MBA: BANKING TECHNOLOGY PROGRAMME

REGULATIONS & COURSE STRUCTURE

PROGRAMME:

MBA Banking Technology Inter-disciplinary Programme between Computer Science & Engineering and Management sanctioned by UGC under Inter-disciplinary and Innovative Fundamental Schemes.

DURATION:

Two Years (Four Semesters including a Winter Project, Summer Bank Internship for two Months and Final Project for two Months in a specialized Elective Stream)

INTAKE:

72 students (+ 5 Industry Sponsored)

ELIGIBILITY:

Under Graduates with 55% marks in one of the following degrees or equivalent.

- BE/B.Tech (CSE/IT/ECE/EEE/E&I)
- BSc-CSE/IT
- BCA/B.Com Computer Applications/MCA
- Any other degree with University Recognized PGDCA

SELECTION CRITERIA:

All India Admission Test along with Group Discussion and Personal Interview for short listed candidates.

ACADEMIC PROGRAMME:

CBCS Mode, Hard Core and Soft Core: Total credits may range from 90 – 110 Credits.

Pedagogy Consists of Class Room Teaching, Problem Solving, Computer Lab Practicals, Case Study Discussions, Industry Visits, Industry Mini-Projects, Assignments, Participation in Conventions of Professional Bodies, Role Plays, Internships in Banks, Project Work Reports and Development of Hardware Devices and Software Packages.

EVALUATION:

Internal Assessment – 40% of Marks, External evaluation – 60% of Marks. Internals assessments consist of Term Tests, Written Assignments / Field study Reports, Seminar Presentations in every Paper. End Semester Exam consists of 3 hours written test with 3 sections A, B and C. Section C will be a Case Study.

Evaluation of Lab subjects consists of 1 hour written test, 1hour Programming / Data analysis followed by a Viva with External Examination and the Practical Record.

Winter, Summer and Final Project works are guided by Faculty Members and evaluated by two External Examiners and a Viva is conducted for every Candidate by External Examiners.

The Final Project is divided into Phase I and Phase II Components. Phase I consists of an exhaustive review of 20 papers, and a Test on course work. Phase II consists of a Survey / Industry internship, Software development, Data Analysis, development of a model and the preparation of a Project Report adapting approved Research Methodology or Software Project developer's methodology

Every Semester ends with a Comprehensive Viva Examination which will be conducted by two external experts (1 from Academic and 1 from industry) An Objective Type Test on different concepts from all subjects will proceed the viva. Viva focuses on students ability to integrate theoretical knowledge to practical issues of a Business situations.

Students are expected to participate compulsorily in local Industrial Visits or field study assignments in every semester. Fifteen day winter Project is to be conducted in a manufacturing company with a focus to learn different functional aspects of management. Students may also take up studies to document successful entrepreneurship in MSME sector.

The Banking Internship is to be carried out for two months during summer vacation in a bank branch. Attendance is compulsory and a work dairy is to be maintained. A report is to be summated on different bank operations listed in the syllabus.

The department may conduct an annual Industry Tour to Financial Capital of our country or software development Centre's. An annual Industry Interface Meet is to be organized for understanding the contemporary development in business. An annual Alumni Meet is to be organized to get the feedback and to develop placement contacts.

Students have to finance themselves to participate in Industry-interface activates.

Laboratory:

The department shall maintain a Computer lab with one or two Servers, licensed software for organizing computer lab practicals such as Oracle, Rational Rose, BI tools, Data bases like CMIE, BLOOMBERG, India stat, Capitoline etc. Accounting software Tally, Statistical Software SPSS, Data mining software and other generic software like Linux, Visual studio, Java, SQL Server, Turbo C++, MS-Office should be made available. Computer lab should be connected with dedicated intranet and internet and with Wi-Fi facilities for enabling students to use Laptops. All students are expected to buy a laptop and use it for both class room and lab purposes.

A Public presentation will be made on project Report before External examiners for its evaluation.

MBA:BANKINGTECHNOLOGYDEGREEPROGRAMME

REVISED COURSESTRUCTURE

(2014-15onwards)

Non-Credit Bridge Courses:

MBBT 301: Basics of Business	Hard Non Credit
MBBT 302: Basics of Computer Programming	Hard Non Credit
MBBT 303: Basics of Accounting	Hard Non Credit
MBBT 304: Basics of Business Communication	Hard Non Credit

I SEMESTER

MBBT411: Economics for Managers	Hard 3 Credits
MBBT412: Management Concepts	Hard 3 Credits
MBBT413: Accounting for Managerial Decision Making	Hard 3 Credits
MBBT414: Quantitative Techniques for Management	Hard 3 Credits
MBBT415: Indian Banking & Financial System	Hard 3 Credits
MBBT416: System Analysis and Design	Hard 3 Credits
MBBT417: Data Storage & Data Centre Management	Hard 3 Credits
MBBT418: Business System Analysis Lab – Using OOMD	Hard 2 Credits
MBBT419: Comprehensive Viva	Hard 2 Credits

II SEMESTER

MBBT 420: Winter Project	Hard 2 Credits
MBBT421: Human Resource Management	
MBBT422: Financial Management	Hard 3 Credits
MBBT423: Marketing Management	Hard 3 Credits
MBBT424: Corporate Strategy Management	Hard 3 Credits
MBBT425: Retail Banking	Hard 3 Credits
MBBT426: Banking Technology Management	Hard 3 Credits
MBBT427: Information Security for Banks	Hard 3 Credits
MBBT428: Banking Channels and Middleware Lab	Hard 3 Credits
MBBT : Elective I: Paper – 1	Hard 2 Credits
MBBT : Elective II: Paper – 1	Soft 3 Credits
MBBT 429: Comprehensive Viva	Soft 3 Credits
	Hard 2 Credits

III SEMESTER

MBBT 510: Banking Practices Summer Internship	Hard 2 Credits
MBBT511: Bank Financial Management	Hard 3 Credits
MBBT512: Bank Marketing	Hard 3 Credits
MBBT513: Legal Aspects of Banking	Hard 3 Credits
MBBT514: Risk Management in Banks	Hard 3 Credits
MBBT515: International Banking	Hard 3 Credits
MBBT516: Data Warehousing and Applied Data Mining	Hard 3 Credits
MBBT517: IT Infrastructure Management for Banks	Hard 3 Credits
MBBT518: Business Intelligence Lab	Hard 2 Credits
MBBT : Elective I: Paper – 2	Soft 3 Credits
MBBT : Elective II: Paper – 2	Soft 3 Credits
MBBT 519: Comprehensive Viva	Hard 2 Credits

IV SEMESTER

MBBT: Elective I: Paper – 3	Hard 3 Credits
MBBT: Elective I: Paper – 4	Hard 3 Credits
MBBT: Elective II: Paper – 3	Hard 3 Credits
MBBT: Elective II: Paper – 4	Hard 3 Credits
MBBT 521: Final Project & Viva	Hard 6+2Credits
MBBT 522: Comprehensive Viva	Hard 2 Credits

ELECIVE STREAMS

(Every Student should select 2 streams of electives. In each stream of elective, he/she has to take 4 Papers out of 6 papers listed.)

