MANIPAL UNIVERSITY JAIPUR

MBA Business Analytics

Total Credits: 102

Total no. of Credits to earned in First year: 53.

Semester I

S. No.	Course Code	Course Name	Credit
1	MB6102	**Managerial Economics**	4
2	MB6103	**Accounting for Managers**	4
3	MB6109	**Marketing Management**	4
4	MB6110	**Business Communication**	3
5	AN6101	**Business Problem Solving, Insights and Storytelling**	4
6	AN6102	**Data Analysis in Excel**	4
7	DSE1106	**Python for Data Analytics**	4
			27 Credits

Semester II

S. No.	Course Code	Course Name	Credit
1	MB6202	**Management Accounting**	4
2	MB6203	**Operations Management**	3
3	MB6205	**Human Resource Management**	3
4	MB6208	**Financial Management**	4
5	AN6201	**Management Concepts & Organizational Behaviour**	4
6	AN6202	**Inferential Statistics and Hypothesis Testing**	4
7	IT2111	**DBMS with SQL**	4
			26 Credits

Total no. of Credits to earned in Second year: 49.

Semester III

S. No.	Course Code	Course Name	Credit
1	AN7370	Summer Internship	4
2	AN7301	Strategic Management	4
3	AN7302	Legal Aspects of Business	3
4	AN7303	Self- Development and Personal Growth	3
5	AN7304	Exploratory Data Analysis	4
6	AN7305	Data Visualisation and Business Intelligence	4
			22 Credits

Semester IV

S. No.	Course Code	Course Name	Credit
1	AN7401	Information Management for Business	3
2	ART****	Elective 1	2
3	AN7402	Business Ethics and Corporate Governance	3
4	AN7403	Predictive Analytics and Introduction to ML	4
5	DSE2205	Big Data Analytics and Data Strategy for Business	4
6	AN7470	Dissertation	6
7		Elective 2	5
			27 Credits

Electives:

1.	AN7440	Marketing Analytics	5
2.	AN7441	HR Analytics	5
3	AN7442	Banking Analytics	5

Semester 1

MB6102   Managerial Economics

Scarcity, Law of demand and Law of supply, equilibrium and applications, Price elasticity of demand, cross elasticity of demand, degrees and determinants of price elasticity demand, production, costs and revenue, markets, and game theory. Challenges for managers from micro and macro environment perspectives, Slow down/recession/ depression and conventional and non-conventional measures, Measuring the output, Nominal GDP vs Real GDP, GDP deflator. Consumption function, derivation of multiplier Investment function, MEC, Money supply, components of Money supply, Measure of high-power money, the money multiplier, the demand for money. Monetary policy, objectives, instruments, and real-life analysis. Fiscal policy, objectives instruments and real-life analysis of the Union Budget and consequences. Inflation, types, measurements using CPI and WPI, the impact of inflation on the economy, Phillips curve. Exchange rate, types, and determinants. Balance of payments real-life analysis

Reference books

1. Alan Glanville, Economics from a global perspective, Alan Glanville, United Kingdom 1998
2. Amos Witztum, Economics an Analytical Introduction, Oxford University Press, New York 2009
3. Mankiw N.Gregory, Principles of Macroeconomics, Haryana, Thomson , 2007, 4th Edition
4. Dornbusch Rudiger, Fischer Stanley and Startz Richard, Macroeconomics, New Delhi, TATA Mc Graw Hill , 2005

MB6103   Accounting for Managers

Objectives and Uses of Accounting, Advantages and Limitations of Accounting, Concepts and Conventions of Accounting, Basic Accounting Terminology, Double Entry System of Accounting, Accounting Equation, Accrual and Cash Basis of Accounting, Accounting Standards, Accounting Policies, (GAAP and US GAAP), Accounting Terminologies, Accounting Standards. Preparation of Accounting Books and Financial Statements: Accounting Concepts and Conventions, Journal, Books of Accounting, Ledger, Preparation of Trial Balance, Income Statement and Balance Sheet, Presentation of Financial Statements, Financial Statements of Companies, Annual Reports of Companies, Limitations of Financial Statements, Single and double entry book system. Depreciation Accounting: Causes for Depreciation, Need for Depreciation, Methods of Depreciation: Straight line method, Written Down Value Method and Annuity Method, Year to

Year digit method, ICAI Guidelines on Depreciation, Window Dressing in Financial Statements: Meanings, Benefits and Techniques in window dressing, Ethics in Accounting.

References:

1. R. N. Anthony, D. F. Hawkins, K. A. Merchant, *Accounting: Text and Cases*, (12e), Tata McGraw Hill, 2011.

2. M. Bamber, S. Parry, *Accounting and Finance for Managers: A Decision Making Approach*, (2e), Koganpage, 2018.

3. C. T. Horngren, G. L. Sundern, J. A. Elliott, D. R. Philbrick, *Introduction to Financial Accounting*, (11e), Pearson, 2017.

4. P. M. Collier, *Accounting for Managers*, (5e), John Wiley & Sons, 2015.

5. R. N. Anthony, D. F. Hawkins, K. A. Merchant, *Accounting: Text and Cases*, (12e), Tata McGraw Hill, 2011.

MB6109   Marketing Management

Introduction to marketing: Nature and Scope of Marketing, Core Marketing Concepts, Selling vs. Marketing, Marketing-Mix, Marketing Environment Analysis, Developing Marketing Strategies and Plans , Customer's orientation: Building Customer Value, Satisfaction and Loyalty, Consumer Behavior and Buying Decision Process, Marketing Research and Segmentation: Marketing Research Process, Importance and Application, Levels and Selecting Market Segments and Targeting, Developing Value Proposition and Positioning Strategy, Positioning Strategy Differentiation Strategies, Product Life-Cycle, diffusion of innovation, Product mix, Pricing: Objectives, Methods of pricing. Pricing for strategic gains. Promotion: Branding, Promotion-mix, Advertising, Sales Promotion, Personal Selling, Publicity and Public Relations, Key Marketing elements: Physical distribution and channel management, contemporary channels, AIDAS model, Sales Process and Marketing Funnel, Marketing Applications: Marketing of Services, Rural Marketing, CRM, e-Marketing, B2C, B2B and C2C, Marketing through Internet, International Marketing. Contemporary issues in marketing and Ethics in marketing. Introduction to Retail marketing , e retailing, New age media, ethics in marketing , Customer value. Meet the Industry leader.

