BBA IV SEMESTER FOREIGN LANGUAGE PAPER CODE: BBA 404(SEC)	Max. Marks: 100 Min. Marks: 40 External:60 Internal: 40

Credit: 4

Course Outcomes

CO1a § To understand about french alphabets and their forms of politeness
CO1b: To understand about daily vocabulary and paragraph reading
CO2: § To present themselves and helps to enhance oral communication
CO3: To compare about degrees of adjectives and grammar excersices
CO4: § To understand about basics of the french article and understand the simple dialogue in french

CO/PO Matrix					
Course Outcomes	**PO1**	**PO2**	**PO3**	**P04**	**PO5**
CO1a:	-	-	-	-	-
CO1b:	-	1	-	-	1
CO2:	-	-	-	-	-
CO3:	-	-	-	1	-
CO4:	-	-	-	-	-

UNIT 1:   Les alphabets
Les nombres
Formules de politesse rencontre
Translations of simple sentences from French in to English

UNIT2:   Les jours de la semaine.
les mois de l'année.
Questions and answers based on grammar of unit 1 and unit 2 of the prescribed book.

UNIT 3:   Temps
Les sign orthographiques
Questions and answers based on the lesson of unit 1 of the prescribed book.

UNIT 4:   Noms
Les pronoms
Les verbs(1st,2nd, and 3rd)
Questionsand answers based on the lesson of unit 2 of the prescribed book.

UNIT 5:   L'heure
Les articles
Presentez-vous
Singulier et pluriel
Simple dialoguewriting on a given topic

Suggested Readings

- *POISSON-QUINTON Sylvie, S. A. L. A. (1999). Marina. Inwa/l, New Delhi: CLE international.*
- *Price, W. L. (2008). 'There Is a Saviour'. In Bonne Route. Delhi: Route Publishing.*
- *Jones, A. (1995). Larousse dictionary of world folklore. Edinburgh: Larousse.*

BBA VII SEMESTER BUSINESS ANALYTICS PAPER CODE: BBA 701 (CORE)	Max. Marks: 100 Min. Marks: 40 External:60 Internal: 40

Credit: 6

Course Outcomes: On completion of the course students will be able to:

CO1(a) Understand the basics of business Analytics and Data Science with its application for Informed Decision making
CO1 b- Understand the data collection and management techniques to use data for decision making
CO2 - Demonstrate the data science project life to utilize data for businesses
CO3 - Explain the concept of Machine Learning and Data Mining to utilize data for informed decision making
CO4 - Understand and analyze the application of analytics in different domain.

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CO-PO Matrix					
Course Outcomes	**PO1**	**PO2**	**PO3**	**P04**	**PO5**
CO1(a)	2	2	2	2	3
CO1 b	3	3	2	2	3
CO2	2	3	3	2	3
CO3	1	2	-	2	3
CO4	2	2	2	2	3

Part 1

UNIT 1: Introduction: What is business analytics? Historical Overview of data analysis, Data Scientist vs. Data Engineer vs. Business Analyst, Career in Business Analytics,

UNIT 2: What is data science, Why Data Science, Applications for data science, Data Scientists Roles and Responsibility

UNIT 3: Data: Data Collection, Data Management, Big Data Management, Organization/sources of data, Importance of data quality, Dealing with missing or incomplete data, Data Visualization, Data Classification Data Science

UNIT 4: Project Life Cycle: Business Requirement, Data Acquisition, Data Preparation, Hypothesis and Modeling, Evaluation and Interpretation, Deployment, Operations, Optimization.

Part 2

UNIT 1: Introduction to Machine Learning: History and Evolution, AI Evolution, Statistics Vs Data Mining Vs, Data Analytics Vs, Data Science,

UNIT 2: Supervised Learning, Unsupervised Learning, Reinforcement Learning, Frameworks for building Machine Learning Systems.

UNIT 3: Application of Business Analysis: Retail Analytics, Marketing Analytics, Financial Analytics

UNIT 4: Healthcare Analytics, Supply Chain Analytics.

Text Books:
- *Essentials of Business Analytics: An Introduction to the methodology and its application, BhimasankaramPochiraju, Sridhar Seshadri, Springer*
- *Introduction to Machine Learning with Python: A Guide for Data Scientists 1st Edition, by Andreas C. Müller, Sarah Guido, O'Reilly*
- *Introduction to Data Science, Laura Igual Santi Seguí, Springer*

Suggested Readings:
- *Introduction to Data Mining, Pang-Ning Tan, Michael Steinbach, Vipin Kumar, Pearson Education India*
- *An Introduction to Business Analytics, Ger Koole, Lulu.com, 2019*

BBA VII SEMESTER **ADVERTISING AND BRAND MANAGEMENT** **PAPER CODE: BBA 702 - MM** **(DSE)**	**Max. Marks: 100** **Min. Marks: 40** **External:60** **Internal: 40**

Credit: 4

Course Outcomes: On completion of the course, students will be able to:

CO1 a: Understand the importance of advertising and advertising models
CO1 b: Understand the different aspects of advertising such as layout, copy, appeal, budget ect
CO2: Discuss the various procedures related to media planning and scheduling
CO3: Understand the basic concepts of brand management and processes.
CO4: Comprehend the brand desigining and implementation strategies.

CO/PO Matrix					
Course Outcomes	**PO1**	**PO2**	**PO3**	**P04**	**PO5**
CO1 a	3	3	2	2	2
CO1 b	3	2	2	2	1
CO2	3	2		2	
CO3	3	3	1	2	2
CO4	3	2	2	2	3

UNIT 1: Advertising need & importance: Definition & growth of advertising, advertising & the marketing mix, types & classification of advertisement, advertising spiral; Social & economic aspects of advertising; Marketing communication models: AIDA, innovation adoption model, Planning framework of promotional strategy

UNIT 2: Determination of target audience, advertising media and their choice, advertising measures, layout of advertisement and advertising appeal, advertising copy, message design strategy, advertising department, role advertising agencies and their selection, advertising budget, evaluation and advertising effectiveness

UNIT 3: Media planning& scheduling: Introduction to broadcast & non -broadcast media, Key factors influencing media planning; Media decisions: media class, media vehicle & media option; Scheduling: flighting, pulsing, & continuous

UNIT 4: Concept of brand and brand management, brand evolution, branding challenges and opportunities, Strategic brand management process, Identifying and establishing brand positioning and values; Brand building, brand repositioning.

UNIT 5: Designing and implementing brand strategies: Brand extension, Kapferer brand identity prism. Brand equity, brand personality, brand image, managing brands overtime, integrating advertising and brand management

Suggested Readings:
- *Aaker, Myers &Batra : Advertising Management , Prentice Hall.*

- *Wells, Moriarity & Burnett: Advertising Principles &practices , Prentice Hall.*
- *Kleppner's Advertising Procedure: W. Ronald Lane, kane Whitehill king and J. Thomas Russell, Pearson Education.*
- *George E. Belch& Michael A. Balch: Advertising and Promotion, TMH*
- *S.H.H Kazmi and SatishK.Batra : Advertising and sales promotion, Excel books*
- *Cowley. D: Understanding Brands, , Kogan Page Ltd*
- *Jean Noel Kampferer: Strategic Brand Management, Kapferer Free Press*
- *David Aaker: Brand Leadership, Simon & Schuster*
- *Wright, Winter, Ziegler: Advertising, Atlantic Publishers & Dist.*
- *Sandage, Fryburger,: Advertising Theory & Practice, Ratroll Longman Group*

BBA VII SEMESTER INVESTMENT BANKING AND FINANCIAL SERVICES PAPER CODE: BBA 702 - FM (DSE)	Max. Marks: 100 Min. Marks: 40 External:60 Internal: 40

Credit: 4

Course Outcomes

CO1 A To Understand various concepts of Merchant Banking Services.
CO1 B To Understand various concepts of Issue Management.
CO2 To analyse the concept of Leasing and Hire Purchase
CO 3 To Demonstarte the concept of Venture Capital.
CO4 To Evaluate the Credit Rating system among various Financial Organisations.