SOFTWARE ENGINEERING AND TECHNOLOGY STREAM

MBBT 611	Agile Software Process
MBBT 612	Design Patterns
MBBT 613	Software Testing and Quality Assurance
MBBT 614	Enterprise Architecture
MBBT 615	Service Oriented Architecture
MBBT 616	Smart Banking Technologies

INFORMATION SECURITY STREAM

MBBT 621	Network Security Management
MBBT 622	Secure Electronic Payment Systems
MBBT 623	Information Security and Risk Management
MBBT 624	Digital Crimes and Forensics Science
MBBT 625	IT Security Metrics
MBBT 626	Information Security – Lab

BIG DATA ANALYTICS AND STORAGE STREAM

MBBT 631	Data Science and Big Data Analytics
MBBT 632	Cloud Infrastructure and Services
MBBT 633	Backup Recovery Systems and Architecture
MBBT 634	Information Systems Control and Audit
MBBT 635	Data Analytics and Social Networking
MBBT 636	Data Visualization and Business Intelligence Reporting

BANKING OPERATIONS STREAM

MBBT 641	Bank Fund Management
MBBT 642	Credit Risk Management in Banks
MBBT 643	Banking Supervision and Control
MBBT 644	E-Banking Issues and IT Laws
MBBT 645	ALM and CAR Practices – Internship Lab
MBBT 646	Emerging Trends in Banking

3Credits Soft 3Credits

Soft 3Credits Soft 3Credits Soft 3Credits Soft 3Credits Hard 3Credits Hard 3Credits

Soft 3Credits
Soft 3Credits
Soft 3Credits
Soft 3Credits
Soft 2Credits
Soft 2Credits

Soft 3Credits Soft 3Credits Soft 3Credits Soft 3Credits Soft 3Credits Soft 3Credits Soft 2Credits

Soft 3Credits Soft 3Credits Soft 3Credits Soft 3Credits Soft

FINANCIAL SERVICES STREAM

MBBT 651	Financial Services Intermediaries and Regulators	Soft 3Credits
MBBT 652	Merchant Banking Financial Services	Soft 3Credits
MBBT 653	Management of Mutual Funds	Soft 3Credits
MBBT 654	Electronic Financial Services	Soft 3Credits
MBBT 655	Marketing of Financial Services	Soft 3Credits
MBBT 656	Security Market Operations Lab - Internship	Soft 2Credits

CAPITAL MARKET STREAM

MBBT 661	Fixed Income Securities and Treasury Management	Soft 3Credits
MBBT 662	Security Analysis and Portfolio Management	Soft 3Credits
MBBT 663	Financial Derivatives and Risk Management	Soft 3Credits
MBBT 664	Asset pricing and Equity Research	Soft 3Credits
MBBT 665	Financial Econometrics and Modeling	Soft 3Credits
MBBT 666	Investment Analytics Lab	Soft 2Credits

INTERNATIONAL FINANCE STREAM

MBBT 671	Global Financial Markets & Instruments	Soft 3Credits
MBBT 672	International Financial Management	Soft 3Credits
MBBT 673	Forex and Currency Derivatives	Soft 3Credits
MBBT 674	Foreign Trade and Documentation	Soft 3Credits
MBBT 675	Bloomberg – International Finance Lab	Soft 2 Credits
MBBT 676	CMIE Corporate Finance Lab	Soft 2 Credits

MONEY AND DEVELOPMENT BANKING STREAM

MBBT 681	Monetary Policy & Central Banking	Soft 3Credits
MBBT 682	Public Finance and Development Economics	Soft 3Credits
MBBT 683	Development Banking	Soft 3Credits
MBBT 684	Rural Banking and Micro Finance	Soft 3Credits
MBBT 685	Corporate Governance and Ethics in Banks	Soft 3Credits
MBBT 686	Entrepreneurship and New Ventures - Internship	Soft 2 Credits

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BRIDGE COURSES – NON CREDIT[*]

MBBT 301: Basics of Business	Hard Non Credit
MBBT 302: Basics of Computer Programming	Hard Non Credit
MBBT 303: Basics of Accounting	Hard Non Credit
MBBT 304: Basics of Business Communication	Hard Non Credit

** to be organized in the first month of I semester Programme*

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME

I SEMESTER

(BRIDGE COURSES– NON CREDIT)

MBBT 301: BASICS OF BUSINESS

Hard Core

Learning Objectives

- Introduce the students to understand basics of Business
- Provide an overview on Indian Industrial environment
- A prelude to institutional environment for Industrial Finance

- What is Business? Differences between Trade/Commerce/Aids to trade
- Nature of Business : Manufacturing – Services – trading – Banking – Commission Agency, etc
- Types of Organizations – Sole trader – Partnership – Company form – Cooperatives
- Business Organist ions – Company form – Formation – Board of Directors – Memorandum of Association – articles of Association
- Company Law – Provisions – Factories Act – Competition Law – Consumer Protection Law
- Business Combinations – Cartlels – Mergers & Takeovers
- Taxes – Direct Taxes – Indirect Taxes – Central Sales Act – Octroi – Excise – Customs duties
- Foreign Trade – Exports – Imports – Special Economic Zones – EOUs
- Indian Industrial Policy – IPRs – Public Vs Private Sector – Privatization
- Top Business Houses – Product Concentration – Entry of MNCs
- Business Environments: Internal and External: Legal-Political-Economic-Cultural-Geographical-
- Indian Banking – Public Sector Banks – Private Sector Banks – Foreign Banks – RBI – Credit creation by Banks – RBI Credit Policy

Basic Text Book and References

1. Bhushan Y.K "Indian Economy", Sultan Chand, New Delhi (2010) (Text Book)
2. Kuchhal S.C. "Industrial Economy of India", Sultan Chand, 2007
3. Dutt&Sundaram "Indian Economy", Sultan Chand & Co., New Delhi 2010
4. Maheswari S.N. "Indian Banking Law & Practice", Kalyani, Ludiyana

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME I SEMESTER

(BRIDGE COURSES– NON CREDIT)

MBBT 302: BASICS OF COMPUTER PROGRAMMING

Hard Core

Learning Objectives: **(No Credits Lab Based)**

- Understanding of Programming
- Understanding of Object Oriental Programming
- Understanding of Client Sever Programming

A. Introduction to Imperative Programming using C
   1. Data Types, Constant, Variables, Assignment Statement, I/O Functions 2. Control and Loop Statements– Arrays, Functions
   3. Structure and Union –File Functions– Sample Programs

B. Introduction to Object Oriented Programming using C ++
   4. Class, Constructor, Destructor, Data & Method Visibility
   5. Operator Overloading–Function Overloading–Friend Function– Virtual Functions
   6. Template Class– Abstract Class –IO Streams– Sample Programs

C. Introduction to Client-side Scripting languages 7. HTML
   8. Java Script
   9. Sample Application

D. Introduction to Server-side Scripting Language 10. JSP
   11. JDBC in JSP
   12. Sample Applications

Basic Text Books &References

1. Balagurusamy, Programming in ANSI C, Tata McGraw-Hill Education, 2008
2. Balagurusamy, Object Oriented Programming, Tata McGraw-Hill Education, 2007 3. Bryan Basham, Kathy Sierra, Bert Bates, Head First Servlets and JSP, 2nd Edition, O'Reilly Media, 2008
4. Bruce W. Perry, Java Servlet & JSP Cookbook, O'Reilly Media, 2004