References:

1. Kotler, Lane, Abraham Jha, *Marketing Management*, Pearson Education, 2012

2. Baines, *Marketing* , Oxford University Press,2014

3. Ramaswamy, Namakumari, *Marketing Management: Global Perspective, Indian Context* (4e)

Macmillan Publishers India,2009

4. Etzel, M.J, Walker B.J , Stanton W.J, Pandit, A, *Marketing*; (14e) McGraw Hill,2001

5. P. Baines, C. Fill, S. Rosengren, P. Antonetti, *Marketing*, (5e), Oxford University Press, 2019.

6. M. J. Etzel, B. J. Walker, W. J. Stanton, A. Pandit, *Marketing*, (14e), McGraw Hill 2017.

7. P. Kotler, K. L. Keller, A. Koshy, M. Jha, *Marketing Management*, (14e), Pearson Education, 2014.

MB6110   Business Communication

Introduction to Communication: Class Exercises & Discussions. Introduction to Writing: Class Exercises & Discussions. Elements of Presentation: Class Exercises & Discussions. Presentation: INTRODUCTION: Presentation by Students & Feedback. Presentation: BODY: Presentation by Students & Feedback. Presentation Skills: Presentation by Students . Writing a Passage: Class Exercise. Writing a Formal Letter : Home Work & Class Exercise., Writing Complaints: Home Work & Class Exercise., Responding to Complaints: Home Work & Class Exercise., Performance Detailing : Home Work & Class Exercise., Writing Executive Summary: Home Work & Class Exercise., Effective Email : Home Work & Class Exercise., Congratulating & Complimenting: Home Work & Class Exercise., Writing Reports : Home Work & Class Exercise., Termination Letter : Home Work & Class Exercise.

References:

1. C. L. Bovee, J. V. Thill, R. L. Raina, Business Communication Today, (13e), Pearson, 2017.

2. R. V. Lesikar, M. E. Flately, K. Rentz, P. Lentz, N. Pandey, *Business Communication*, (13e), Tata McGraw Hill, 2015.

3. Raymond V. Lesikar, Marie E. Flately, Kathryn Rentz, Paula Lantz, Neerja Pande, *Business Communication*, (13e) McGraw-Hill Pvt,2012.

AN6101   BUSINESS PROBLEM SOLVING, INSIGHTS AND STORYTELLING

Introduction to Business Analytics: Scope and Significance of Business Analytics: Importance, Job

Roles, Trends, Introduction to Information Technology: Applications, Components, Trends

Understanding Problems and Formulating Hypotheses: Types of Problems, Framing a Problem, Business Model Canvas, Building a Hypothesis, Interviewing Frameworks, SPIN, SMART, 5Cs and PESTEL Framework, MECE Approach

Industry Demonstrations: Issue Tree Framework, 7Ps Framework; Case Studies: Air Crash Investigation, Big Data Consultant, Starbucks

Analysing Patterns and Storytelling: Five Patterns of Insights, Analysis Approach, Insight Overview, Pyramid Principle, Logical Flow and Usage of Words, Visualisation of Qualitative and Quantitative variables, Visual Design Principles, Storyboarding

Saas Pipeline Conversions Project: Formulate hypotheses for low sales conversions faced by a SaaS startup, and analyse the dataset provided to arrive at possible solutions to increase it.

References:

1. Heath, C., & Heath, D. (2013). Made to stick: Why some ideas survive, and others die. Random House.

2, McKinsey & Company. (2018). McKinsey problem solving: An approach to problem solving and decision making. Wiley.

3. Kim, W. C., & Mauborgne, R. (2015). Blue ocean strategy: How to create uncontested market space and make the competition irrelevant. Harvard Business Review Press.

4. Kosslyn, S. M., & Rosenberg, R. S. (2014). Strategic thinking and problem solving. Psychology Press.
s
5. Denning, S. (2011). The leader's guide to storytelling: Mastering the art and discipline of business narrative. Jossey-Bass.

AN6102 DATA ANALYSIS IN EXCEL

Data Analysis in Excel: Introduction to Excel: Excel Interface, Sort & Filter, Report Making, Printing, Page Layout, Passwords and Naming Files, Shortcuts, Complex Functions, Cell Referencing, Creating and Formatting Charts, Pivot Tables, Common Errors, VLOOKUP

Advanced Excel : Text, Statistical, and Logical Functions, Conditional Formatting, What-If Analysis, Macros, Data Analysis Toolpak, Visual Basics for Applications

Financial Functions: Time Value of Money, Capital Budgeting, Financial Functions: Depreciation, SI, PV, FV, NPV, IRR, Annuity

Superstore Sales Project : Create a report containing a summary of sales for the corporate customer segment at Superstore Sales retail store.

References:

1.   Albright, S. C., Winston, W. L., & Zappe, C. J. (2016). Data Analysis and Decision Making with Microsoft Excel. Cengage Learning.

2.   Berenson, M. L., Levine, D. M., & Szabat, K. A. (2015). Basic Business Statistics: Concepts and Applications. Pearson.

3.   DeVeaux, R. D., Velleman, P. F., & Bock, D. E. (2015). Stats: Data and Models (4th ed.). Pearson.

4.   Kvanli, A. H., Pavur, R. J., & Guynes, C. S. (2014). College Mathematics for Business, Economics, Life Sciences, and Social Sciences (13th ed.). Pearson.

5.   Peck, R., Olsen, C. H., & Devore, J. L. (2015). Introduction to Statistics and Data Analysis (5th ed.). Cengage Learning.

DSE1106   PYTHON FOR DATA ANALYTICS

Introduction to Python Programming: Basics of Python: Installation, Data Types, String and Arithmetic Operators

Data and Control Structures: Lists, Tuples, Sets, Dictionaries, Loops, Functions

OOP in Python: Objects, Methods, Class Inheritance, Overriding

Basic Coding, Strings, Remove Duplicates, Balanced Brackets, Time Complexity, Searching, Sorting, Two Pointers, Recursion

Python for Data Science: NumPy: Basics, 1-D and Multidimensional Arrays, Creating and Manipulating Arrays; Matplotlib: Visualisation, Subplots; Pandas: Basics, Indexing and Slicing, Dataframes, Grouping and Pivoting, Merge and Append; Data Visualisation in Python Case Study: Analysing Google Playstore Ratings

Data Visualisation with Seaborn: Distribution Plots, Styling Options, Different Types of Charts and Plots, Heatmaps, Plotly

Movies Dataset Project: Find insights for some movies released between 1916 and 2016 by

exploring a dataset of the same. Gather insights on entities such as actors, directors etc.

References

1. McKinney, W. (2017). Python for data analysis: Data wrangling with Pandas, NumPy, and IPython (2nd ed.). O'Reilly Media.

2. VanderPlas, J. (2016). Python data science handbook: Essential tools for working with data. O'Reilly Media.

3. Sweigart, A. (2019). Automate the boring stuff with Python: Practical programming for total beginners (2nd ed.). No Starch Press.