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CO/PO Matrix					
Course Outcomes	PO1	PO2	PO3	PO4	PO5
CO1 A	2	3	2	1	-
CO1 B	3	3	2	1	1
CO2	2	3	1	1	2
CO 3	2	2	1	-	1
CO4	2	3	2	1	2

UNIT 1: Introduction: An Overview of Indian Financial System, Investment Banking in India, Recent Developments and Challenges ahead, Institutional structure and Functions of Investment /Merchant Banking; SEBI guidelines for Merchant Bankers,Registration, obligations and responsibilities of Lead Managers, Regulations regarding Continuance of association of lead manager with an issue

UNIT 2: Issue Management: Public Issue: classification of companies, eligibility,issue pricing, promoter's contribution, minimum public offer, prospectus, allotment,preferentialallotment, private placement, Book Building process, designing and pricing, Green Shoe Option; Right Issue: promoter's contribution, minimum subscription, advertisements, contents of offer document, Bought out Deals, Post issue work & obligations, Investor protection, Broker, sub broker and underwriters

UNIT 3: Leasing and Hire Purchase: Concepts of leasing, types of leasing – financial &operating lease, direct lease and sales & lease back, advantages and limitations of leasing, Lease rental determination; Finance lease evaluation problems (only Lessee's angle), Hire Purchase interest &Installment, difference between Hire Purchase & Leasing, Choice criteria between Leasing and Hire Purchase mathematics of HP, Factoring, forfeiting and its arrangement, Housing Finance : Meaning and rise of housing finance in India, Fixing the amount of loan, reprising of a loan, floating vs. Fixed rate, Practical problems on housing finance.

UNIT 4: Venture Capital: Concept, history and evolution of VC, the venture investment process, various steps in venture financing, incubation financing.
Insurance: concept, classification, principles of insurance, IRDA and different regulatory norms, operation of General Insurance, Health Insurance, Life Insurance.

UNIT 5: Credit Ratings: Introduction, types of credit rating, advantages and disadvantages of credit ratings, Credit rating agencies and their methodology, International credit rating practices. Securitization: Concept, securitization as a funding mechanism, Traditional and non- traditional mortgages, Graduated-payment mortgages

(GPMs), Pledged-Account Mortgages (PAMs), Centralized Mortgage obligations (CMOs), Securitization of non mortgage assets, Securitization in India.

Readings:

- *Reilly, F. K. & Brown, K.C. (2012) Analysis of Investments and Management of Portfolios (12th edition), Cengage India Pvt. Ltd- Chapter 8, 9,25*
- *Ranganathan, M., & Madhumathi, R. (2006). Investment analysis and portfolio management. New Delhi: Pearson Education- Chapter-18, 19,20, 21, 22*
- *Fischer, D.E. & Jordan, R.J. (2006) Security Analysis & Portfolio Management (6th edition), Pearson Education.*
- *Ranganathan, M., & Madhumathi, R. (2006). Investment analysis and portfolio management. New Delhi: Pearson Education*

BBA VII SEMESTER **TALENT AND KNOWLEDGE MANAGEMENT** **PAPER CODE: BBA 702 - HRM** **(DSE)**	**Max. Marks: 100** **Min. Marks: 40** **External:60** **Internal: 40**

Credit: 4

Course Outcomes

CO1: The students will understand the concept of Talent management and its relevance in organizations.

CO2: The students will develop the necessary skill set for the application of various Talent issues.

CO3: Integrate the knowledge of concepts to take correct talent management and talent retention decisions

CO4: They will understand planning for acquiring and retention of talent management

CO5: Students will understand proper strategies for talent engagement and retention

Course Contents

UNIT 1: Meaning and importance of talent management, Talent management Grid, Creating talent management system, Strategies of talent management.

UNIT 2: Competency model, Competency mapping, Role of leaders in talent management, Talent management and competitive advantage.

UNIT 3: Elementsofknowledgemanagement, Advantagesofknowledgemanagement, Knowledge management in learning organizations, Types of Knowledge: Tacit and Explicit, Managing knowledge workers.

UNIT 4: Knowledge management process, Approaches to knowledge management: Knowledge management solutions, Knowledge creation, Knowledge sharing, Knowledge dissemination, Knowledgemanagement life cycle, Nonaka's model of knowledge. Knowledge capturing techniques: Brainstorming, Protocol analysis, Consensus decision making, Repertory grid, Concept mapping.

UNIT 5: Knowledge management strategies: Aligning individual needs with organization, Reward systems for knowledge management, Knowledge audit, Benchmarking, Balance score card, Gap analysis.

Readings:

- *Lance A. Berger, Dorothy Berger: Talent management handbook, McGraw Hill New York.*
- *Cappeli Peter: Talent on Demand –Managing Talent in an age of uncertainty, Harvard Business press.*
- *Awad. E. M and Ghaziri. H. M: Knowledge management, Pearson education International.*
- *Stuart Barnes: Knowledge management system theory and practice, Thomson learning.*
- *Donald Hislop: Knowledge management in organisations, Oxford University press.*
- *Sudhir Warier: Knowledge management, Vikas publishing house.*
- *T. Raman: Knowledge management –A resource book, Excel books.*

BBA VII SEMESTER RESEARCH METHODOLOGY PAPER CODE: BBA 703 (CORE)	Max. Marks: 100 Min. Marks: 40 External:60 Internal: 40

Credit: 4

Course Outcomes
CO1:   Understand the concept, process, design, tools and techniques of RM.
CO2:   Apply tools, techniques/methods to assist various functions of management.
CO3:   Analyses the data collected.
CO4:   Evaluating the results, interpret and present findings.
CO5:   Preparing research report

UNIT 1: **Concept of Research:** Concept of Business Research and Its Application, Types of Research, Research Process.

UNIT 2: **Research Problem, Reviewing Literature and formulation of objectives & Hypothesis:** Concept of research problems- selection & formulation. Conducting Literature Review- Sources & procedure, Setting Objectives, Hypothesis Formulation- Types of Hypothesis

UNIT 3: **Research Design**: Concept & types of research design, Sampling Design- Related concepts, Data Collection Methods- Primary & Secondary, Scaling Techniques - Types of Scaling Data- Nominal, Ordinal, Interval & Ratio

UNIT 4: **Analysis:** Coding, Editing and Tabulation of Data.Application through software: Methods of Descriptive Analysis- Concept of Mean, Median Mode, Standard Deviation, Variance, Various Kinds of Charts and Diagrams Used in Data Analysis; Methods of Inferential Statistics: T-test, ANOVA, Correlation and Regression

UNIT 5: **Research Communication:** Format of research report, Precautions in report writing; Footnoting, Referencing: APA, HBR, IEEE and Index.

Readings:

- *Cooper, Donald R and Schindler, Ramela (2000) Business Research Methods, Tata Mc Graw Hill*
- *Levin & Rubin (2004), Statistics for Management, 8th Ed, Prentice Hall of India*
- *Srivastava, Shenoy and Sharma (2002). Quantitative Techniques for Business Decisions, 4th Ed, Allied Publishers*
- *Dr. S. Shajahan (2004), Research Methods for Management 2nd Edition, Jaico Publishers*
- *Ranjit Kumar, (2005), Research Methodology, Pearson Education*

BBA VIII SEMESTER ADVANCE COURSE IN MANAGEMENT PAPER CODE: BBA 801 (CORE)	Max. Marks: 100 Min. Marks: 40 External:60 Internal: 40

Credit: 6

Course Objectives:

The objectives of the course are —To make an understanding of various aspects of financial management, organizational behavior, human resource management and marketing management. To understand the research in the above areas.

CO1 a: Understand about the various statistical softwares
CO1 b: Learn the data entry,descriptive statistics and normality
CO2: Understand the testing of hypothesis and non-parametric tests
CO3: Learn to apply correlation & regression and its application
CO4: Understand the concept and application of multivariate analysis

CO/PO Matrix					
Course Contents	**PO1**	**PO2**	**PO3**	**P04**	**PO5**
CO1 a	-	-	2	-	2
CO1 b	-	-	2	-	2
CO2	-	-	2	-	2
CO3	-	-	2	-	2
CO4	-	-	2	-	2

Financial Management

UNIT 1: Mathematics of Finance for portfolio construction; Diversification of unsystematic risk and portfolio construction; Optional portfolio selection through Markowitz model, Sharpe model and Lagronge multiplier techniques, Active portfolio management under CPP and CBP; Performance Evaluation of Portfolio. Risk and Return, Asset Pricing Models.

UNIT 2: Financial Derivatives — Introduction, Forward Contract, Features Contracts, Option Contracts, Swaps Valuation of swaps, swap mechanism and cost of capital reduction through swaps.
International Financial system — An overview, Exchange Rate Determination, International parity theorems and fisher effect, Management of Foreign Exchange Exposure through forwards, money market instruments and options.

Organization Behavior and Human Resource Management

UNIT 3: Conceptual framework of Organization Behavior; Individual dimensions of Organization Behavior: Personality, Perception, Learning, Attitude and Values, Emotional Intelligence and Motivation;Group dimensions of Organization Behavior: Interpersonal Behavior, Group Dynamics, Work Team, Power and Politics, Leadership, Communication, and Conflict management; Organization Effectiveness and Change; Organization Development.