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME I SEMESTER

(BRIDGE COURSES– NON CREDIT)

MBBT 303: BASICS OF ACCOUNTING

Hard Core

Learning Objectives

- Understanding Basic Principles of Accounting
- Hands on skills in preparing Financial Statements of a Business enterprise • Accounting Principles and Conventions
- Transaction Processing–Debit and credit classification–Double Entry Book Keeping
- Types of Accounts – Personal, Nominal and Real •Ledger :Features– Journal Entries – Narration
- Journal : Opening Accounts– Closing Entries • Day Book – Cash transaction– Entry making
- Subsidiary Books of Accounts– Sales Ledger –Purchase Ledger • Cash Book–Cash with Bank transactions– BRS
- Trial Balance –Debit accounts– Credit accounts–Balance
- Features of Manufacturing and Trading Account–Determination of Gross Profit • Profit and Loss account–Preparation, classification of entries
- Income Statement– Preparation with simple adjustments
- Assets – Classification– Fixed and Current Assets– Depreciation Methods • Liabilities – Share Capital – Reserves & Provisions – Current Liabilities – Outstanding Expenses – Bank Overdraft
- Preparation of Balance Sheet– Simple adjustments

Text Books and References

1. R. Narayanaswamy, Financial Accounting: A managerial Perspective, PHI.
2. Rustomji.M.K,―AllaboutBalancesheets‖,MacMillan,2005
3. Gupta.R.LandRadhaswamyM,AdvancedAccountancy,SultanChand,NewDelhi(2007)
4. Bhattacharya.L,_ElementsofFinancialAccounting‘,PH1Learning,NewDelhi(2009)
5. Homgrean,Charles.T,_IntroductiontoManagementAccounting‘,Pearson201
6. John Stittle and Robert. T Wearing, _FinancialAccounting‘,sage2010

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Bridge courses

MBABT304: Basics of Business Communication

Hard Core
No Credit
(Workshop Methodology)

- Strategies for effective communication
- Developing History Skills.
- Communication of Business issues
- Business jargon development
- Skimming, Inferences, Note making.
- Effective writing – Cohesiveness- clarity
- Business writing – Reports – Notices – Letters Resumes.
- Oral Communication- Presentation- Group Discuss- Extempore- Debates- Role play- Conservative Practices.
- Reporting of a Business activates after a field visit to Vegetable Market/ Ulaver Sandai/ Sunday Market/ Business Bazar.
- Preparing a New paper based on News Telecasted in a Business Channel.
- YouTube Video presentation of different company profitable (Top 50 Big Business Houses)
- Poster Presentation on different thesis (List of PS Banks- Emblems/ RBI Departments / MOF Divisional/ PSUS in India/ Broad Names)
- Role play on Business Issues/ Production Decision Making / Labor Unrest/ Media Coverage/ Street Marketing Etc.

Text Book and Reference Book:

1. ***Ashraf M.Rizvi., Effective Technical Communication. Tata-McGraw, 2005.(Text Book)***
2. Boove, Courtland R et al., Business Communication Today. Delhi. Pearson Education, 2002.
3. Meenakshi Raman and Sangeeta Sharma., Technical Communication Principles And Practice, OUP, 2007
4. Robert J.Dixson., Complete Course in English, Prentice- Hall of India Pvt Ltd., New Delhi, 2006.
5. Robert J.Dixson., Everyday Dialogues in English, Prentice-Hall of India Pvt. Ltd., New Delhi, 2007.

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I SEMESTER

MBBT411: Economics for Managers	Hard 3 Credits
MBBT412: Management Concepts and Principles	Hard 3 Credits
MBBT413: Accounting for Managerial Decision Making	Hard 3 Credits
MBBT414: Quantitative Techniques for Management	Hard 3 Credits
MBBT415: Indian Banking & Financial System	Hard 3 Credits
MBBT416: System Analysis and Design	Hard 3 Credits
MBBT417: Data Storage & Data Centre Management	Hard 3 Credits
MBBT418: Business System Analysis Lab – Using OOMD	Hard 2 Credits
MBBT419: Comprehensive Viva	Hard 2 Credits

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
I SEMESTER

MBBT 411: ECONOMICS FOR MANAGERS

Hard Core
3 Credits

Learning Objective

- To prepare the students with the methodology of decision making using the concepts of microeconomics.
- Facilitate Understanding the functioning o f markets in theory and practice.
- Provides a brief background of macroeconomics fundamentals of Indian economy.

1. **Introduction:** Origin of Economics Principles of Economics- Working of Economy - Objectives of firm-Economics as Science- Role of assumptions-Separation of ownership and control-Economics of information.

2. **Demand and Supply:** Theory of Demand-Market Demand Vs Individual Demand-Demand Curve - Shifts in Demand. Theory of Supply- Market supply Vs individual supply-Supply curve-Shift in Supply-Market equilibrium-Elasticity and its applications-Price, income, cross elasticity. Theory of Consumer behavior-Indifference curves-Utility Maximization

3. **Production and Cost Analysis:** Production function-Cost output relations-Cost of production-Production and costs- Production in short and long run-Cost in short and long run- Isoquants-Law of returns-Law of variable proportion-Economies of scale

4. **Market Structures:** Different market structures-Firms in competitive markets-Monopoly-Monopolistic competition-Oligopoly-Profit maximization in different market structure-Pricing practices-Methods and strategies of price determination-Market failure

5. **Macroeconomics** (**Introduction):** Aggregate demand and supply- National income- Money and inflation-Quantity theory of money-Business cycles- IS and IM curve-Monetary and fiscal policies

Basic Text Book & References:

1. ***Thomas, Christopher R., S. Charles Maurice, and Sumit Sarkar. Managerial economics. McGraw-Hill/Irwin, 2010.(Text Book)***
2. ***Mankiw, N. Gregory. Principles of Economics. Cengage Learning, 2014.***
3. ***Mankiw, N. Gregory. Principles of macroeconomics. Cengage Learning, 2014.***
4. ***Mankiw, N. Gregory. Principles of micro economics. Cengage Learning, 2014.***
5. *Marshall, Alfred. Principles of economics. Digireads. com Publishing, 2004.*

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
I SEMESTER
MBBT 412: MANAGEMENT CONCEPTS AND ORGANIZATIONAL BEHAVIOUR

Hard Core
3 Credits

Learning *Objectives:*

To make the student understand the basic management concepts and the principles and impart the necessary skills required to manage various functions of business organizations in order to provide the professional approach and outlook.

1. **Management Process:** Nature and Purpose; Functions of Management; Evolution of Management Thought; Management Approaches; Management and Society; External Environment, Social Responsibility and Ethics – Managerial Skills - Qualities of a Good Manager; - Introduction to Strategic Management.

2. **Planning:** Nature and Purpose; Objectives - Strategies, Policies and Planning Premises Types of Plans; Steps in Planning; Management by Objectives; Strategic Planning Process; Decision Making Process.

3. **Organizing:** Nature of Organizing - Organizational Structure; Organization Levels and Span of Management; Basis of Departmentation; Line and Staff Relationship; Decentralization and Delegation of Authority; Effective Organizing and Organizational Culture. Staffing Systems Approach – Selection, Appraisal and Training - Communication Process; Types of Communication; Barriers to Effective Communication; Motivation Theories: Maslow, Herzberg, McGregor. Approaches and Styles of Leadership.