4. Grus, J. (2015). Data science from scratch: First principles with Python. O'Reilly Media.

5. Mueller, J. (2016). Python for data science handbook: Tools and techniques for developers (1st ed.). Packt Publishing.

Semester 2

MB6202   Management Accounting

Introduction: Comparison of Management Accounting with Financial Accounting and Cost Accounting, Decision making process and Management Accounting, Information needed by Management Accounting, Types of Costs: Direct, Indirect, Prime Cost, Material Cost, Labour Cost & Overhead Cost, Product Costing Systems: Job Order Costing, Accumulation of costs in job order costing, Illustration of job order costing system; Process Costing, Flow of costs, Process costing vs. job order costing, Concept of equivalent units, Illustration of process costing, Issues in process costing, Financial Planning and Forecasting: Long Term Financial Planning, Short Term Financial Planning, Financial Forecasting, Steps in Financial Planning. Budgeting and Budgetary Control – Classification of Budgets, Preparation of Fixed and Flexible Budgets, Purchase Budget, Sales Budget, Production Budget, Cash Budget – A Tool of Cash Planning, Master Budget, Cost-Volume-Profit (CVP) Analysis: Techniques of CVP Analysis, Contribution and Margin Analysis, BEP Analysis, Margin of Safety

References:

1.   M.Y Khan, P.K Jain, *Management Accounting: Text, problems and Cases*; (4e); Tata McGraw Hill, 2016

2.   R.P Rustagi, *Management Accounting*, Taxman,2017

3. S.N Maheshwari, S.K Maheshwari, *A Textbook of Accounting for Management*, Vikas Publishing House,2006

4. P.S Ananthanarayanan *Management Accounting*, Oxford,2015

MB6203   Operation Management

Introduction to Operations and Supply Chain Management: How operations relates to other functional areas of an organization, relationships that exist between various factors that affect operations of a business organization, managing a supply chain, supply chain performance factors, Capacity and Layout Planning: Demand forecasting, strategies for managing capacity to meet demand, capacity and facility design, facility location models decision support tools, optimizing layout design to meet customer demand, optimizing layout to improve capacity utilization. Introduction to Project Management: Project Management principles, utilizing work breakdown structures (WBS) to identify project schedule, different types of project management methods, scheduling using Gantt Charts, PERT; CPM, Introduction to Materials Management: Material requirements planning, interaction with production planning and control, purchasing processes, materials forecasting, inventory management fundamentals, Just In Time manufacturing, warehouse management, Quality Management Systems: Total Quality Management fundamentals, Cost of Quality concept, process variation, process capability, process control, utilizing Lean Six Sigma for processes to meet customer specifications, Quality Function Deployment

References:

1. Russell & Taylor, *Operations Management: Creating Value along the Supply Chain,* Wiley 2011

2. Lee J. Krajewski, Larry P. Ritzman, *Operations Management: Processes and Value Chains,* Prentice Hall India,2018

3. Norman Gaither,Greg Frazier, Study Guide, *Operations Management,*(9e) Thomson South-Western,2002

4. Slack and Lewis, *Operations Strategy*; (4e) Pertinence Hall,2007

5. James R. Evans and William M. Lindsay, The management and control of quality (6e), South-Western College,2004

MB6205   Human Resource Management

Acquisition of Human Resource: Introduction to Human Resource Management: Meaning; Significance; Objectives; Evolution and Development of Personnel Management and HRM;

Difference between H.R.M., H.R.D, and Personnel Management; Key Roles, Functions and Activities of HRM; Strategic Human Resource Management; Acquiring Human Resources: HR Planning, Job Design, Job Analysis, Role Analysis; Recruitment; Selection; Induction & Placement, Talent Management and Retention strategies, Developing Human Resource: Performance Measurement and Reward Systems- Introduction, Performance Drivers, Reward Management, Performance Appraisals: process; tools; errors; Potential Appraisal; Career Planning and Development; Succession Planning; Training Human Resources – Phases of Training, Need Assessment, Training Methods and Evaluation, Compensating Human Resources: Job Evaluations, Compensation Administration; Incentive Plans and Fringe Benefits; Workers Participation in Management; Employee empowerment, Managing Industrial Relations & Contemporary issues in HRM: Dynamics of Industrial Relations; Discipline and Grievance Management; Collective Bargaining; Trade Unions; Industrial Disputes. Work-life Balance, Human Resource Accounting and Audit; Latest trends of HRM.

References:

1. Gilley, Jerry W., Steven A. England, Ann Maycunich Gilley, *Principles of human resource development*, (2e) Basic Books, 2002
2. D.K Bhattacharyya, *Human resource planning*; Excel Books India,2009
3. G S Sudha, Human Resource Management; RBD Publications,2011

MB6208   Financial Management

Overview of Financial Management: Scope and objectives of finance; Profit maximization vs. Wealth maximization; Functions of financial management, Time Value of Money: Future value vs. present value – frequency of compounding – time value of annuity and perpetuity – loan amortization, Cost of Capital: Cost of Equity, Cost of Debt, Cost of Preference Share, Cost of Retained Earnings, WACC & CC, Capital Budgeting: Concept of capital budgeting, decision making based on capital budgeting methods, Leverage: Concept of leverage, Understanding and Implication of Financial, Operating & Combined Leverage Fund Raising: Source of funding: domestic & international, Capital Structure and firm Value: Capital Structure Decision, NI, NOI Approach and MM Hypothesis, Dividend Policy: Types of Dividend Policy, Factors affecting dividend policy, Walter's Model, Gordon's Model and MM Hypothesis, Working Capital Management: Components of Working Capital, Its determinants and its Financing

References:

1. P. Chandra, *Financial Management: Theory and Practice*, (9e), McGraw Hill Education, 2017.
2. R. Brealey, S. Myers, F. Allen, *Principles of Corporate Finance*, (11e), McGraw Hill Education, 2017.

3. I. M. Pandey, *Financial Management*, (10e), Vikas Publishing House, 2014.

AN6201   Management Concepts and Organisational Behaviour

Nature of management, social responsibilities of business, managerial skills. Planning – steps in planning process, scope, and limitations, short- and long-range planning, flexibility in planning. Characteristics of a sound plan. Management by objectives (MBO) – policies and strategies, scope and formulation, decision making, techniques and processes. Organizing – organizational structure and design, authority and responsibility relationships, delegation of authority and decentralization, interdepartmental coordination, emerging trends in corporate structure, strategy, and culture, Mechanistic vs Adoptive structures – formal and informal organization. Perception and learning – personality and individual differences, motivation and job performance – values, attitudes and beliefs, stress management, communication – types, barriers, making effective communication. Group dynamics – leadership styles, approaches, power and politics, organizational structure – climate and culture, organizational change and development. Comparative management styles and approaches – Japanese management practices, organizational creativity and innovation. Management of innovation – entrepreneurial management – benchmarking – best management practices across the world. Management of diversity.