UNIT 4: **Emotional** Intelligence: History & Development, Social Intelligence, Multiple Intelligence, Goleman's theory of Emotional Intelligence, Value of Emotional Intelligence, Effective Leadership, Managing Emotion, Using EI- Developing Effective Communication Skills and Interpersonal Expertise.

The HR Scorecard Approach, Competency-mapping and Performance Mapping, Organization Culture —Application of Organization Culture in the workplace, Hofstede's Cultural Orientation Model, Organizational Developments and related Research areas. Employee Productivity Analysis. Research on Talent Management.

Marketing Management

UNIT 5: Analyzing Buying Behavior; Models of Consumer Behavior; Developing and Managing Customer Relations; Fundamentals of Relationship Marketing, Customer life time value.

UNIT 6: Integrated Marketing Communication- Concept of marketing communication, Evolution of IMC, Definition of IMC; Key features and its role in marketing, The Promotional Mix (tools for C). TheMARCOM decision process model, AIDA, FCB Planning Model and FCB Grid.

Suggested Readings (Latest Edition):
- *Pandey, I. M., Financial Management. New Delhi: Vikas Publishing House, Fourth Edition.*
- *Khan, M.Y and Jain, P.K., Financial Management. New Delhi: Tata McGraw Hill.*
- *Chandra, Prasanna, Financial Management, New Delhi: Tata McGraw Hill.*
- *Brealey, Myers, Allen &Mohanty, Principles of Corporate Finance, McGraw Hil1,10thed*
- *Robbins, Stephen P., Organizational Behaviour. New Delhi: PHI.*
- *Dessler, Gary, Human Resource Management. New Delhi: PHI.*
- *Clow, Kenneth and Baack, Donald, Integrated Advertising, Promotion and Marketing Communication ,2nd Edition, Prentice Hall, Delhi, 2006.*
- *Philip Kotler Principle of marketing, Pearson Education*
- *Ramaswamy V.S. and Namakumari S - Marketing Management: Planning, Implementation and Control Macmilhan*
- *Raj an Saxena, Marketing Management, Tata cGraw Hill.*

PRESTIGE INSTITUTE OF MANAGEMENT & RESEARCH, GWALIOR

AN AUTONOMOUS INSTITUTE ACCREDITED WITH UGC NAAC GRADE 'A' AND NBA (AICTE)

BBA VIII SEMESTER STATISTICAL TOOLS FOR DECISION MAKING PAPER CODE: BBA 802 (CORE)	Max. Marks: 100 Min. Marks: 40 External:60 Internal: 40

Credit: 4

Course Outcomes

CO1 a: Understand about the various statistical softwares
CO1 b: Learn the data entry,descriptive statistics and normality
CO2: Understand the testing of hypothesis and non-parametric tests
CO3: Learn to apply correlation & regression and its application
CO4: Understand the concept and application of multivariate analysis

Course contents:

UNIT 1: Introduction, overview, and interface of software: MS Excel, IBM SPSS, PSPP, JAMOVI, e-views, Tableau

UNIT 2: Introduction- Data Entry, Storing and Retrieving Files, Statistics Menus, Generating New VariablesRunning Statistical Procedures – data entry and interpretation of the output, Descriptive StatisticsTesting normality using SPSS

UNIT 3: Testing hypothesis: T-tests, Chi Square test, One-way ANOVA and their non-parametric tests using SPSS.

UNIT 4: Identifying relations: correlation, Linear regression including multiple regression using SPSS.

UNIT 5: Multivariate analysis: Cluster analysis, Discriminate Analysis, Factor analysis/Principal Components Analysis using SPSS.

Readings:
- *George, D., &Mallery, P. (2019). IBM SPSS Statistics 26 Step by Step: A Simple Guide and Reference. NewYork: Routledge.*
- *Kaurav, R. P. S., Gursoy, D., &Chowdhary, N. (2021). An SPSS Guide for Tourism, Hospitality and Events Researchers. London: Routledge.*
- *Hair, J. F., Celsi, M., Ortinau, D. J., & Bush, R. P. (2010). Essentials of Marketing Research. New York, NY: McGraw-Hill/Irwin.*
- *Carver, R. H., & Nash, J. G. (2011). Doing Data Analysis with SPSS: Version 18.0. New Delhi: Cengage Learning.*
- *Gaur, A. S., & Gaur, S. S. (2006). Statistical Methods for Practice and Research: A Guide to Data Analysis Using SPSS. Delhi: Sage.*
- *Cronk, B. (2020). How to Use SPSS®. New York: Routledge, https://doi.org/10.4324/9780429340321*

B.Com :Semester VII

Session	2022-26
Class	B.Com
Semester	Seventh
Title of the Paper	Financial Derivatives
Category	Major
Compulsory/ Optional	Compulsory
Paper Code	B.Com(H)-701
Maximum Marks	100
Internal/ External	40/60

Objective: The course aims to impart knowledge about development and trading of derivatives in India focusing specifically on futures, options and swaps.

Course Outcomes: On completion of the course the students will be able to:

CO1 a: Demonstrate knowledge of all aspects of derivative market theory and the roles they play in the financial markets

CO1 b: Identify how derivative instruments can be used to change or hedge risk and evaluate risks and pay-offs associated with trading such instruments and their implications

CO2: Understand the basic risk management and trading strategies using futures and options

CO3: Critically evaluate the clearing mechanism and techniques used to analyse risk of the portfolio.

CO4: Evaluate the significance of the usage of Swap transactions.

		CO-PO Matrix				
		PO1:	PO2	PO3	PO4	PO5
Unit-1 and 2	CO1 a:	3	2	2	–	3
	CO1 b:	3	3	3	2	–
Unit-3	CO2:	3	2	2	1	–
Unit-4	CO3:	3	3	1	2	–
Unit-5	CO4:	2	3	2	2	–

Unit -1	**Unit 1: Introduction to Derivatives** Meaning, definition and features of derivatives, Functions of derivatives, Participants in derivatives market, Cash market vs. derivatives market, Evolution of derivatives market, Introduction of derivatives trading in India, L. C. Gupta Committee and J. R. Varma Committee on derivatives. Recent developments in the derivatives market in India. Regulations of derivatives market.
Unit 2	**Unit 2: Financial Derivatives** Concept and Types of derivatives, Currency Derivatives, Exchange traded and over the counter derivatives, Financial derivatives: Meaning and features of forward contracts, limitations of forward markets; Spots and Forward Rate, Meaning and features of Futures Contracts, Difference between futures and forwards contracts, Hedging using futures; Meaning and features of options, Types of option contracts, Options Trading strategies, Futures and Options pay off. The cost of carry model and Expectancy model for stock and index futures- cash price and future price, Arbitrage opportunity; Factors determining options pricing, Option pricing models: Binomial pricing model, The Black and Scholes model, Pricing of Index options.
Unit 3	**Unit 3: Pricing of Futures and Options** The cost of carry model and Expectancy model for stock and index futures- cash price and future price, Arbitrage opportunity; Factors determining options pricing, Option pricing models: Binomial pricing model, The Black and Scholes model, Pricing of Index options.
Unit 4	**Unit 4: Trading, Clearing and Settlement** Prerequisites for trading in derivatives market, Futures and Options trading system, Contract specification for stock and index, Eligibility for trading charges, Derivatives trading risks, Clearing entities and their role, Clearing mechanism: adjustment for corporate actions, Open position calculation; Margining and settlement mechanism, Risk management, Concept and Mechanics of Standard Portfolio Risk Analysis (SPAN).
Unit 5	**Unit 5: Swaps** Introduction to Swaps, Overview of Interest Rate Swaps, Cross Currency Swaps, Pricing of Swaps, Equity and Commodity Swaps.

Readings:

1. David and Thomas (2007). Derivatives, (1st Edition), Oxford University Press, Delhi.
2. Gupta, S.L, Financial Derivatives: Theory, Concepts and Problems (latest ed.), PHI Learning Publications.

3. Hull, J. C. (2003). Options futures and other derivatives. Pearson Education India.
4. Hull, J., Treepongkaruna, S., Colwell, D., Heaney, R., & Pitt, D. (2013). Fundamentals of futures and options markets. Pearson Higher Education AU.
5. Varma, Jayanth R. (2011). Derivatives and Risk Management, Tata McGraw Hills, New Delhi.
6. Vohra, N.D. and Bagri, B.R. (2011). Futures and Options, (2nd Edition), Tata McGraw Hills, New Delhi.