4. **Direction and Control Process:** Requirements for Effective Control; Control Techniques; Role of Information Technology; Management Information System; Management by Exception; Overall Control and toward the Future through Preventive Control -Controlling and Challenges.
5. **Organizational Behavior :**The concept and significance of organizational behavior – Skills and roles in an organization- Classical and modern theories of organizational structure- organizational design-Understanding and Managing individual behavior personality-perception- Values – Attitudes – learning – Motivation.

Text Book and References:

1. Heinz Weihrich, Mark V.C Annice and Harold Koontz, 'Management – A Global, Innovative and Entrepreneurial Perspective', McGraw Hill, 20013.(Text Book)

2. Ramesh B Rudani, Management and Organisational Behavior, McGraw Hill, 20012.
3. Burton, Gene and Manab Thakur, 'Management Today: Principles and Practice', Tata McGraw Hill,1995.
4. VSP Rao, V Hari Krishna – Management: Text and Cases, Excel Books.
5. Hill, Charles W and Steven McShane, 'Principles of Management', McGraw Hill College.

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I SEMESTER

MBBT 413: ACCOUNTING FOR MANAGERIAL DECISION MAKING

Hard Core
3 Credits
(CMIE Data + Tally based)

Learning Objectives:

- To introduce the Basic Concepts of Financial Accounting
- To familiarize the students with financial statements and principles underlying them and to develop their skills in reading Annual Reports
- To acquaint them in brief with accounting mechanics, process and system, but emphasis is laid on sound concepts and their managerial implications
- To lay a foundation for developing their skills in interpreting financial statements
- To develop an appreciation about the utility of cost information as a vital input for management decision making

1. Preparation of Financial Statements-Analysis of Financial Statements-Comparative-common size and trend analysis -Preparation of final accounts of banking companies-asset classification and provisioning.

2. Ratio analysis-Profitability ratios-liquidity ratios-solvency ratios-turnover ratios-Du Pont control chart-statement of changes in financial positions-preparation of cash flow statement-management of working capital.

3. Budgeting and budgetary control-preparation of budgets-cost concepts-analysis and behavior-preparation of cost sheets.

4. Marginal costing and breakeven analysis-marginal cost equations-profit volume ratio-breakeven analysis-margin of safety-managerial application of marginal costing.

5. Emerging concepts in accounting-new accounting standards-IFRS-eXBRL-preparation of accounts using accounting software Tally etc.

Basic Text Book and References

1. Maheswary S N, Management Accounting, Sultan Chand & Sons, New Delhi
2. *Gupta R L and Radhaswamy M, Advanced Accounts, Vol I , Sultan Chand & Sons, New Delhi 2010*
3. Jain S P and K L Narang, Advanced Accounts, Kalyani Publishers, Ludhiana 2010
4. Jain S P and K L Narang, Cost Accounts, Kalyani Publishers, Ludhiana 2009
5. Shukla M C and Grewal T S, Advanced accounts, Vol I , S Chand & Co, New Delhi 2001

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I SEMESTER

MBBT 414: QUANTITATIVE TECHNIQUES FOR MANAGEMENT

Hard Core
3 Credits

(SPSS + LINDO Software basis)

1. C**orrelation and Regression** – Types of Correlation – Measurement – Scatter Diagram – Karl Pearson's Coefficient of Correlation – Rank Correlation – Utility of Correlation Analysis – Regression Analysis – Estimation of Simple linear regression equation – Testing – Coefficient of Determination – Relationship between Correlation and Regression
2. **Probability, Sampling and Testing of Hypothesis** – Theories of Probability – Probability distribution – Binomial – Normal distribution – Relationship between binomial and normal distributions – Testing of Hypothesis – Steps involved – Level of Significance – Comparison between Sample Mean and Population Mean – Comparison between two sample means – Type I and Type II errors – t test – ANOVA – F test – Introduction to Production Management- Scope – Facility Location: Lay out Planning and analysis – Production and Control -
3. **Linear Programming and Assignment Problems**: Basics of LP – Fields of application – Minimization and Maximization – Graphic solution – Simplex Method – Degeneracy – Non-feasible solution – Unbound solution – Dual ; Assignment Problem formulation – areas of application – Balanced and unbalanced – Minimization and Maximization Problems
4. **PERT & CPM** : Critical Path method – Meaning – Utility – Assumptions –Network Diagram – Computation of critical path – Time Cost trade off – Limitations of CPM; PERT – Calculation of probabilities – Expected Time-variances – PERT area control device – Usefulness of PERT.
5. **Waiting Line theory** – Meaning – Objectives – Applications – M/M/1Queueing model – Elements of Waiting Line problem – Fixed arrival and Fixed service time – Random arrival and random service time – Limitations of Waiting line theory - **Game Theory** – Meaning – Types – Value of a Game – Pure Game – Mixed Game – Rule of Dominance – Finding value of Game for various types of Games – Linear programming solution to two person Zero sum game – Short Cut Method – Limitations

Basic Text Book and References:

1. ***Levin & Rubin., Statistics for Management, Prentice Hall, New Delhi (Text Book)***
2. Gupta, S P., Statistical Method, Sultan Chand, New Delhi
3. Arora&Arora, Statistics for Management, S Chand & Co, New Delhi
4. Kothari C. R., Quantitative Techniques, Vikas, New Delhi
5. Tulsian PC & Vishal Pandey., Quantitative Techniques, Pearson Education, Mumbai

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I SEMESTER

MBBT 416: SYSTEMS ANALYSIS AND DESIGN

Hard Core
3 Credits

Learning Objectives: To teach techniques and approaches to students so that they may analyze and develop business systems more effectively and efficiently.

1. Systems Development Life Cycle: Planning, Analysis, Design, Implementation - Systems Development Methodologies: Structured Design, RAD, JAD, Prototyping - · Project Team Roles and Skills - Project Initiation: Identifying Business Value, Feasibility Analysis - · Project Management: Creating a Work Plan, Project Staffing, Controlling the Project.

2. Systems Analysis: Developing an Analysis Plan - · Process Modeling: Data Flow Diagrams - Data Modeling: Entity Relationship Diagrams - System Design: Physical Data Flow Diagrams, Physical Entity Relationship Diagrams - Architecture Design: Computing Architectures, Infrastructure Design, Global and Security Issues.

3. Object-Oriented Analysis and Design, and Testing: Object Concepts, Introduction to the Unified Modeling Language, Use Case Diagrams, Sequence Diagrams, Class Diagrams, State chart Diagrams - OO Analysis - Use Case Modeling – OO Design

4. User Interface Structure Design: User Interface Design Principles and Processes, User Interface Design Components - Data Storage Design: File and Database Formats, Optimization for Data Storage and Data Access - Program Design: Structure Chart, Program Specification - Construction: System Construction Process, Managing Programming, Developing Documentation - Installation: System Installation Process, Conversion Strategies, Change Management, Post-Implementation Activities.