References:

2. F. Luthans, B. C. Luthans, K. W. Luthans, *Organizational Behavior*, (13e). Information Age Publishing, 2015.

3. J. W. Newstrom, *Organizational Behavior*: *Human Behaviour at work*, (14e), McGraw Hill, 2014.

4. F. Luthans, *Organizational Behavior*, (12e), Mcgraw Hill, 2011.

5. M. R. Carrell, D. F. Jennings, C. Heavrin, *Fundamentals of Organizational Behavior*, (1e) Prentice Hall International Inc, 1997.

6. Koontz, Weirich &Aryasri, PRINCIPLES OF MANAGEMENT, Tata McGraw-Hill, NewDelhi,2004

7. Laurie Mullins, MANAGEMENT AND ORGANISATIONAL BEHAVIOUR, Pearson, NewDelhi,2007

8. Meenakshi Gupta, PRINCIPLES OF MANAGEMENT, PHI Learning, NewDelhi, 2009

AN6202   INFERENTIAL STATISTICS AND HYPOTHESIS TESTING

Statistics for Business Decisions: Introduction to Probability: Permutation & Combination, Types of Events

Basics of Probability: Random Variables, Probability Distributions, Expected Value

Descriptive Methods: Measures of Central Tendency, Dispersion, and Shape

Probability Distributions: Discrete Probability Distributions: Probability Without Experiment, CDF, Binomial Distribution; Continuous Probability Distributions: PDF, Normal Distribution and Std. Normal;

Central Limit Theorem and Sampling Methods: Sample and Population, Sampling Distributions, Properties, Central Limit Theorem, Types of Sampling Methods, Uses of Sampling in Various Domains, Additional Resources

Concepts Of Hypothesis Testing: Null and Alternate Hypothesis, Critical Value, P-Value, Types of Errors, ANOVA

Industry Demonstrations: Business Understanding, Problem Statement, Hypothesis Formulation, Choosing the Representative Sample, Computing the test statistic, Finding the critical region, Making a decision, Using p-value approach, Changing the Hypothesis

Sun Pharma Case Study; Apply knowledge of probability and hypothesis testing to solve problems and help make decisions at Sun Pharma

References

1.   Agresti, A., & Finlay, B. (2018). Statistical methods for the social sciences. Pearson.

2.   Howell, D. C. (2019). Statistical methods for psychology (9th ed.). Wadsworth Cengage Learning.

3.   Rosenthal, R., Rosnow, R. L., & Rubin, D. B. (2000). Contrasts and effect sizes in behavioral research: A correlational approach. Cambridge University Press.

4.   Sullivan, L. M. (2011). Essentials of biostatistics in public health. Jones & Bartlett Learning.

5.   Zar, J. H. (2010). Biostatistical analysis (5th ed.). Pearson.

IT2111   DBMS WITH SQL

Database Design and Introduction to MySQL: Understanding Database, Advantages, History, Data Models, Three Schema Architecture, Database Languages, Data Independence, Entities and Attributes, Relationships, ER Diagram, Specialisation and Generalisation; Data Warehouse, ERD,

Star and Snowflake Schemas, OLAP, OLTP, Constraints; Basic SQL Querying: DDL and DML Statements, Functions, Expressions, Views, Joins and Set Operations

Data Modelling: Database Design-Creation-Manipulation Cycle, Relational and Non-Relational Schemas; Problem Solving using Data Modelling: Problem Statement, Database Design, Creation, Manipulation, and Querying

Advanced SQL and Best Practices: Window Functions, Case Statements, Stored Routines and Cursors, Query Optimisation and Best Practices

SIP Report	Power Point Presentation & Viva
75 marks	25 marks

Semester III

AN7370   Summer Internship

Objective:

The basic objective of a Summer Internship is to refine the practical exposure of the corporate functioning. This summer training will provide an opportunity to the students to apply their theoretical understanding while working on the concerned project in the industry. Thus this summer internship programme is an attempt to bridge the gap between theory and practice. This will also enhance the students' intellectual ability and attributes related to data handling, decision making, report writing, oral presentation and imbibing an interdisciplinary approach.

Evaluation Scheme:

General Guidelines:

Every student shall be required to undergo a practical training in an corporate organization approved by the Institute for eight weeks, normally in the Summer Vacation, after the end of the fourth semester examinations. The candidates shall be required to undergo training in the various areas of the organization concerned. The organization may assign a specific project to the candidate, which will be completed by him/her during the period of training. The work done by the candidate during the training period shall be submitted in form of a training report.

The last date for the receipt of training report in the department shall be one month after the date of completion of training, i.e. at the beginning of the fifth semester.

Chapter Scheme

Chapter I: Introduction 20 marks

Chapter II: Conceptual Framework/National/International Scenario

5 marks Chapter III: Presentation, Analysis and Findings 35 marks

Chapter IV: Conclusion and Recommendations 15 marks

The report has to be type written in font Times New Roman, 12 points, 1.5 line spacing on both sides of the paper, Spiral Bound. The report should comprise of a maximum of 80 to 100 pages and has to be submitted in two copies.

Components of the Report

The outcome of Summer Internship is the Project Report. A project report should have the following components:

1) Cover Page: This should contain the title of the project proposal, to whom it is submitted, for which degree, the name of the author, name of the supervisor, year of submission of the project work, name of the University.

2) Acknowledgement: Various organizations and individuals who might have provided assistance

/co-operation during the process of carrying out the study.

3) Table of Content: Page-wise listing of the main contents in the report, i.e., different Chapters and its main Sections along with their page numbers.

4) Body of the Report: The body of the report should have these four logical divisions

a) *Introduction:* This will cover the background, rationale/ need / justification, brief review of literature, objectives, methodology (the area of the study, sample, type of study, tools for data collection, and method of analysis), Limitations of the Study, and Chapter Planning.

b) *Conceptual Framework / National and International Scenario***:** (relating to the topic of the Project).

c) *Presentation of Data, Analysis and Findings***:** (using the tools and techniques mentioned in the methodology).

d) *Conclusion and Recommendations:* In this section, the concluding observations based on the main findings and suggestions are to be provided.

5) Bibliography or References: This section will include the list of books and articles which have been used in the project work, and in writing a project report.

6) Annexures: Questionnaires (if any), relevant reports, etc.