B.Com :Semester VII

Session	2022-26
Class	B.Com
Semester	Seventh
Title of the Paper	Behavioural Finance
Category	Major
Compulsory/ Optional	Compulsory
Paper Code	B.Com(H)-702
Maximum Marks	100
Internal/ External	40/60

Objective: Behavioural finance provides an interdisciplinary approach to study financial Behaviour, thus offering a more realistic understanding of financial markets. The objective of this course is to provide a basic understanding of Behavioural finance and its practical relevance to study the financial markets.

Learning Outcomes: After the completion of the course, learners will be able to:

1. examine the limitations of traditional finance.

2. appreciate the relevance of the theory of behavioural finance in studying financial markets.

3. analyse the role of incomplete information and behavioural biases in financial decision making.

4. utilize the understanding gained from the theoretical underpinnings to improve financial behavior

Course Outcomes: On completion of the course the students will be able to:

CO 1 (A): Understand classic financial & Modern theories and several inadequacies in their applicability in the present context.

CO 1 (B): Analyze different markets Anomalies such as the stock market bubble, the January effect, Day of the week effect which led to the emergence of behavioural finance.

CO2: Comprehend the concept of behavioural finance and different behavioural biases such as Heuristics, Herd behaviour, Prospect, inattention bias etc.

CO3: Analyze the impact of different behavioural biases on individual's decision under different market settings.

CO4: Evaluate the causes of market failure due to moral hazard and Adverse selection

CO-PO Matrix					
	PO1:	PO2	PO3	PO4	PO5
CO1 a:	1	3	1	2	1
CO1 b:	_	3	_	2	2
CO2:	_	3	_	2	1
CO3:	_	3	_	2	2
CO4:	_	3	_	2	1

Unit -1	Traditional theory of finance Neoclassical economics: Basic assumptions, Rational choice theory, Expected utility theory; Extension to finance: Modern portfolio theory. Informational efficiency: Efficient market hypothesis- Weak, semi-strong, strong forms. CAPM. Challenges to EMH - Theoretical and empirical.
Unit 2	Emergence of Behavioural finance Anomalies to neoclassical economics and standard theory of finance; Stock market anomalies: January effect and day of the week effect. Speculative market bubbles. Global financial crisis in Behavioural perspective. Equity premium puzzle and siamese twins problem; Search for alternative paradigms- Influence of psychology and emergence of Behavioural finance
Unit 3	Behavioural finance: Introduction Behavioural finance: Meaning; Basic assumptions- Incomplete information, bounded rationality. Heuristics and biases- Prospect theory, endowment theory, inattention-bias, overconfidence, reference-point bias, herd Behaviour, familiarity bias etc.
Unit 4	Behavioural biases: Evidence from different financial markets Behavioural biases under different market settings- Stock markets, mutual funds industry, insurance industry.
Unit 5	Asymmetric information Asymmetric information: Market for lemons - Adverse selection, moral hazard, monitoring and signalling. Economic characteristics of financial contracts - Risk neutrality and risk aversion.

Suggested Readings:

1. Hal Varian (2010) Intermediate microeconomics - A modern approach, 8th Ed. W.W. Norton, London, Ch. 37, Asymmetric information
2. Prassanna Chandra (2020) Behavioural finance, second edition, McGraw Hill.New Delhi.
3. Singh,R. Behavioural Finance PHI learning
4. Ricardo N. Bebezuk (2003) Asymmetric information in financial markets - Introduction and applications. Cambridge University Press, Cambridge, UK. Chapter 1.

Note: Learners are advised to use the latest edition of readings.

B.Com :Semester VII

Session	2022-26
Class	B.Com
Semester	Seventh
Title of the Paper	Data Visualisation
Category	Major
Compulsory/ Optional	Compulsory
Paper Code	B.Com(H)-703
Maximum Marks	100
Internal/ External	40/60

Objective: The course helps students learn the technique to visualise data and to gain hands-on experience with creating visualisations of financial data.

Learning Outcomes: After the completion of the course, the learners will be able to:

1.   find out how to build effective visualisations and dashboards.

2.   discover how to create advanced visualisations that explain complex financial data with clarity and style.

3.   analyse data and interpret results.

4.   export and share dashboards and visualisations.

Course Outcomes: On completion of the course the students will be able to:

CO:1(a): Understand the fundamental concept of data visualisation and functions of data analyst.

CO:1(b): Demonstrate data visualization using different charts.

CO:2: understand and apply various visualization tools likes map, tables, slicers etc to create dashboard.

CO:3: Develop the practical understanding of visualisation using power BI

CO:4: Develop the practical understanding of visualisation using tableau

CO-PO Matrix					
CO/PO	PO1	PO 2	PO 3	PO 4	PO5
CO1 A	_	1	_	3	1
CO1 B					
CO2	_	1		3	1
CO3	_	1		3	1
CO4	_	1		3	1

Unit -1	Introduction Concept of data visualisation, Significance and role, Functions of data analyst, Types of charts, selecting an appropriate visualisation based on the data.
Unit 2	Data Visualisation using Spreadsheet Data visualisations using Conditional Formatting, Sparklines and Number Formats, Charts - line charts, pie charts, scatter charts, area charts, column and bar charts, histogram. Specialized Charts: hierarchical charts, waterfall, funnel, stock charts and combo charts.
Unit 3	Creating Visualisation and Dashboard using Spreadsheet Working with pivot tables and charts, Slicer, Timeline, Power Query, Power Pivot, Power View, Power Map.
Unit 4	Financial Data Analysis using Power BI Introduction to Power BI, Possible Data Sources, Cleansing, Transforming and Loading Data, Add Columns, Remove Columns, Split and Rename column and Change data types, Merge data, Append data, Create report and Power BI Dashboard using visualisation controls, Publish report and export it to PDF.
Unit 5	Unit 5: Working with Tableau Public Introduction, Loading the Data and Preparing the Sheets, Bar and Line Combination Chart, Horizontal Bars Chart, Candlesticks and stock markets, Creating the Tableau Dashboard, and Adding a Brand Filter and Interpretation.

Suggested Readings:

1. Alberto Ferrari, Marco Russo, (2017) Analyzing Data with Microsoft Power BI and Power Pivot for Excel, PHI.
2. Brett Powell, (2017), Microsoft Power BI Cookbook, Packt Publishing Limited.
3. Loma Brown, (2020) Tableau Desktop Cookbook, O'Reilly Media.
4. Ryan Sleeper, Practical Tableau, O'Reilly Media.

B.Com :Semester VII

Session	2022-26
Class	B.Com
Semester	Seventh
Title of the Paper	Business Valuation
Category	Major
Compulsory/ Optional	Compulsory
Paper Code	B.Com(H)-704
Maximum Marks	100
Internal/ External	40/60

Objective: The course aims to familiarize the students with the principles and practice of valuation of business

Learning Outcomes: After completion of the course, learners will be able to:

1. interpret the valuation of business and its principles.

2. anlayse different bases of valuation.

3. Analyse the different techniques of valuation and apply them in various situations.

4. demonstrate skills in valuing tangibles and intangibles.

5. analyse specific cases of valuation.

6. evaluate the impact of non-financial factors on valuation.

Course Outcomes: On completion of the course the students will be able to:

CO-PO Matrix					
CO/PO	PO1	PO 2	PO 3	PO 4	PO5
CO1 A					
CO1 B					
CO2					
CO3					
CO4					

Unit -1	**Introduction to valuation:** Need for valuation, issues and problems in valuation, various types of values and relationship between them, principles of valuation, purpose of valuation. Indian and international standards on valuation.
Unit 2	**Techniques of valuation:** Different approaches and models of valuation, discounted cash flow analysis, comparable transaction method, comparable market multiple method, market valuation, economic value added, free cash flow to equity, dividend discount model, net asset valuation, relative valuation. Factors affecting the choice of valuation techniques.
Unit 3	**Valuation of tangibles and intangibles** (a) Valuation of tangibles – valuation of property, plant and equipment. (b) Valuation of intangibles: Goodwill, brand, patents, trademarks, copyrights, process, franchises, licenses, internet domains, softwares, databases, advertising agreements.
Unit 4	**Valuation in specific cases** Valuation of large enterprises, Valuation of micro, small and medium enterprises, valuation of start-ups, valuation during mergers & acquisitions, valuation during distress sales. Valuation of forward contracts, Valuation of futures and options pricing.
Unit 5	**Non–financial considerations in valuation** Human resource, top and middle-level management, governance, corporate social responsibility and environmental accountability.