5. System Testing and Quality Assurance: System Testing. The Nature of Test Data. The Test Plan : Activity Network for System Testing. System Testing - Quality Assurance - Audit Trail – Maintenance and Review of the System

Text Books and Reference Books

1. **Systems Analysis and Design, Roberta M. Roth, Alan Dennis, Barbara Haley Wixom, John Wiley & Sons; 5th Edition, International Student Version edition (13 April 2012) (Text Book)**
2. **Software Engineering: A Practitioner's Approach, Roger S Pressman, Bruce R. Maxim, McGraw-Hill Higher Education; 8 edition (1 Mar 2014) (Text Book)**
3. Object-Oriented Systems Analysis and Design, McGraw-Hill Higher Education; 4 edition (1 April 2010)
4. Systems Analysis and Design Methods, Jeffrey L Whitten , Lonnie D. Bentley , McGraw-Hill Higher Education; 7 edition (1 April 2006)
5. System Analysis and Design, Garry B. Shelly, 9th Edition, Cengage Pub, 2011.

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I SEMESTER

MBBT 417: DATA STORAGE AND DATA CENTER MANAGEMENT

Hard Core
3 Credits

Learning Objectives:

* Understanding of Storage Technology
* Understanding of Networked Storage

Understanding of Data Center

1. **INTRODUCTION TO STORAGE TECHNOLOGY:** Review data creation and the amount of data being created and understand the value of data to a business, challenges in data storage and data management, Solutions available for data storage, Core elements of a data center infrastructure, role of each element in supporting business activities
2. **STORAGE SYSTEMS ARCHITECTURE:** Hardware and software components of the host environment, Key protocols and concepts used by each component, Physical and logical components of a connectivity environment, Major physical components of a disk drive and their function, logical constructs of a physical disk, access characteristics, and performance Implications, Concept of RAID and its components, Different RAID levels and their suitability for different application environments, Compare and contrast integrated and modular storage systems, high-level architecture and working of an intelligent storage system.
3. **INTRODUCTION TO NETWORKED STORAGE:** Evolution of networked storage, Architecture, components, and topologies of FC-SAN, NAS, and IP-SAN, Benefits of the different networked storage options, understand the need for long-term archiving solutions and describe how CAS full fill the need, understand the appropriateness of the different networked storage options for different application environments.
4. **INFORMATION AVAILABILITY, MONITORING & MANAGING DATACENTER:** List reasons for planned/unplanned outages and the impact of downtime, Impact of downtime - Differentiate between business continuity (BC) and disaster recovery (DR) ,RTO and RPO, Identify single points of failure in a storage infrastructure and list solutions to mitigate these failures, Architecture of backup/recovery and the different backup/ recovery topologies, replication technologies and their role in ensuring information availability and business continuity, Remote replication technologies and their role in providing disaster recovery and business continuity capabilities. Identify key areas to monitor in a data center, Industry standards for data center monitoring and management, Key metrics to monitor for different components in a storage infrastructure, Key management tasks in a data center.
5. **SECURING STORAGE AND STORAGE VIRTUALIZATION:** Information security, Critical security attributes for information systems, Storage security domains, List and analyzes the common threats in each domain, Virtualization technologies, block-level and file-level virtualization technologies and processes

**** Syllabus Covering 60% Project and 40% Test***

TEXT BOOKS AND REFERENCES:

1. EMC Corporation, Information Storage and Management, Wiley, India.(Text Book)

2. Robert Spalding, "Storage Networks: The Complete Reference", Tata McGraw Hill, Osborne, 2003. (Text Book)

3. Marc Farley, "Building Storage Networks", Tata McGraw Hill, Osborne, 2001.
4. Additional resource material on www.emc.com/resource-library/resource-library.esp
5. Additional resource material on http://www.springer.com/gp/book/9783540850229

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
I SEMESTER

MBBT 418: BUSINESS SYSTEM ANALYSIS LAB – USING OOMD

Hard Core
2 Credits

Learning Objectives:

This course gives a hands-on-experience to the students to build and manage the financial information systems using object-oriented design by applying established design principles using UML diagrams.

Design and Develop Financial Information Software applying Object Oriented Modeling approach using typical Case Tool as given below:

Problem Statement

1. Study of the problem
2. Identify project scope
3. Objectives and infrastructure

Business modeling and requirements specification

1. Prepare Software Requirements Specification
2. The specification language
3. Unified Modeling Language (UML)

UML

1. Design data dictionary
2. Use case diagrams
3. Activity diagrams

Build and Test

1. Class diagrams
2. Sequence diagrams
3. Collaboration diagrams
4. Add interface to class diagrams

Software Implementation

1. Coding
2. Use tools for automatic code generation from system specifications.

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME

MBABT 419: Comprehensive Viva

General Guidelines:

Learning Objectives:

- To evaluate the comprehensive Understands of Theoretical concepts of all subjects of that semester. All subjects in final comprehensive viva.
- To evaluate the Communication Skill of the MBA Students.

Procedure:

Gloxory of Terms: Every Student shall prepare a list of Technical Terms for every Hard core and elective subjects registered in the given semester. (All Subjects in case of final semester)
(A minimum of 100 concepts per subject to be compiled)

Test on Concepts: A comprehensive Viva would contain two components. Phase I is a written test on concepts for 1½ hr to be answered in one-two sentences. These papers will be evaluated by External Examiners (Test paper contain at least 10 concepts per subjects)

VIVA by External Experts : A students ability to comprehend and apply the theoretical concepts to practical Business operations will be tested by two external Examiners (Mostly one Academician and other Industry expert). They will conduct either individual / group viva on a comprehensive Business situation requiring the applications of Knowledge acquired in the core subjects.

Division of Marks:

Test: 20
Viva: Communication - 20
Domain Knowledge - 20
Comprehension - 20
Group participation - 20

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME

II SEMESTER

MBBT420: Winter Project	**Hard 2 Credits**
MBBT 421: Organizational Behavior & Human Resource Management	Hard 3 Credits
MBBT 422: Financial Management	Hard 3 Credits
MBBT 423: Marketing Management	Hard 3 Credits
MBBT 424: Corporate Strategy Management	Hard 3 Credits
MBBT 425: Retail Banking	Hard 3 Credits
MBBT 426: Banking Technology Management	Hard 3 Credits
MBBT 427: Information Security for Banks	Hard 3 Credits
MBBT 428: Banking Channels and Middleware Lab	Hard 2 Credits
MBBT : Elective I: Paper – 1	Hard 3 Credits
MBBT : Elective II: Paper – 1	Hard 3 Credits
MBBT 429: Comprehensive Viva	Hard 2 Credits

MBBT 420: BANKING PRACTICES SUMMER INTERNSHIP

Hard
Core 3
Credits

Banking Internship is to be carried out for 2 months in a Bank Branch. Students should attend to different regular activities of a Bank. All public sector /Private Sector bank branches with different operations like different deposit accounts, Credit facilities for Agricultural Loans, Educational Loans, Working capital Trade credit etc are the Branches were students should undertake This Internship Minimum 45 Physical attendance for Full day is Mandatory. A report is to be prepared on the following topics with copies of forms, documents of that given bank duly certified by the Branch Manager is to be submitted and it will be evaluated by 2 DGM/AGM level Bank officers. A viva will be conducted to evaluate the Knowledge and skills learned by students during 2 months Long Internship.

List of Topics to be covered during Internship.