AN7301   Strategic Management

Introduction to strategic management: Conceptual Framework of Strategy: Genesis, concept and characteristics of Strategy, Policy versus Strategy, Reasons for growing importance of strategy, Types; levels of strategy, Strategic management model, initiation of strategy, strategic decision making, Indian business environment: past and present and its strategic implications, and concept of business model. Strategic tools; techniques for analysis at corporate level: Experience Curve, SWOT analysis, BCG Matrix, GE-Nine Cell Matrix, Space Matrix, corporate parenting, scenario planning, stakeholder analysis . Competitive Avantage and Value Chain: Concept of Competitive advantage, industry analysis (Porter's Five Forces Model), Concept of value chain, Contemporary issues before value chain, Role of Value Chain for gaining sustainable competitive advantages, corporate value chain .Competitive intelligence: competitor analysis, competitive intelligence programs, gathering and analysis of competitor intelligence, competitive portfolio matrix (CPM). Scanning and assessing the Business environment: Concept, need and process, types of environment, External Environmental Analysis: Nature, Characteristics, Type and Approaches to External environment, Key External Forces, ETOP analysis, The External Factor Evaluation (EFE) Matrix, Internal Analysis and Assessment: Nature, Characteristics, Types and Approaches to internal Environment, Key Internal Forces, Analysis of Strengths and weaknesses, The Internal Factors Analysis (IFA) Matrix, resource based view of organization (VRIO Model) & other qualitative & quantitative methods for internal assessment. Strategy formulation: Vision, Mission and Objectives: Vision versus Mission, The Mission and Business Definition, Process of developing a mission statement, Writing and Evaluating mission statement, Nature and characteristics of Objectives and Goals, Long-term objective setting, developing strategic alternatives (TOWS matrix) and making strategic choice. Evolution of industry & strategy, corporate strategy: growth strategy, stability strategy, retrenchment strategy; Business strategy: porter's generic strategies, cooperative and competitive strategies, competitive tactics; Functional strategy: Marketing strategy, HR strategy, Finance strategy, Purchase strategy, IT strategy, Operations strategy, R&D strategy. Strategy Implementation, Control and Evaluation: Strategy execution, preparing firm for strategy execution, strategic evaluation process and control mechanism for correction of deviations.

References:

1. R. F. David, *Strategic Management: Concepts and Cases,* (12e), PHI, 2008.

2. J. Pearce, R. Robinson, A. Mital, *Strategic Management: Formulation, Implementation and Control*, (12e), McGraw Hill Education, 2017.

3. L. R. Jauch, R. Gupta, W. F. Glueck, *Business Policy and Strategic Management*, Frank Bros. &

Co. Ltd., 2010.

4. T. L. Wheelen, J. D. Hunger, *Concepts in Strategic Management and Business Policy*, (12e), Pearson Education, 2010.

AN7302   Legal Aspects of Business

Indian Contract Act 1872: Formation of agreement; rules regarding offer and acceptance; consideration; essential elements of a valid contract; classification of contracts; void, voidable, quasi, unilateral, bilateral, express and implied contracts; breach of contract, Sale of Goods Act 1930: Sale and agreement to sell; quality of goods; condition and warranty; transfer of property; sale and transfer of ownership; delivery of goods by seller; acceptance of delivery by buyer, Partnership Act 1932: Formation of partnership; partnership agreement; unlimited liability; rights and liabilities of individual partners; relationship with third party; registration of firm; dissolution of firm, Limited Liability Partnership (LLP) Act 2008: Concept of LLP; difference with partnership and company; registration of LLP; liabilities of partners; transferability of shares, Companies Act 2015: Definition of a company; types of companies; memorandum of association; article of association; limited and unlimited liability companies; private and public companies; registration of companies; holding, subsidiary and associate company; board of directors; principles of lifting the corporate veil; doctrine of indoor management, Consumer Protection Act 1986: Definition of consumer, goods, defect and deficiency; consumer forums; procedure to approach consumer forums; unfair trade practices; monopoly and restrictive trade practices; Latest amendments to the act, Intellectual Property Rights: The Patent Act 1970; The Copyright Act 1957; Trade Marks Act 1999,Cyber laws: Information Technology Act; Alternate Disputes Resolution forum; Arbitration Procedure, Right to Information Act 2005

References:

1. A Pathak, *Legal Aspects of Business*, Tata McGraw-Hill, 2007
2. P. Saravanavel, S. Sumathi, *Business Law for Management*; Himalaya Publishing House, 2004
3. N. D. Kapoor, *Mercantile Law,* Sultan Chand & Company, 2002.
4. M.C Kuchhal, P Deepa, *Business Legislation for Management*, (2e), Vikas Publishing House
5. D.C Bose *Business Law*; PHI Learning, 2008.
6. P.C Tulsian, *Business Law*; (2e) Tata McGraw Hill, 2012.
7. P. C. Tulsian, Business Law, (2e) Tata McGraw Hill.

AN7303 SELF-DEVELOPMENT & PERSONAL GROWTH

Introduction to Managerial Skill: Concept Types and Importance. Developing Self Awareness. Key dimensions and self-awareness, important areas of self-awareness, diagnostic surveys, skill analysis and skill application. Communicating Supportively. Concept and Importance, coaching, counselling and consulting, eight principles of supportive communication, Effective Assertive communication, skill: Analysis, Practice and application. Managing Stress: Major elements of stress, Managing stress, eliminating stress, Situational stressors & anticipatory stressors, developing resilience, diagnostic surveys for managing stress, skill analysis practice and application. Solving Problems and Creativity: Steps in solving problems, limitations of the rationale problem solving models, creativity and innovation: concepts, models, processes, Blocks to creativity, diagnostic surveys for creative problem solving, analysis and practice of the skill. Interpersonal skills: Concept, types and importance, Using diagnostic (FIRO B) tools to assess skills, analysis and practice of interpersonal skills. Leadership Skills: Types of leadership, transformational leadership, Gaining power and influence, Strategies for gaining organizational power, transforming power into influence, Diagnostic surveys for assessing leadership skills, skill analysis, practice and application. Managing Conflict: Sources of management conflict, resolution styles of conflict, and diagnostic surveys of managing conflict, skill analysis, practice and application.

References:

1. C. L. Bovee, J. V. Thill, *Business Communication Today*, (14e), Pearson Education, 2017.

2. P. D. Chaturvedi, M. Chaturvedi, *The Art & Science of Business Communication*: *Skills, Concept & Applications*, (4e), Pearson Education, 2017.

3. G. S. Chauhan, S. Sharma, *Soft skills: An Integrated Approach to Maximize Personality*, (1e), Wiley Publishing, 2016.