Practical Exercises:

The learners are required to:

1. use various software programmes for understanding valuation techniques and methods.

2. download financial statements of companies for valuing them under different approaches.

3. analyse various financial instruments for overvaluation and undervaluation.

4. discuss and analyse valuation of any startup through case study.

5. discuss and analyse valuation of any merger and acquisition through case study.

6. analyse the impact of non-financial factors on the share prices of a company.

Suggested Readings:

- Koller T, Goedhart M & Wessels D. "Valuation: Measuring and managing the value of companies" Mckinsey & Company.

- Palepu K.G & Healey P.M. "Business analysis and valuation: Using financial statements" Cengage Publications.
- Parker D. "International valuation standards: A guide to the valuation of real property assets" Wiley blackwell.
- Parks J.A & Banerjee D.N. "Principles & practice of valuation" Eastern law house.

Additional Readings:

Study material of the Institute of Company Secretary of India for the professional programme course on —Valuation and business modelling‖.

Study material of the Institute of Cost Accountants of India for the —Strategic performance management and business valuation‖

Note: Learners are advised to use latest edition of readings and use web sources..

B.Com :Semester VIII

Session	2022-26
Class	B.Com
Semester	Eighth
Title of the Paper	International Financial Reporting Standards
Category	Major
Compulsory/ Optional	Compulsory
Paper Code	B.Com(H)-801
Maximum Marks	100
Internal/ External	40/60

Objective: The objective of the subject is to enable the students to understand the need and method of presentation of financial statements in accordance with International Financial Reporting Standards

Course Outcomes: On completion of the course the students will be able to:

CO1a: to understand the concept of IASB and its regulatory framework
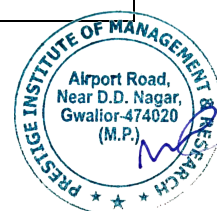
CO1b:to analyse the elements of financial statements.

CO2: to understand the different segments of financial statements

CO3:to demonstrate the presentation of financial statements and additional disclosures

CO4: to recognise the preparation of external financial reports for different entities

CO-PO Matrix					
CO/PO	PO1	PO 2	PO 3	PO 4	PO5
CO1 A	3	2	2	2	3
CO1 B					
CO2	3	2	3	3	3
CO3	2	3	2	3	1
CO4	1	2	3	3	2

Unit -1	International sources of authority
	The International Accounting Standards Board (IASB) and the regulatory framework.

Unit 2	**Elements of financial statements**
	1. Revenue recognition 2. Property, plant and equipment 3. Impairment of assets 4. Leases 5. Intangible assets and goodwill 6. Inventories
Unit 3	**Different Segments of Financial Statements**
	1. Financial instruments 2. Provisions, contingent assets and liabilities 3. Employment and post-employment benefits 4. Tax in financial statements 5. The effects of changes in foreign currency exchange rates 6. Agriculture 7. Share-based payment 8. Exploration and evaluation expenditures 9. Fair value measurement
Unit 4	**Presentation of financial statements and additional disclosures**
	1. Presentation of the statement of financial position, the statement of profit or loss and other comprehensive income and the statement of changes inequity 2. Earnings per share 3. Events after the reporting period 4. Accounting policies, changes in accounting estimates and errors 5. Related party disclosures 6. Operating segments 7. Reporting requirements of small and medium-sized entities(SMEs)
Unit 5	**Preparation of external financial reports for combined entities, associates and joint arrangements**
	1. Preparation of group consolidated external reports 2. Business combinations – intra-group adjustments 3. Business combinations – fair value adjustments 4. Business combinations – associates and joint arrangements 5. Complete disposal of shares in subsidiaries

Suggested Readings:

1. Salim Alibhai, Erwin Bakker, T V Balasubramanian, Kunal Bharadva, Asif Chaudhry, Danie Coetsee, Chris Johnstone, Patrick Kuria, Christopher Naidoo, J Ramanarayanan, Darshan Shah: Wiley Interpretation and Application of IFRSStandards : :10 May 2021Edition
2. Steven M. Bragg: IFRS Guidebook: 2020Edition
3. CA Kamal Garg: Practical Guide to IND AS & IFRS (SixthEdition)
4. CA J N Tikku and CA EishTaneja: IND AS and their PracticalApplicability

B.Com :Semester VIII

Session	2022-26
Class	B.Com
Semester	Eighth
Title of the Paper	Merger, Acquisition & Corporate Restructuring
Category	Major
Compulsory/ Optional	Compulsory
Paper Code	B.Com(H)-802
Maximum Marks	100
Internal/ External	40/60

Objective: The course aims to familiarise the students with different aspects of corporate restructuring, mergers & acquisitions and to develop an understanding of the subject including contemporary practices in the corporate sector.

Learning Outcomes: After completion of the course, learners will be able to:

1. Compare the different forms of corporate restructuring.
2. examine the different types, motives and reasons of mergers and acquisitions.
3. summarise the legal provisions of mergers and acquisitions.
4. analyse the important methods of valuation.
5. assess the issues related to integration.

Course Outcomes: On completion of the course the students will be able to:

COI(a) :To acquaint the knowledge of different form of corporate restructuring

CO1(b): To understand the different types , motives and reasons of mergers and acquistions

CO2: To summarise the legal provisions of mergers and acquisitions

CO3: To estimate the important methods of valuation

CO4 : To assess the issues related to integration

CO-PO Matrix					
CO/PO	PO1	PO 2	PO 3	PO 4	PO5
CO1 A	3	1	3	_	1
CO1 B					
CO2		1			2
CO3	1		3	2	
CO4		2			3

Unit -1	Introduction to corporate restructuring
	Meaning and understanding of corporate restructuring: need, scope. Indian and global scenario. Forms of corporate restructuring–merger, acquisition, takeovers, amalgamation, consolidation, absorption, disinvestments, spin off, split-off, strategic alliance, reverse merger, demerger, joint venture and strategic alliances.
Unit 2	Mergers and acquisitions
	Types of mergers and acquisitions - Horizontal, vertical & conglomerate. Motives and reasons: Growth & expansion, increase in market share, synergy, diversification, other economic motives, tax motives, financial motives, hubris and other motives.
	value creation in mergers and acquisitions.
Unit 3	Legal aspects of mergers and acquisitions
	Provisions of the companies act, 2013 and competition act, 2002. Important regulations of SEBI Takeover Code, 2011.
Unit 4	Methods of valuation
	Valuation of a business, methods of valuation - Market price, asset based, cash flow basis, earning potential basis. Computation of impact on EPS and market price.
	Determination of exchange ratio. Concept of EVA, MVA and FCF. Financing of merger.
Unit 5	Issues related to integration
	Criteria for negotiating friendly takeover, hostile takeover, defence against hostile takeover.
	Post-merger integration issues: H.R. and cultural issues. Recent cases of merger and acquisitions.

Suggested Readings:

1. DePamphillis, D.M. —Mergers, Acquisitions, and Other Restructuring Activities: An Integrated Approach to Process, Tools, Cases and Solutions‖ Elsevier.
2. Koller, T., Goedhart, M. & Wessels, D. —Valuation: Measuring and Managing the Value of Companies‖ Mckinsey & Company.
3. Pettit, B.S., & Ferris, K.R. —Valuation for Mergers & Acquisitions‖ FT Press.
4. Reed, S.F., Lajoux, A., & Nesvold, H.P. —The Art of M&A: A Merger Acquisition Buyout Guide‖ Mcgraw Hill.
5. Sherman, A.J. —Mergers & Acquisitions from A to Z: Strategic and Practical Guidance for Buyers and Sellers‖ Goodreads.
6. Sudarsanam, S. —Creating Value from Mergers and Acquisitions: The Challenges‖ Prentice-Hall.
7. Zadeh, A.A., & Meeks, G. —Accounting for M&A: Uses and Abuses of Accounting in Monitoring and Promoting Merger‖ Routledge.

Additional Resources:

● AS – 14 issued by the Institute of Chartered Accountants of India.

● Educational Material on Indian Accounting Standard (Ind AS) Business Combinations issued by The Institute of Chartered Accountants of India.

● IFRS–3 issued by the International Accounting Standard Board.

● Ind AS 103 issued by the Ministry of Corporate Affairs, India.

● Study Material of the Institute of Cost Accountants of India for the ―Strategic Performance Management and Business Valuation‖.

● Study Material of the Institute of Company Secretary of India for the Professional Programme Course on ―Valuation and Business Modelling‖.