- Practicing the formalities regarding opening a Savings Bank Account
- Practicing the formalities regarding opening a Current Account
- Practicing the formalities regarding opening Term Deposits
- NRE / FCNR accounts opening formalities
- Administration of Cash Departments in the Branch
- Securities aspects in the Bank branch Activities regarding withdrawal of cash
- List of activities carried out Teller / Cash Counter
- Procedures for calculation of interests on deposits and loan account
- Inward and outward Bills Collection activity
- Clearing House Operations. – MICR clearing, High value clearing and RTGS
- Electronic Funds Transfer, DD, Mail Transfer, Telegraphic / Telephonic transfer
- Different types of crossing cheque and activities associated with them
- Extension of Bank overdraft facility in SB and CD accounts
- Procedure to be followed for sanctioning a gold loan
- Appraisal of loan application of ISB loan
- Sanctioning of working capital credit line
- Formalities associated with documentation of Security
- Agency Services : Issue of drafts
- Periodic Payments
- Merchant Banking activities : Bankers to IPO issues
- Treasury operations: Barriers to Government
- List of subsidiary books operated and writing final ledger
- Checking the balances
- Day-to-day vouching procedures Miscellaneous services offered by banks
- Gift Cheques, Pay orders, Bankers Cheque.
- Power of Attorneys
- Fore closing accounts and activating dormant deposits
- Discounting bills and cheques Locker facility – safe deposit services Loan against securities / deposits / LIC policies
- Advances against hypothecation of goods
- Advances against book debts and supply bills
- LC / LG facilities / documentation Precautions for averting frauds / Preventive vigilance

Division of Marks	**: Internship attendance**	**: 40**
	: Report	**: 20**
	: Evaluation test	**: 20**
	: Viva	**: 20**

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
II SEMESTER

MBBT 421: ORGANIZATIONAL BEHAVIOR & HUMAN RESOURCE MANAGEMENT

Hard Core
3 Credits

1. The concept and significance of organizational behavior – Skills and roles in an organization – Classical, Neo-classical and modern theories of organizational structure- Organizational design – Understanding and Managing individual behavior personality – perception – Values – Attitudes – learning – motivation. Understanding and managing group behavior, Processes – inter-personal and group dynamics- Communication – Leadership – Managing change – Managing Conflicts. Organizational development.

2. Human Resource Management (HRM) – Significance – Objectives – Functions – A diagnostic model – External and Internal environment. Forces and Influences – Organizing HRM function. Recruitment and Selection – Sources of recruits – Recruiting methods – Selection procedure – Selection tests – Placement and Follow-up. Performance Appraisal System – Importance and Objectives – Techniques of appraisal system – New trends in appraisal system.

3. Compensation and Benefits – Job evaluation techniques – Wage and salary administration – Fringe Benefits – Human resource records and audit. Development of Personal – Objectives – Determining Needs – Methods of Training & Development programmes – Evaluation – Career Planning and Development – Concept of career – Career planning and development methods. Employee Discipline – importance – causes and forms – Disciplinary action – Domestic enquiry. Grievance Management – Importance – Process and practices – Employee welfare and social security measures.

4. Industrial Relations – Importance – industrial conflicts – causes – dispute settlement machinery. Trade unions: Importance of Unionism – Union leadership – National Trade Union Movement. Collective Bargaining: Concept – Process – Pre-requisites – New trends in Collective bargaining. Industrial Democracy and Employee Participation – Need for industrial democracy – Pre-requisites for industrial democracy – employee participation – Objectives – Forms of Employee Participation. Future of Human Resource management.

Basic Text Books and Reference Books

1. K. Aswathappa, Human Resource Management, TMH, New Delhi.
2. Keith Davis, Human behavior at work, McGraw Hill.
3. Fred Luthans, Organizational Behavior, McGraw Hill
4. Stephen P. Robbins, Organizational Behavior, Prentice Hall International.
5. VenkataRatnam C.S &Srivatsava B.K, Personnel Management and Human resources, TMH.

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
II SEMESTER

MBBT 422: FINANCIAL MANAGEMENT

Hard Core
3 Credits

1. **Financial Management**: Meaning, Nature and Scope of Finance, Financial Goals, Profit Vs Wealth Maximization, Finance Function – Investment, Financing and Dividend decisions

2. **Capital Budgeting**: Nature of Investment Decisions; Investment evaluation criteria, Net Present Value, Internal Rate of Return, Profitability Index, Payback Method, Accounting Rate of Return, NPV and IRR comparison, Capital rationing, Risk analysis and Capital Budgeting - **Cost of Capital**: Meaning and significance; Calculation of cost of Debt, Preference Capital, Equity capital and Retained earnings; Combined Cost of Capital (Weighted), Cost of Equity and CAPM

3. **Financial Leverage**: Measurement, Effects of Leverage on EPS, EBIT-EPS analysis, Indifference Point, Degree of Financial Leverage - **Capital structure Theories**: NI approach, NOI approach; Traditional Theory, MM Hypothesis –Without taxes and with taxes, Determinants of Capital structure in practice - **Dividend Policies** : Issues in dividend decisions, Walter's Model, Gorden's Model, MM Hypothesis, Dividend Policies, Forms of Dividend, Corporate dividend behavior

4. Evaluation of lease contracts: Introduction – Meaning and essential – Classification – Financial lease – Operating lease – Sales and lease back – Indirect lease; Corporate Restructuring: Introduction – Scope – Types; Financial Restructuring: Share split – Consolidation – Cancellation of paid up capital

5. **Management of Working Capital** : Meaning, Significance, Types, Determinants, Calculating Operating Cycle period, Estimating working Capital requirements, Financing working capital and Norms of Bank finance, Management of Cash, Receivables and Inventory

Basic Text Book & References:

1. ***Pandey I M., Financial Management, Vikas Publishing House, Delhi, 2004 (Text Book)***
2. Chandra, Prasanna: Financial Management, Tata McGraw Hill, Delhi, 2005
3. Van Horne, James C: Financial Management and Policy, Prentice Hall, Delhi, 2001
4. Khan MY, Jain PK., Financial Management, Tata Mc Hill, New Delhi,2002
5. Brigham, Eugene and Ehrhardt C Michael., Financial Management: Theory and Practice, 10th Edition, 2004

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
II SEMESTER

MBBT 423: MARKETING MANAGEMENT

Hard Core
3 Credits

Objectives

Present to the students an insight into the basic concepts of marketing, impart a grasp on the marketing management as a function of business management and understand the elements of marketing and marketing strategy and to develop in them application skills towards managerial decision-making.

1 **Marketing Management:** Marketing Concepts and Tasks, Defining and delivering customer value and satisfaction, Marketing environment, Adapting marketing to new liberalized economy - Marketing Information System, Environment of Marketing - Analyzing Market Opportunities; Strategic marketing planning and organization.

2 **Target Marketing:** Buyer Behavior: Consumers and Industrial Buyers - Market Segmentation, Targeting and Positioning - New Product Planning - Marketing Strategies with reference to Product Life Cycle and Competitive Strategies.

3 **Marketing Mix Decisions:** Product decisions: Differentiation, Branding, New product decisions - Pricing decisions - Marketing Channel and distribution strategy, sales force management decisions - Marketing Communications: Advertising and sales promotion decisions.