4. R. V. Lesikar, M. E. Flately, K. Rentz, P. Lentz, N. Pandey, *Business Communication*, (13e), Tata McGraw Hill, 2015.

5. S. Ober, *Contemporary Business Communication*, (7e), Cengage Learning, 2007.

AN7304 EXPLORATORY DATA ANALYSIS

Data Manipulation: Data Sourcing: Public and Private Data
Data Cleaning: Fixing Rows and Columns, Missing Values, Standardising Values, Invalid Values, Filtering Data , Univariate Analysis: Data Description, Unordered and Ordered Categorical Variables; Quantitative Variables: Univariate Analysis and Summary Metrics; Segmented Univariate: Basics, Methods, Comparison of Averages and Other Metrics Bivariate and

Mutivariate Analysis: Bivariate Analysis on Continuous and Categorical Variables, Business Problems Involving Correlation, Multivariate Analysis; Derived Metrics: Type Driven, Business Driven, Data Driven Optimisation: Optimisation using Solver: Objective Function, Decision Variables, Constraints; Sensitivity Analysis, Visualising Results, Airline Optimisation, Assignment and Transportation Model, Shortest Path Problem Bank Marketing Project: Analyse a bank's marketing campaign dataset and apply the concepts of EDA to derive insights for a future marketing campaign.

References

1. Tukey, J. W. (1977). Exploratory data analysis. Addison-Wesley.
2. Wickham, H., & Grolemund, G. (2017). R for data science: Import, tidy, transform, visualize, and model data. O'Reilly Media, Inc.
3. Tufte, E. R. (1990). Envisioning information. Graphics Press.
4. Cleveland, W. S. (1994). The elements of graphing data. Wadsworth.
5. Hoaglin, D. C., Mosteller, F., & Tukey, J. W. (1983). Understanding robust and exploratory data analysis. John Wiley & Sons.

AN7305   DATA VISUALISATION AND BUSINESS INTELLIGENCE

Introduction To Tableau: Overview of Tableau, Why Tableau, Tableau vs Excel vs Power BI, Exploratory vs Explanatory Analysis, Getting Started

Visual Analytics with Tableau: Bar Chart, Line Chart, Filters, Area Chart, Pie Chart, Box Plot, Pivoting, Dashboards, Maps and Hierarchies, Treemaps and Grouping, Joints and Splits, Histograms, Scatter Plots, Dual axis Charts, Stacked Bar ChartsFunctions: Numeric, String, Logical, Date; Top N Parameters and Calculated Fields, Storytelling

Advanced Visualisation using Tableau: Donut Chart, Pareto Chart, Packed Bubble Chart, Gantt Chart, Highlight Tables, Control Chart

LOD Expressions: Include, Fixed, Exclude, Best Practices in Tableau

IPL Visualisation Project: Build a Tableau dashboard of IPL statistics over the years in order to create an infographic for a newsletter,

Data Visualisation using PowerBI: Getting Started with Power BI, Data Acquisition and Transformation in Power BI, Visualising and Analysing Data using Power BI, Publishing Reports and Scheduling Data Refresh

References

1. Few, S. (2013). Information dashboard design: Displaying data for at-a-glance monitoring. O'Reilly Media, Inc.
2. Kelleher, C., Tierney, B., & Tierney, B. (2018). Data visualization: A successful design process. Packt Publishing.
3. Sharda, R., Delen, D., & Turban, E. (2017). Business intelligence and analytics: Systems for decision support (10th ed.). Pearson.
4. Tufte, E. R. (2001). The visual display of quantitative information (2nd ed.). Graphics Press.
5. Turban, E., Sharda, R., & Aronson, J. E. (2019). Decision support and business intelligence systems (10th ed.). Pearson.

Semester IV

AN7401 INFORMATION MANAGEMENT FOR BUSINESS

Information System in Global Business Today: Components of Information System; Types and Components of Information Systems, Concept of Hardware, Software and Persware, BYOD and New Hardware Configurations, Use of Information System; Using Information System for Competitive advantage, Using Technology to create New Opportunities, Information System as tool for Decision Making: Data Management System; Trends in Data Management Systems and Processes, Components and Functions of Data Warehouse, Importance of Data in forming and executing strategy; Decision Making tools; Decision Support System, Analytical tools available for decision making, Ethical and Social Issues of Information System: Ethical and Social Issues; Computer Crime, Privacy Issues, Green Computing; Overview of Information Security Threats; Threats to Information Security – Types, Classification and Sources, Risk Mitigation Strategies – Building a Comprehensive Security System, Role of Network and Telecommunication in Business: Data Communication System; Major Components and Applications of Data Communication System; Fundamental Networking Concepts, Convergence Phenomenon and its application for Business and Personal Use; E-Commerce and m-Commerce; Major Components of online commerce systems, Different forms of doing Business on Internet, Internet as Growth Medium for Business, Using mobile for doing Business

References:

1. H. Bidgoli, N. Chattopadhyay, *MIS South Asian Perspective*, (1e), Cengage, 2016.
2. K. C. Laudon, J. P. Laudon, *Management Information Systems: Managing the Digital Firm*,

(15e), Pearson Education, 2018.

ART1249   Vedic Management

Concept of Management as enshrined in Vedas- vision ,leadership, motivation, excellence in work, achieving goals, attitude toward work, nature of individual,decision making, planning discussed by great gurus like Achary Vidura, Chanakya, Parshuram. The Concept of Sthitpragya in Gita, The Concept of Nishkamkarma in Gita,Positive effect of Vedas: better perception of life, clarity of thought, positive attitude, Message of Vedas for Inner peace and ability to better deal with stress, Vedas as Problem solving and satisfaction with themselves, Other effects of Gita: sense of well-being, physical fitness References:Vasudha-ev- kutuMBkam,(accepting the whole world as one and one's family), Samarpan Bhav (dedication), Loksangrah(Wellfare of all beings), Shubh Labh (Ethical Profits), Varnashram Vyastha, Ashtang Yoga.

References-

1*.* Harold, T. *Living Issues in Philosophy*, Oxford University Press, New York, 1995.

2*.* Perumalil, A. *An Introduction to Philosophy*, *ISPCK*, New Delhi. 2001.

3.Banerjee, B. P. *Foundations of Ethics in Management*. New Delhi: Excel Books. (2005).

 4.Bhatia, V. P. *Ethical and Spiritual Values in Indian Scriptures*. Chennai: Notion Press. (2016).

AN7402   Business Ethics and Corporate Governance

Introduction to corporate governance, structure and ownership. Theories and Models of corporate governance, Initiatives of corporate governance at national and global level, Legal and regulatory aspects of corporate governance, Prime shareholders and other stakeholders, The role of Board of directors, auditors and government, media in corporate governance, financial reporting in corporate governance, whistle blowing mechanism in corporate governance, CSR and Corporate Governance .