Note: Learners are advised to use the latest edition of read

B.Com :Semester VIII

Session	2022-26
Class	B.Com
Semester	Eighth
Title of the Paper	Advanced Business Research
Category	Major
Compulsory/ Optional	Compulsory
Paper Code	B.Com(H)-803
Maximum Marks	100
Internal/ External	40/60

Objective: The objective of the course is to develop the students' theoretical and practical understanding of select multivariate research methods and central concepts of psychological measurement and analysis. The course will be a practice-oriented course and will provide working knowledge of the advance research using statistical package and open-source ware.

Learning Outcomes: After completion of the course, learners will be able to:

1.compare univariate and bivariate statistics for conducting tests of differences.

2.analyse association between two variables.

3.apply statistical methods that allow the simultaneous investigation of more than two variables.

4.summarise the procedure for conducting factor analysis

5.interpret the discriminant, cluster, and conjoint analysis

Course Outcomes: On completion of the course the students will be able to:

CO1a: Understand the application Univariate and Bivariate tests for comparison of samples

CO1b: Demonstrate the application of bivariate regression.

CO2: Examine the usage of multivariate analysis

CO3: Analyze the applications and interpretations of factor analysis

CO4: Evaluate the results of Discriminant, Cluster and conjoint analysis after application

CO-PO Matrix					
CO/PO	PO1	PO 2	PO 3	PO 4	PO5
CO1 A	3	2	2	1	1
CO1 B					

CO2	3	2	3	1	1
CO3	3	2	2	1	1
CO4	3	2	2	1	1

Unit -1	Univariate and Bivariate Analysis: Investigation of two variables Hypothesis testing; steps in hypothesis testing, Type I and Type II errors. Parametric Tests of differences, t-test for two independent samples, paired sample, F - test ANOVA. Non-parametric statistics for tests of differences: Mann-Whitney Test, Wilcoxon Signed Rank Test and Kruskal-Wallis test, Chi-square test (expected frequency).
Unit 2	Bivariate Analysis: Measures of Association Simple correlation coefficient, Bivariate linear regression, Least -square method of regression analysis, drawing a regression line, testing the statistical significance of a least-square regression, calculation of intercept and slope coefficients
Unit 3	Multivariate Analysis Distinguish between univariate, Bivariate and multivariate analysis. Methods of multivariate analysis: Dependent methods and interdependence methods. Concept of multiple regression analysis and multivariate analysis of variance (MANOVA).
Unit 4	Factor Analysis Reliability, validity, measurement errors, concept of factor analysis, procedure for conducting factor analysis, construction of the correlation matrix, determination of the number of factors, rotation and interpretation of factors, factor loadings and eigen value.
Unit 5	Discriminant, Cluster and conjoint analysis Discriminant analysis: Concept types and relevance in research; Cluster analysis: Concept of cluster analysis, different methods of performing cluster analysis and its relevance in research; Conjoint analysis: Concept of conjoint analysis, types and its relevance in research.

Suggested Readings:

1. William G. Zikmund/Barry J. Babin/Jon C Carr/Mitch Griffin (2013). Business Research Methods, Cengage publication, 8th edition.

2. Hair, Black, Babin, Anderson and Tatham (2017). Multivariate Data Analysis, 7e Pearson education India. ISBN – 13 9789332536500

3. DeVellis, R.F (1991). Scale Development: Theory and Applications, Newbury park, California: Sage.

4. Viswanathan, M. (2005). Measurement Error and Research Design. Thousand Oaks: Sage.

5. Dangi, H.K, Dewan, S (2016) Business Research methods, Cengage publication.

6. Surya, P.K., Sharma, S.K. (2020), Business Research M

B.Com :Semester VIII

Session	2022-26
Class	B.Com
Semester	Eighth
Title of the Paper	International Taxation
Category	Major
Compulsory/ Optional	Compulsory
Paper Code	B.Com(H)-804
Maximum Marks	100
Internal/ External	40/60

Objective: The course aims to introduce students to the issues of international tax avoidance and evasion. The course would also create awareness about the various methods followed to alleviate international double taxation, along with understanding international initiatives on tax compliance.

Learning Outcomes: After completion of the course, learners will be able to:

1. comprehend the meaning and causes of international double taxation.
2. compare and evaluate the different methods adopted by countries to alleviate international double taxation.
3. analyse the techniques used for international tax evasion and avoidance.
4. evaluate the methods used nationally and internationally for prevention of international tax evasion and avoidance.
5. demonstrate their awareness of international Model Conventions on prevention of international double taxation.

Course Outcomes: On completion of the course the students will be able to:

CO-PO Matrix					
CO/PO	PO1	PO 2	PO 3	PO 4	PO5
CO1 A					
CO1 B					
CO2					
CO3					
CO4					

Unit -1	International Double Taxation
	Concept of international double taxation; principles of international taxation – source rule and residence rule; international tax evasion and avoidance; Advance Ruling; withholding tax rates on different sources of incomes.
Unit 2	Alleviation of International Double Taxation
	Methods to alleviate international double taxation: exemption method, tax credit method, tax sparing credit method; bilateral tax treaties (Double Taxation Avoidance Agreements) – objectives, features and benefits; multilateral tax treaties; bilateral investment treaties.
	Model Bilateral Double Taxation Conventions: OECD Model Convention and United Nations Model Convention
Unit 3	International Tax Evasion and Avoidance
	Methods of tax evasion and avoidance: transfer pricing, Base Erosion and Profit Shifting; tax havens and treaty shopping; the case of India-Mauritius tax treaty.
Unit 4	**Prevention of International Tax Evasion and Avoidance**
	Arm's length price, transfer pricing regulations in India, transfer pricing methods, transfer pricing compliance practices; Advance Pricing Agreements; anti-treaty abuse provisions; General Anti Avoidance Rules; exchange of information.
	BEPS Action Plan, BEPS Multilateral Instrument; Multilateral Convention to Implement Tax Treaty Related Measures to Prevent BEP
Unit 5	Tax Challenges arising from Digitalisation of the Economy
	Importance of corporate taxes; trends in corporate taxes; reforms in international direct taxation rules, indirect taxation and e-commerce; enhancing Digital Platforms Reporting.

The learners are required to:

1. conduct an inter-country comparison of corporate taxes as well as withholding tax rates for different kinds of income.

2. conduct a trend analysis of proliferation of bilateral tax treaties over a period of time.

3. prepare case studies of some specific bilateral treaties to demonstrate the concept of tax treaty shopping.

4. conduct an in-depth analysis of the methods used by individual countries as well as international organisations to avoid Base erosion and Profit Shifting

5. make presentation on contemporary issues such as tax challenges arising from digitisation of economies.

Suggested Readings:

- Agrawal, D. C. Basic Concepts of International Taxation, Taxmann.
- Garg, K. Guide to International Taxation. Bharat Law House

- OECD (2022). Transfer Pricing Guidelines for Multinational Enterprises and Tax Administrations.
- OECD (2020). Tax Challenges arising from Digitalisation – Economic Impact Assessment: Inclusive Framework on BEPS.
- OECD (2017). Model Convention on Income and Capital.
- United Nations (2017). Department of Economic and Social Affairs, United Nations Model Double Taxation Convention between Developed and Developing Countries.
- UNCTAD (2021). World Investment Report.
- Vijayasarathy, D. Fundamentals of International Taxation. Bharat Law House

Note: Learners are advised to use the latest edition of reading

BCA – 701 Data Mining

Course Objectives:

1. Be familiar with mathematical foundations of data mining tools.
2. Understand and implement classical models and algorithms in data warehouses and data mining.
3. Characterize the kinds of patterns that can be discovered by association rule mining, classification and clustering.
2. Develop skill in selecting the appropriate data mining algorithm for solving practical problems.

Course Outcomes: At the end of the course, students will be able to

CO-1. Understand the functionality of the various data mining and data warehousing component.
CO-2. Appreciate the strengths and limitations of various data mining and data warehousing models.
CO-3. Explain the analyzing techniques of various data.

Course Contents:

Unit-I

Introduction: Data Mining – Motivation, Importance of DM Functionalities, Basic Data Mining Tasks, DM Applications, and Social Implications

Unit-II

Data Warehousing: Differences between Operational Database and Data Warehouse – Multidimensional Data Model - From Tables to Data Cubes. Schemas, Measures, DW Implementation – Efficient Computation of Data Cubes.

Unit-III

Data Reprocessing, Data Mining Primitives, Languages: Data Cleaning, Data Integration and Transformation, Data Reduction, Discretization and concept of Hierarchy Generation, Task relevant Data, Background Knowledge, Presentation and Visualization of Discovered Patterns.