4 **Marketing Organization:** Market Information System – Market Intelligence and Market Research: Marketing Research Methods –Marketing Control

5 **Developments in Marketing- Practices and Issues:** Marketing of Services - International Marketing - Non-Business Marketing – Rural Marketing - Retailing, Services Marketing - Customer Relationship marketing – eCommerce and e-business- Data warehousing and mining.Consumerism in India– Contemporary Issues in Marketing.

References

1. Philip Kotler: Marketing Management, Eleventh Edition, Pearson Education Asia.
2. V S Ramaswamy& S Namakumari: Marketing Management, Macmillan Business Books, 2002.
3. Cravens, Hills and Woodruff: Marketing Management
4. Cundiff, Still, Govonni: Fundamentals of Marketing
5 Rajiv Lal, John A.Quelch, KasturiRangan.V.,Marketing Management- Text and Cases, Tata McGraw Hill, 2012.

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
II SEMESTER
MBBT 424: CORPORATE STRATEGY MANAGEMENT

Hard Core
3 Credits

Objectives
To introduce and make the students understand the strategic management process and levels and to help students identify and link Strategy formulation and implementation with environmental analysis and develop learning and analytical skill of the students to solve business cases and provide strategic solutions to various business issues

1. **Introduction to Strategic Management:** Define Strategy - Mission - Vision of the firm - Strategic Planning - Strategic Management Process - Levels of Strategies- Corporate, Business and Operational level - Types of Strategies-Functional Strategies, H. R Strategy, Marketing strategy, Financial strategy, Operational Strategy - Benefits and Risks of Strategic Management.

2. **Environmental Analysis:** Internal Analysis - Business Environment, Components of Environment, Environmental Scanning, Analysis of Strategies and Choice of Strategy - SWOT audit – core competence - Stockholders' expectations, Scenario-planning - industry analysis.

3. **Formulation of Strategy:** Strategy Formulation - Generic competitive strategies – integration strategies – outsourcing strategies – offensive and defensive strategies – strategic alliances and collaborative partnerships – merger and acquisition – Diversifications – Approaches to Strategy formulation - BCG Approach.

4. **Strategic Implementation and Control:** Building resource strengths and organizational capabilities – framework for executing strategy – strategy execution process – organizational structure – managing internal operations - Corporate culture of leadership – designing strategic control system, key success factors – monitoring success and evaluating deviation - 7S model - Du Pont's control model - Balanced score card - M.Porter's approach for Globalisation - Strategies of leading Indian companies

5. **Business, Corporate and Global Strategies: Practices and Issues:** Corporate Restructuring- Need and forms; Strategic Alternatives- Types and Evaluation; Strategic Change, Corporate Renewal, Organizational failures - Management of Strategies and Cultures; Strategic management Practice in India - Public, Private Participation - Corporate Social Responsibility (CSR)- Linking CSR with Profit and Sustainability; Environmental Accounting and Auditing; Competitive advantage of Nations and its implication on Indian Business.

TEXT BOOKS AND REFERENCES:

1. **Competitive Strategy: Techniques for Analyzing Industries and Competitors, Simon & Schuster. (Text Book)**
2. Business Policy and Strategic Management – DrAzharKazmi, Published by Tata McGraw Hill Publications
3. Strategic Management: Competitiveness &Globalisation- Michael Hilt and R. Duane Ireland, Robert E. Hoskisson South, Published by Western Thomson Learning
4. Samul C. Certo and J.Paul Peter, Strategic Management, Second Edn. Concepts & Application, McGraw Hill.
5. Fred R.David, Strategic Management Concepts & Cases, Pearson, 2003. 11. R.Srinivasan, Strategic Management, II edition, Prentice Hall of India, New Delhi.

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
II SEMESTER
MBBT 425: RETAIL BANKING

Hard Core
3 Credits

Course Objective
The objective of this course is to prepare the students to acquire required knowledge and skills for practical banking operations. The course facilitates learning of banking practices with special focus on retail banking operations.

1. **Introduction:** History and definition of Retail banking -Retail banking in India-Objectives of retail banking-Drivers of retail banking-Retail banking infrastructure- distinction between Retail and Corporate / Wholesale Banking-Retail banking products overview-customer requirements and -opportunities and challenges in retail banking

2. **Retail Deposits:** Types of deposits accounts- Deposits schemes-New deposits instruments- Non-Resident Deposits accounts- opening of deposits accounts- RBI Guidelines- RBI Circulars-Operational modalities-Deposit Policy- Fixation of charges- management of deposits- Deposit lockers-Customer relationship-Cash transactions

3. **Retail Lending:** Types of loans and advances- Customer requirements-Products development process- Home Loans – Auto-Vehicle Loans- Personal Loans-Educational Loans -Eligibility, Purpose, Amounts, Margin, Security, Disbursement, Moratorium-Prepayment issues, Repayments-Collection.-Approval process-RBI Guidelines-Loan process and the relevant accounting including EMI Computation.

4. **Delivery Channels:** Operations-process and practicals- Traditional Delivery channels- Cheque / Withdrawal slip-Demand draft-Bankers cheque- -Modern delivery channels- ATMs, POS, Internet Banking, M-Banking-Selling Process in retail products-Direct Selling Agents- Credit -Debit Cards - Credit Vs. Debit Cards, Eligibility, Purpose, Amounts, Margin,-Remittances -Funds Transfer

5. **CRM& Retail Banking:** Bank Customer relationship-CRM Strategies-Rights and obligations of bankers-Customers right-liabilities- Other issues related to Retail Banking- Trends in retailing - New products like Insurance-online / Phone Banking, Property services, Investment advisory / Wealth management, Reverse Mortgage - Growth of e-banking, Cross selling opportunities.

BASIC TEXT BOOK & REFERENCES:

1. **Retail Banking. Indian Institute of Banking and Finance, Macmillan India Ltd (2010/Latest). (Text Book)**
2. **Kanhaiya Singh and Vinay Dutta. Commercial Bank Management. McGraw Hill, 2013. (Text Book)**
3. Rose, Peter, and Sylvia Hudgins. Bank management and financial services. The McGraw− Hill, 2006.
4. Hempel, George H., Donald G. Simonson, and Alan B. Coleman. "Bank management: text and cases." (Latest).
5. FRASER, R. Donald, Benton E. Gup, and James W. Kolari. Commercial banking. San Francisco: West Publishing Company, 1995.

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
II SEMESTER

MBBT 426: BANKING TECHNOLOGY MANAGEMENT

Hard Core
3 Credits

Learning Objective:

- Understanding of Core Banking
- Understanding of Banking Channels and Payments
- Practices on Banking Technology

1. **Branch Operation and Core Banking -** Introduction and Evolution of Bank Management – Technological Impact in Banking Operations – Total Branch Computerization – Concept of Opportunities – Centralized Banking – Concept, Opportunities, Challenges & Implementation.

2. **Delivery Channels -** Overview of delivery channels – Automated Teller Machine (ATM)
   – Phone Banking – Call centers – Internet Banking – Mobile Banking – Payment Gateways – Card technologies – MICR electronic clearing.