References:

1. Fernando; Corporate Governance, Principles, polices and practices; 2018; Pearson

2. Sandeep Goel.; Corporate Governance; Principles and Paractices2019; Mc Graw Hill

3. Taxmann; Corporate Governance ,IICA 2015

4. Murthy, C.S.N.; Business Ethics and Corporate Governance; 2014; Himalaya Publishing House

5. Ghosh, B.N.; Business Ethics and Corporate Governance; 2011; McGraw Hill Education

Sathesh Kumar; Corporate Governance; 2015; Oxford University Press

AN7403   PREDICTIVE ANALYTICS AND INTRODUCTION TO ML

Basics of Linear Algebra: Vectors and Vector Spaces, Linear Transformations and Matrices, EigenValues and EigenVectors; Multivariable Calculus: Functions, Derivatives, Critical Points, Jacobian, Hessian, Taylor Series

Linear Regression: Introduction to Linear Regression: Equation, Applications, Limitation

Simple Linear Regression: OLS, Assumptions, Goodness of Fit, Model Building & Evaluation, Residual Analysis, Prediction

Multivariate Linear Regression: Adjusted R-squared, Multicollinearity, Feature Selection, Model Building & Evaluation

Time Series Forecasting: Introduction to Forecasting: Components, Data Partitioning, Model Building: Level, Linear, Quadratic and Exponential Trend, Additive and Multiplicative Seasonality, Combining Trend and Seasonality, Forecasting, Lag Analysis, ARIMA Model

Clustering and Market Basket Analysis: Clustering: Types, Euclidean Distance, K-Means, Scaling & Standardisation; Market Basket Analysis: Cross Selling, Use Cases, Apriori Trick

Classification: Logistic Regression: Sigmoid Curve, Log Odds, Confusion Matrix, Decision Trees: Decision Trees, Measuring Purity

ML Applications and Use Cases: Applications in Python, Linear Regression, Logistic Regression, Time Series Forecasting, K-Means Clustering, Decision Trees

Market Entry Analysis Project: Apply concepts of predictive analytics to assist a mobile manufacturing company in making a business decision to enter a new market.

References

1. Hastie, T., Tibshirani, R., & Friedman, J. (2009). The elements of statistical learning: Data mining, inference, and prediction (2nd ed.). Springer.

2. James, G., Witten, D., Hastie, T., & Tibshirani, R. (2013). An introduction to statistical learning: With applications in R. Springer.

3. Kelleher, J. D., & Tierney, B. (2018). Data science fundamentals. Chapman and Hall/CRC.

4. Murphy, K. P. (2012). Machine learning: A probabilistic perspective. MIT Press.

5. Witten, I. H., Frank, E., & Hall, M. A. (2016). Data mining: Practical machine learning tools and techniques (4th ed.). Morgan Kaufmann.

DSE2205   BIG DATA ANALYTICS AND DATA STRATEGY FOR BUSINESS

Big Data Ecosystem and Use Cases - Big data and its real life application, Various aspects of big data, Major Sources of big data, Types of Data, 4Vs of big data.

Big Data Industry Case Studies, conventional data processing in big data.

Data Analysis using Pyspark Getting Started with Apache Spark, Programming with Spark RDD, Spark Structured APIs, Large Scale Data Processing with Apache Spark: Optimising Disk IO, Network IO and Spark Clusters

Data Architecture: Data for AI-ML Initiatives, Components of Data Architecture, Data Quality, Labelling, Context, Storage, Recovery, and Protection

Technology and Infrastructure: Collect, Store, Process, Consume, Building an Effective Data Structure: Principles, Tools, Collect, Store, Process, Consume, Patterns,

Data Strategy: Background of Data Strategy: Importance, Challenges, Risks, and Types of AI, Core of Data Strategy: Pillars of AI, Examples, Data Required, Data Quality, Unstructured Data, Streaming Data, Benefit Estimation, Data Engineering, Privacy, Case Studies

E-commerce Project: Help an e-commerce firm leverage the power of analytics to improve its processes and product offerings by creating a data science adoption strategy.

References

1. Marr, B. (2015). Big data: Using smart big data, analytics and metrics to make better decisions and improve performance. John Wiley & Sons.

2. Provost, F., & Fawcett, T. (2013). Data science for business: What you need to know about data mining and data-analytic thinking. O'Reilly Media, Inc.

3. Schmarzo, B. (2018). Big data MB: Driving business strategies with data science. John Wiley & Sons.

4. Sivarajah, U., Kamal, M. M., Irani, Z., & Weerakkody, V. (2017). Critical analysis of big data challenges and analytical methods. Journal of Business Research, 70, 263-286.

5. Thomas, H. D., & Davenport, T. H. (2018). Big data at work: The data science revolution and organizational psychology. Routledge.

AN7470   Dissertation

The aim of the dissertation is to provide you with an opportunity to further your intellectual and personal development in your chosen field by undertaking a significant practical unit of activity, having an educational value at a level commensurate with the award of your degree. The dissertation can be defined as a scholarly inquiry into a problem or issues, involving a systematic approach to gathering and analysis of information / data, leading to production of a structured report.

Chapter Scheme and distribution of marks:

Chapter 1: Introduction – 10 marks

Chapter 2: Conceptual Framework/ National/International Scenario –

25 marks

Chapter 3: Presentation, Analysis & Findings -- 25 marks

Chapter 4: Conclusion & Recommendations -- 10 marks

Bibliography: 5 marks

Dissertation	Power Point Presentation & Viva
75 marks	25 marks

The Components of a Dissertation

 A Dissertation should have the following components:

1) Cover Page: This should contain the title of the, to whom it is submitted, for which degree, the name of the author, name of the supervisor, year of submission of the work and name of the University.

2) Acknowledgement: Various organizations and individuals who might have provided assistance

/co-operation during the process of carrying out the study.

3) Table of Content: Page-wise listing of the main contents in the report, i.e., different Chapters and its main Sections along with their page numbers.

4) Body of the Report: The body of the report should have these four logical divisions

a) *Introduction:* This will cover the background, rationale/ need / justification, brief review

of literature, objectives, methodology (the area of the study, sample, type of study, tools for data collection, and method of analysis), Limitations of the Study, and Chapter Planning.

b) **Conceptual Framework / National and International Scenario:** (relating to the topic of the Dissertation).

c) **Presentation of Data, Analysis and Findings:** (using the tools and techniques mentioned in the methodology).

d) **Conclusion and Recommendations:** In this section, the concluding observations based on the main findings and suggestions are to be provided.

5) **Bibliography or References:** This section will include the list of books and articles which have been used in the work, and in writing the report.

6) **Annexures**: Questionnaires (if any), relevant reports, etc.

(The main text of the Dissertation should normally be in the range of 5000 words. However, there may be annexure in addition to the main text)

Steps of the Dissertation Work

Step I: Selection of the topic should be made keeping the following points into consideration:

 ⬚ Suitability of the topic.