Unit-IV

Data Mining Algorithms: Association Rule Mining, Classification and Prediction – Decision Tree, Bayesian Classification Back Propagation, Cluster Analysis, Outlier Analysis.

Unit-V

Web, Temporal and Spatial Data Mining: Web Content Mining, Web Structure Mining, Web Usages Mining, Spatial Mining, Generalization and specialization, Spatial Rules, Spatial Classification and Clustering Algorithms, Temporal Mining, Modeling Temporal Events, Times Series, Pattern Detection, Sequences.

Reference Text Books:

1. Jiawei I-lan & Micheline Kambler, "Data Mining: Concepts and Techniques", Harcourt India Pvt. Ltd., First Indian Reprint, 2001

2. Margaret H. Dunham, "Data Mining : Introduction and Advance Topics", Pearson Education, First Indian Reprint, 2003

3. Arun K. Pujari, "Data Mining Techniques", University Press (India) Limited, First edition, 2001 4. Efrem O, Mallach, "Decision Support and Data Warehousing Systems", Mcgraw-Hill International Edition, 2000

BCA – 702   Research Methodology

Course Objective
The course explains the application of research to various functions of management.

Course Outcomes

Upon completion of the course the students will be able to:

CO-1: Understand the concept, process, design, tools and techniques of RM.
CO-2: Apply tools, techniques/methods to assist various functions of management.
CO-3: Analyse the data collected.
CO-4: Evaluating the results, interpret and present findings.
CO-5: Prepare research report

Course Contents:
Unit-I

Introduction to Research Methodology: Meaning of Research, Objectives of Research, Motivations in Research, types of Research, Significance of Research, Research Process, Criteria of Good Research, Problem Identification & Formulation – Research Question – Investigation Question, Research Ethics and Integrity.

Unit-II

Literature Review Development, Argumentation and Synthesis, Referencing, Setting Objectives, Hypothesis, Qualities of a good Hypothesis, Types of Hypothesis, Null Hypothesis & Alternative Hypothesis.

Unit-III

Research Design: Concept and Importance in Research – Features of a good research design – Exploratory Research Design – concept, types and uses, Descriptive Research Designs – concept, types and uses. Experimental Design: Concept of Independent & Dependent variables. Hypothesis Testing- Logic & Importance. Measurement: Concept of measurement: Problems in measurement in research – Validity and Reliability, Levels of measurement – Nominal, Ordinal, Interval, Ratio.

Unit-IV

Sampling: Concepts of Statistical Population, Sampling plan, Sampling Techniques- Probability & Non-probability Sampling. Data Preparation- Coding, Editing, Data Analysis: Univariate analysis (frequency tables, bar charts, pie charts, percentages), Testing Reliability, Tests of Association: Bivariate/Mutivariate analysis –Correlations and Regression,

Unit-V

Tests of Differences: t-tests, ANOVA, Interpretation of Data and Report Writing, Types and Layout of Research Report, Precautions in preparing the Research Report, Bibliography, Footnotes and Annexure in the Report. Plagiarism Issues.

Note: The course has to be taught with the help of MS Excel and IBM SPSS wherever needed.
Suggested Text Books:

1. Chapman, C. (2015). R for marketing research and analytics. New York, NY: Springer Science Business Media, LLC.
2. Cooper,R.,&Schindler,P.S.(2014).Businessresearchmethods(Twelfthedition).New York, NY: McGraw-Hill/Irwin.
3. Malhotra, N.K., & Birks, D.F.(2007). MarketingResearch:AnAppliedApproach(3ed).Harlow: Financial Times Prentice Hall.
4. Poynter, R. (2010). The handbook of online and social media research: tools and techniques for market researchers. New York: Wiley.
5. Zikmund, W. G., Babin, B. J., Carr, J. C., & Griffin, M. (2013). Business research methods. Cengage Learning.

BCA – 703   Data science using Python

Unit – I: Introduction

Introduction to Data Science – Evolution of Data Science – Data Science Roles – Stages in a Data Science Project – Applications of Data Science in various fields – Data Security Issues.

Unit – II: Data Collection and Data Pre-Processing

Data Collection Strategies – Data Pre-Processing Overview – Data Cleaning – Data Integration and Transformation – Data Reduction – Data Discretization.

Unit – III: Exploratory Data Analytics

Descriptive Statistics – Mean, Standard Deviation, Skewness and Kurtosis – Box Plots – Pivot Table – Heat Map – Correlation Statistics – ANOVA.

Unit – IV: Model Development

Simple and Multiple Regression – Model Evaluation using Visualization – Residual Plot – Distribution Plot – Polynomial Regression and Pipelines – Measures for In-sample Evaluation – Prediction and Decision Making.

Unit – V: Model Evaluation

Generalization Error – Out-of-Sample Evaluation Metrics – Cross Validation – Overfitting – Under Fitting and Model Selection – Prediction by using Ridge Regression – Testing Multiple Parameters by using Grid Search.

Suggested Text Books:

1. Jojo Moolayil, "Smarter Decisions : The Intersection of IoT and Data Science", PACKT, 2016.
2. Cathy O'Neil and Rachel Schutt , "Doing Data Science", O'Reilly, 2015.

3. David Dietrich, Barry Heller, Beibei Yang, "Data Science and Big data Analytics", EMC 2013

4. Raj, Pethuru, "Handbook of Research on Cloud Infrastructures for Big Data Analytics", IGI Global.

BCA – 801   Mobile Application Development

Course Objectives: The goal of this subject is to understand the different types of command use for different purpose in Linux. Understanding the mobile application technology using Android and develop the mobile apps by Android Studio.

Course Outcomes: At the end of the course, students will be able to

CO1a: To understand Lunix features and commands

CO1b: to understand mobile OS

CO2: to understand architecture of android OS

CO3: to understand android framework and their components

CO4: To develop mobile app in android device

Course Contents:

Unit-I
Linux introduction and file system - Basic Features, Advantages, Installing requirement, Basic Architecture of Unix/Linux system, Kernel, Shell., Linux standard directories. Commands for files and directories cd, ls, cp, md, rm, mkdir, rmdir, pwd, file, more, less, creating and viewing files using cat, file comparisons – cmp & comm, View files, disk related commands, Filters, Redirection Operator and File permission command.

Unit-II
An Introduction to Mobile Computing- mobile Application Programming, Different Platforms. Operating systems-Architecture and working of Android, iOS and Windows phone, Comparison of Android, iOS and Windows phone, Android Development Environment - Advantages and Future of Android, Android Origin, Version and API level, Use of Android Studio.

Unit-III
Android Software Development Platform - Understanding Java SE and the Dalvik Virtual Machine, The Directory Structure of an Android Project, Common Default Resources Folders, The Values Folder Leveraging Android XML, Screen Sizes, Launching Your Application, Configure Virtual Device/Real Device for execute Android Apps.

Unit-IV
Android Framework Overview- The Foundation of OOP: The APK File, Android Application Components, And Android Activities: Defining the UI, Android Services: Processing in the Background, Broadcast Receivers: Announcements and Notifications, Activity Life Cycle, Fragment and Intents.

Unit-V

Working with the User Interface Using Views and ViewGroups, Different Layouts, Handling UI Events, Handling Pictures and Menu with Views, Storing the Data Persistently.

Suggested Text Books:

1. Cinar O. *Beginning Android 4*. Apress Publication.
2. Meier R. *Professional Android 4 Application Development.* Wrox Publication.

Reference Books:

1. Kothari P. *Android Application Development*. Black Book. Dream Tech Publication.
2. Novák I., Arvai Z., Balássy G., Fulop D. *Beginning Windows 8 Application Development*. Wrox Publication.

BCA – 803   Mobile Application Development Tutorial

1. Develop android application to print welcome message on a screen?
2. Develop android application to show the output of activity life cycle?
3. Develop android application to calculate simple Arithmetic Operation on Android?
4. Develop android application to show the fragment?
5. Develop android application to pass parameter from one activity into another activity?
6. Develop android application to perform operation through intent object?
   (i) Open Google website
   (ii) Dial a number
   (iii)Sending message
7. Develop SMS APPLICATION on Android?
8. Develop android application to show the different layout?
9. Develop android application to create menus?
10. Develop android application for image gallery?
11. Develop android application to perform following operation?
    (i) Display of progress bar
    (ii) Use of dialogue box
    (iii)Set the time
    (iv)Set the date
12. Develop android application for Creating Dialog box?
13. Develop android application for login Screen?

