner.

- Chapter No. 2: Research **Methodology**
  This chapter will include Objectives, Hypothesis, Scope of the study, limitations of the study, significance of the study, Selection of the problem, Sample size, Data collection, Tabulation of data, Techniques and tools to be used, etc. can be incorporated by the learner.

- Chapter No. 3: Literature Review
  This chapter will provide information about studies done on the respective issue. This would specify how the study undertaken is relevant and contribute for value addition in information/ knowledge/ application of study area which ultimately helps the learner to undertake further study on same issue.

- **Chapter No. 4: Data Analysis, Interpretation and Presentation**
  This chapter is the core part of the study. The analysis pertaining to collected data will be done by the learner. The application of selected tools or techniques will be used to arrive at findings. In this, table of information's, presentation of graphs etc. can be provided with interpretation by the learner.

- **Chapter No. 5: Conclusions and Suggestions**
  In this chapter of project work, findings of work will be covered and suggestion will be enlisted to validate the objectives and hypotheses.

  Note: If required more chapters of data analysis can be added.

- **Bibliography**

- Appendix

2. Guidelines for Internship based project work

- Minimum 20 days/ 100 hours of Internship with an Organization/ NGO/ Charitable Organization/ Private firm.
- The theme of the internship should be based on any study area of the elective courses
- Project Report should be of minimum 50 pages
- Experience Certificate is Mandatory
- A project report has to be brief in content and must include the following aspects:

  O Executive **Summary:** A bird's eye view of your entire presentation has to be precisely offered under this category.

  ✔ Introduction on the Company: A Concise representation of company/ organization defining its scope, products/ services and its SWOT analysis.

  v Statementand Objectives: Themissionandvisionoftheorganization needtobestatedenshrining its broad strategies.

  ✔ **Your** Role **inthe Organizationduring** the **internship:** Thekeyaspectshandled, thedepartment under which you were deployed and brief summary report duly acknowledged by the reporting head.

  ✔ Challenges: The challenges confronted while churning out theoretical knowledge into practical world.

  v **Conclusion:** Abriefoverview ofyourexperience andsuggestions tobridge thegapbetween theory and practice.

- Theproject report basedoninternship shall beprepared as perthebroadguidelines given below:

  O   Font type: Times New Roman

  O   Font size: 12-For content, 14-for Title

  W Line Space : 1.5-for content and 1-for in table work

  O   Paper Size: A4

  O   Margin : in Left-1.5, Up-Down-Right-1

  W The Project Report shall be bounded.

Evaluation pattern of the project work

The Project Report shall be evaluated in two stages viz.	
• **Evaluation of Project Report (Bound Copy)**	**60 Marks**
O Introduction and other areas covered	20 Marks
W Research Methodology, Presentation, Analysis and interpretation of data	30 Marks
O Conclusion & Recommendations	10 Marks
• Conduct of Viva-voce	40 Marks
O In the course of Viva-voce, the questions may be asked such as importance/ relevance of the study, objective of the study, methodology of the study/ mode of Enquiry (question responses)	10 Marks
O Ability to explain the analysis, findings, concluding observations, recommendation, limitations of the Study	20 Marks
W Overall Impression (including Communication Skill)	10 Marks

Note:

• The guiding teacher along with the external evaluator appointed by the University/ College for the evaluation of project shall conduct the viva-voce examination as per the evaluation pattern

Passing Standard

• Minimum of Grade D in the project component
• In case of failing in the project work, the same project can be revised for ATKT examination.
• Absence of student for viva voce: If any student fails to appear for the viva voce on the date and time fixed by the department such student shall appear for the viva voce on the date and time fixed by the   Department, such student shall appear for the viva voce only along with students of the next batch.