 ⬚ Relevance of the topic

 ⬚ Time available at the disposal.

 ⬚ Feasibility of data collection within the given time limit.

 ⬚ Challenges involved in the data collection (time & cost involved in the data collection, possibility of getting responses, etc.)

Step II: Finalization of the Topic and preparation of Dissertation Proposal in consultation with the Supervisor.

Step III: Collection of information and data relating to the topic and analysis of the same.

Step IV: Writing the report dividing it into suitable chapters, viz.,

Electives:

AN7440 MARKETING ANALYTICS [3 0 45]

The Marketing Engineering Approach: The Marketing Decision Environment, Basic Economic Concepts For Analysing Marketing Actions, Tools For Marketing Engineering, Business Value Of Marketing Engineering: From Promise To Reality Customer Value Assessment And Valuing Customers: The Concept Of Customer Value, Approaches To Measuring Customer Value, Valuing Customers And Customer Lifetime Value, Segmentation Targeting And Positioning: The Segmentation, Targeting, And Positioning Approach, Segmentation Analysis, Traditional

Segmentation, Targeting Individual Customers, Implementation Barriers And Solutions, Positioning Through Brand Linkages, Positioning Using Perceptual Maps, Combining Perceptual And Preference Mapping, Translating Preference To Choice, Reverse Mapping (From Map To Raw Data),Incorporating Price As An Attribute, Uses And Limitations Of Perceptual And Preference Maps, Forecasting: Forecasting Methods, New Product Forecasting Models, Which Forecasting The Marketing Mix, Pricing Decisions, Resource Allocation And The Marketing Communications And Promotions, Mix, Sales Promotions: Types and effects, The Digital, Online Revolution In Marketing, The Evolution Of Online Technologies, Online Advertising Versus Traditional Advertising, Search Analytics, Social listening and text analysis, Panel Data Analysis.

References:

1. James Evans, Business Analytics, 2e, Pearson, 2017

2. Camm, Cochran, Fry, Ohlmann, Anderson, Sweeney, Williams Essential of Business Analytics, Cengage Learning.

3. Thomas Eri, Wajid Khattack & Paul Buhler: Big Data Fundamentals, Concepts, drivers and Techniques by Prentice Hall   of India, New Delhi, 2015

4. Akil Maheswari: Big Data, Upskill ahead by Tata McGraw Hill, New Delhi, 2016

5. Seema Acharya & Subhashini Chellappan: Big Data and Analytics, Wiley Public

AN7441 HR Analytics (3045)

Introduction to people analytics & Analytical thinking: Introduction and reshaping of Human Resource - function & Overview, Thought Leaders & HR Analytics, HR Metrics for CEO, Case Study, Use of analytics in   HR Development, HR Process mapping and data points, Data Sources, obtaining and cleaning data & typical data issues, Setting the business context through asking the right questions about analytics.

Student Assignment through either case, role play Etc.

People related costs and Human Resource analytics - Analytical techniques & Visual analytics: Types of data analytics, understanding and exploring data, basic statistics for data interpretation, Exploring the distribution of data examining the relationship between data points. Visual analytics & choosing appropriate visual for different HR aspects/questions, Various types of charts, graphs and making appropriate choices.

Case study - Student Assignment through case study and role play etc.

Managing HR data & preparing Data for HR analytics, Types of data: structure & Unstructured data

Data to information journey: cleaning, transformation & integration, Data Modelling basics, dimensions, & Hierarchy orientation

Building HR Dashboard & Story telling: Predictive analytics & other advanced techniques

Introduction to statistical tool Linear regression, Big data analytics, Machine learning algorithms internet of things

REFERENCE BOOKS (Preferably Latest Edition may be referred)

1. Fitz-enz, J & Mattex.J (2014) Predictive Analytics for Human Resource. Wiley.
2. The power of people, Nigel Guenole, Jonathan Ferrar, Sheri Feinzig, Pearson
3. Applying Advanced Analytics to HR Management Decision, James C. Sesil, Pearson
4. Phillips J. & Phillips P. P (2014) Making Human Capital Analytics Work: Measuring the ROI of Human Capital Processes and outcomes.
5. Devenport, T.H & Kim, J (2013) Keeping up with the quants: your guide to understanding and using Analytics. Harvard Business Review.
6. Fitz-enz, J., & Davison, B (2002). How to measure Human Resource Management. New York. Mc Graw Hill.
7. Jac Fitz-Enz, The New HR Analytics: Predicting the Economic Value of Your Company's Human Capital Investments, Amacom, 2010
8. Gene Pease, Boyce Byerly and Jac Fitz-enz, Human Capital Analytics: How to Harness the Potential of Your Organization's Greatest Asset, John Wiley & Sons,2012

AN7442 Banking Analytics (3045)

Understanding Financial Services - Time Preference Rate and Required Rate of Return, Present Value and Future Value of Money, Annuity and Growing Annuity, Perpetuity, , Applications of Time value of money, Introduction to Financial Statements (balance sheet, Income Statement, Cash flow Statements), Risk Analysis in Capital Budgeting, Understanding banking assets and liability products, Basel Norms

Predictive Analytics - Valuation of Bonds, Valuation of Shares, Understanding and analyzing High Frequency Data, Time Series Analysis on Stock prediction, Types and sources of risk.

Credit Risk Analytics - Understanding Credit and its functions, Understanding Scoring models, The Value –at –Risk (VaR), Probability Default Model, Loss at Given Default Model, Exposure at Default models

Customer Relationship Management (CRM) Analytics - Customer Acquisition Modelling, Collection and recovery analytics, Propensity Model, Cross selling and Up selling analytics

Operational Risk Analytics - Internal and External Fraud Analysis, Regulatory risk analytics, Cash flow prediction, Optimizing Cross channel effectiveness.

References

Berman, K., & Knight, J. (2013). Financial intelligence, revised edition: A manager's guide to knowing what the numbers really mean. Harvard Business Review Press.

Berman, K., Knight, J., & Case, J. (2008). Financial intelligence for entrepreneurs: What you really need to know about the numbers. Harvard Business Press.

Berman, K., Knight, J., & Case, J. (2008). Financial intelligence for IT professionals: What you really need to know about the numbers. Harvard Business Press.

Baesens, B., Roesch, D., & Scheule, H. (2016). Credit risk analytics: Measurement techniques, applications, and examples in SAS. John Wiley & Sons.

Panjer, H. H. (2006). Operational risk: modeling analytics. John Wiley & Sons.

Sharda, R., Delen, D., Turban, E., Aronson, J., & Liang, T. (2014). Business intelligence and analytics. System for Decesion Support.