BCA – 802   Cloud Computing

Course Objectives

- To provide students with the fundamentals and essentials of Cloud Computing.
- To provide students a sound foundation of the Cloud Computing so that they are able to start using and adopting Cloud Computing services and tools in their real life scenarios.
- To enable students exploring some important cloud computing driven commercial systems and applications.
- To expose the students to frontier areas of Cloud Computing and information systems, while providing sufficient foundations to enable further study and research.

Course Outcomes

Upon successful completion of this course, students will be able to –

CO-1: Explain the core concepts of the cloud computing paradigm: how and why this paradigm shift came about, the characteristics, advantages and challenges brought about by the various models and services in cloud computing.

CO-2: Apply the fundamental concepts in datacenters to understand the tradeoffs in power, efficiency and cost.

CO-3: Identify resource management fundamentals, i.e. resource abstraction, sharing and sandboxing and outline their role in managing infrastructure in cloud computing.

CO-4: Analyze various cloud programming models and apply them to solve problems on the cloud.

Unit-I

Cloud Computing Overview – Origins of Cloud computing – Cloud components - Essential characteristics On- demand self-service, Broad network access, Location independent resource pooling, Rapid elasticity, Measured service. Cloud scenarios – Benefits: scalability, simplicity, vendors, security. Limitations – Sensitive information - Application development – Security concerns - privacy concern with a third party - security level of third party - security benefits

Unit-II

Cloud Computing Architecture: Cloud computing stack - Comparison with traditional computing architecture (client/server), Services provided at various levels, How Cloud Computing Works, Role of Networks in Cloud computing, protocols used, Role of Web services Service Models (XaaS) - Infrastructure as a Service(IaaS), Platform as a Service(PaaS), Software as a Service(SaaS)

Unit-III

Cloud Computing Architecture: Deployment Models – Public cloud, Private cloud, hybrid cloud, Community cloud; Cloud security: Infrastructure security, data security and storage, Identity and access Management, Access control.

Unit-IV

Virtualization: Virtualization and cloud computing - Need of virtualization – cost, administration, fast deployment, reduce infrastructure cost – limitations; Types of hardware virtualization: Full virtualization - partial virtualization - para virtualization; Cloud Economics: Cloud Computing infrastructures available for implementing cloud based services, choosing a Cloud platform for an organization based on application requirements, economic constraints and business needs

Unit-V

Setting up your own Cloud: How to build private cloud using open source tools, understanding various cloud plugins, setting up your own cloud environment- Auto provisioning, Custom images, Integrating tools like Nagios; Integration of Public and Private cloud. Future Directions: Cloud Domain and scope of work, Cloud Computing Programming Introduction, Trends and market of cloud

Text Books
1. Gautam Shroff, Enterprise Cloud Computing Technology Architecture Applications [ISBN: 978-0521137355]
2. Cloud computing a practical approach - Anthony T.Velte, Toby J. Velte Robert Elsenpeter TATAMcGraw- Hill , New Delhi – 2010 [ISBN: 0071626948]
3. Dimitris N. Chorafas, Cloud Computing Strategies [ISBN: 1439834539]
4. Cloud Computing: Web-Based Applications That Change the Way You Work and Collaborate Online -Michael Miller - Que 2008

Reference Books
1. Cloud Computing Bible, Barrie Sosinsky, Wiley-India, 2010
2. Cloud Computing: Principles and Paradigms, Editors: Rajkumar Buyya, James Broberg, Andrzej M.Goscinski Wile, 2011
3. Cloud Computing: Principles, Systems and Applications, Editors: Nikos Antonopoulos, Lee Gillam,Springer, 2012.
4. Cloud Security: A Comprehensive Guide to Secure Cloud Computing, Ronald L. Krutz, Russell DeanVines, Wiley-India, 2010

LAW III Semester Max. Marks: 100
FOREIGN LANGUAGE (FRENCH)-I Min. Marks:
PAPER CODE: LAW External: 60
Internal: 40

Course objective:

⬚ The aim of this course is to develop the knowledge of the French language among

the student at a basic level.

Learning Objective:

⬚ This paper is to make students understand the basics of the French language and

its importance in todays time

Course Outcomes

CO 1 Demonstrate an elementary knowledge of Grammar and elementary French.

CO 2 Compare and contrast the similarities and differences between his/her own culture and

those of various Francophone cultures.

CO 3 Combine sentences and phrases to express opinions on topics related to the self, personal

interest, and everyday life.and written performance for learning purposes.

SECTION-A (Marks)

Grammar

Les sign orthographiques, Les Nouns (nationalité, loisirs, chose dans votre sac, vêtements,

légumes, fruits, vente, dans le menu), Les pronoms sujet, Les articles indéfini et défini, Singulier

et pluriel, Le genre , Les verbes réguliers et irréguliers (1 st ,2 nd ,3 rd), Les verbes auxiliaire, Les

verbes pronominaux, Aime et n'aime pas, Les phrases de forme affirmative, les phrases de

forme négative, les phrases de forme interrogative (avec inversion et sans inversion),

SECTION-B (Marks)

Reading

Les alphabets, Les nombres cardinaux, L'heure, Vocabulaire, Formules de politesse rencontre,

Les jours de la semaine, les mois de l'année, Les temps, , céléb en france, Traduisez les phrases

suivantes en anglais, Questions et réponses basées sur la leçon de l'unité 1 du livre prescript,

Questions et réponses basées sur la leçon de l'unité 2 du livre prescript (poisson-quinton sylvie,

s. a. l. a. (1999)

SECTION-C (Marks)

Writing

Presentez-vous et Presente- ses,

Rédaction de dialogues simples sur sujet donné:

⬤ Un journaliste intervoge vous. Écrivez un dialogue.

⬤ Vous rencontrez un (e) ami (e) francophone. écrivez un dialogue pour décrire votre ville

⬤ Vous rencontrez un (e) ami (e) français (e) à Paris. Écrivez un dialogue

⬤ Vous rencontrez votre ami (e) à la station des paris, il / elle vous demande de décrire votre

pays.

⬤ il ya des soldes. Qu'est- ce qu'vous achètez?.

⬤ Vous commandez des plâts dans un restaurant indien à Paris. (le garçon est francophone).

Suggested Readings

⬤ POISSON-QUINTON Sylvie, S. A. L. A. (1999). Marina. Inwa/l, New Delhi: CLE

international.

Jones, A. (1995). Larousse dictionary of world folklore. Edinburgh: Larousse.

LAW IV Semester Max. Marks: 100
FOREIGN LANGUAGE (FRENCH)-II Min. Marks:
PAPER CODE: LAW External: 60
Internal: 40

Course Objective:

⬚ This course aims to make the students to understand the knowledge of French language.

Learning Objective:

⬚ This paper is to make students understand the basics of french language and it's importance in today's time.

Course Outcomes

⬚ To demonstrate the recalling and the advance visuals, auditory and kinesthetic of French.

⬚ To compare and contrast the similarities and differences between his/her own culture and those of various French-speaking cultures

⬚ To evaluate and critique each other's oral and written performance for learning purposes.

SECTION-A (Marks)

Grammar

Nouns (le plan de ville, supermarché, les course, achete, vente location, maison, la convocation, l'ecolé, aller de bureau, agriculture, Famille, Vacances, metro bulletin) , Les pronom d'objet, Les verbes réguliers et irréguliers (1 st ,2 nd ,3 rd), Les verbes auxiliaire, Les verbes pronominaux, L'accord des adjectifs (contractuel), Les adjectifs (possesive), les comparatifs, les contraire , les phrases de forme negation(ni…ni), les phrases de forme interrogative (possez la question), L'heure ,Utiliser "ON" ou "les gens", le futur proche

SECTION-B (Marks)

Reading

Vocabulaire, Traduisez les phrases suivantes en Français Les nombres (ordinaux), Les

saison, célèb en france, les noms de pays, Questions et réponses, basées sur la leçon de

l'unité 3 du livre prescript, Questions et réponses basées sur la leçon de l'unité 4 du

livre prescript (poisson-quinton sylvie, s. a. l. a. (1999)

SECTION-C (Marks)

Writing

1. Presenter quelqu'un,

2. Presentez-ses

3. Rédaction d'un essai (petit paragraphe)

▢ Mon ami(e)

▢ Mon cours de Français

▢ Ma ville

▢ Un site touristique.

▢ Mon pays

Text Books:

▢ POISSON-QUINTON Sylvie, S. A. L. A. (1999). Marina. Inwa/l, New Delhi: CLE

international.

References:

▢ Price, W. L. (2008). 'There Is a Saviour'. In Bonne Route. New Delhi: Route

Publishing.

▢ Jones, A. (1995). Larousse dictionary of world folklore. Edinburgh: Larousse.