3. **Back office Operations** - Bank back office management – Inter branch reconciliation – Treasury Management – Forex Operations – Risk Management – Data centre Management – Network Management – Knowledge Management (MIS/DSS/EIS) – Customer Relationships Management (CRM).

4. **Inter bank Payment System -** Interface with Payment system Network – Structured Financial Messaging system – Electronic Fund transfer – RTGSS – Negotiated Dealing Systems & Securities Settlement Systems – Electronic Money – E Cheques.

5. **Contemporary Issues in Banking Techniques** – Analysis of Rangarajan Committee Reports – E Banking - Budgeting – Banking Softwares – Case study: Analysis of Recent Core Banking Software.

BASIC TEXTBOOK AND REFERENCES:

1.Financial Services Information Systems-Jessica Keyes Auerbach publication; 2nd edition (March 24, 2000) (Text Book)

2. Kaptan SS & Choubey NS., ―E-Indian Banking In Electronic Era, Sarup & Sons, NewDelhi, 2003
3. Vasudeva,―E–Banking, Common Wealth Publishers, New Delhi, 2005
4. Turban Rainer Potter, Information Technology, John Wiely & Sons Inc
5. Banking Technology – Indian Institute of Bankers Publication

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
II SEMESTER

MBBT 427: INFORMATION SECURITY FOR BANKS

Hard Core
3 Credits

Learning objectives:

- **Introduction on Data Security**
- **Understanding of Security Infrastructure**
- **Understanding of Security Operations**

1. **Introduction** – Information Security Overview – Importance of Information Security – Security Methodology. Risk Analysis: Threat – Types of Attacks – Compliance with Information security standards, Regulations and Laws – Secure Design Principles: The CIA Triad and Other models, Defense models – Security Policies, Standards, Procedures and Guidelines – Security Organizations: Roles and responsibilities, Managed security services – Authentication and Authorization.

2. **Data Security** – Securing Unstructured Data – Encryption – Database Security - **Security in Networks** – Threats in Networks – Network Security controls. **Operating System Security –** Operating system security models – **Security Technology –** Access Controls – Firewalls – Virtual Private Networks – Intrusion detection and Prevention Systems.

3. **Securing Infrastructure Services** – E-mail – Web Servers – DNS Servers – Proxy Servers – **Application Security** – Secure Application Design – Secure Development Lifecycle – Application Security Practices.

4. **Security Operations** – Disaster Recovery, Business Continuity, Backups and High Availability – Incident Response and Forensic Analysis – Physical Security **– Security Agencies** – Certifying Authorities –National and International.

5. **Recent trends in Security** – case studies: Analyze Information security for Banking Systems, Casestudy on INFLIBNET etc.

BASIC TEXT BOOK & REFERENCES:

1. ***Mark Rhodes – Ousley, "Information Security, The Complete Reference", Second Edition, 2013, McGraw Hill.(Text Book)***
2. ***Charles P. Pfleeger, Shari Lawrence Pfleeger, "Security in Computing", Fourth Edition, 2006 (Text Book)***
3. William Stallings, Cryptography and Network Security Principles and Practices, PHI Third Edition
4. Caelli, J., and Longley D. and Shain M., Information Security Handbook, Macmillan, 1991
5. Mcclure S., Scambray J. and Kurtz G., Hacking exposed: Network security secrets and solutions, McGraw-Hill, 1999

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME II SEMESTER

MBBT 428: BANKING CHANNELS AND MIDDLEWARE LAB

Hard
Core 2
Credits

Learning Objectives:

This lab imparts knowledge of design and development of banking software like Mobile Banking, Internet Banking, ATM system and Financial Middleware. Also, it focuses on a detailed study on the recent core banking software.

Lab Exercises

Design and Develop the following Banking Software using the appropriate technologies:

- *Mobile Banking*
  - Balance Enquiry
  - Cheque Book Request
  - Stop Cheque
  - Credit/Debit Notification
  - Bill Payment

- *Internet Banking*
  - Electronic Funds Transfer
  - Account Management
  - Loan Application
  - Registering of new bank services
  - Customer Information Management

- *ATM system*
  - Balance Enquiry
  - Withdrawal
  - Deposit
  - Pin change
  - Mini statement

- *Financial Middleware*
- Design of
  - Online Banking Middleware
  - ATM Middleware
  - Mobile Middleware
  - Banking Software Middleware

- *Study on the recent Core Banking Software.*

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME

MBABT 429: Comprehensive Viva

General Guidelines:

Learning Objectives:

- To evaluate the comprehensive Understands of Theoretical concepts of all subjects of that semester. All subjects in final comprehensive viva.
- To evaluate the Communication Skill of the MBA Students.

Procedure:

Gloxory of Terms: Every Student shall prepare a list of Technical Terms for every Hard core and elective subjects registered in the given semester. (All Subjects in case of final semester)
(A minimum of 100 concepts per subject to be compiled)

Test on Concepts: A comprehensive Viva would contain two components. Phase I is a written test on concepts for 1½ hr to be answered in one-two sentences. These papers will be evaluated by External Examiners (Test paper contain at least 10 concepts per subjects)

VIVA by External Experts : A students ability to comprehend and apply the theoretical concepts to practical Business operations will be tested by two external Examiners (Mostly one Academician and other Industry expert). They will conduct either individual / group viva on a comprehensive Business situation requiring the applications of Knowledge acquired in the core subjects.

Division of Marks:

Test: 20
Viva: Communication - 20
Domain Knowledge - 20
Comprehension - 20
Group participation - 20

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME

III SEMESTER

MBBT 510: Banking Practices Summer Internship	**Hard 2 Credits**
MBBT 511: Bank Financial Management	Hard 3 Credits
MBBT 512: Bank Marketing	Hard3 Credits
MBBT 513: Legal Aspects of Banking	Hard3 Credits
MBBT 514: Risk Management in Banks	Hard3 Credits
MBBT 515: International Banking	Hard3 Credits
MBBT 516: Data warehousing and Applied Data Mining	Hard3 Credits
MBBT 517: IT Infrastructure Management for Banks	Hard3 Credits
MBBT 518: Business Intelligence Lab	Hard 2Credits
MBBT : Elective I: Paper – 2	Soft 3Credits
MBBT : Elective II: Paper – 2	Soft 3Credits
MBBT 519: Comprehensive Viva	Hard 2 Credits

MBBT 510: BANKING PRACTICES SUMMER INTERNSHIP

Hard
Core 3
Credits

Banking Internship is to be carried out for 2 months in a Bank Branch. Students should attend to different regular activities of a Bank. All public sector /Private Sector bank branches with different operations like different deposit accounts, Credit facilities for Agricultural Loans, Educational Loans, Working capital Trade credit etc are the Branches were students should undertake This Internship Minimum 45 Physical attendance for Full day is Mandatory. A report is to be prepared on the following topics with copies of forms, documents of that given bank duly certified by the Branch Manager is to be submitted and it will be evaluated by 2 DGM/AGM level Bank officers. A viva will be conducted to evaluate the Knowledge and skills learned by students during 2 months Long Internship.

List of Topics to be covered during Internship.

- Practicing the formalities regarding opening a Savings Bank Account
- Practicing the formalities regarding opening a Current Account
- Practicing the formalities regarding opening Term Deposits
- NRE / FCNR accounts opening formalities
- Administration of Cash Departments in the Branch
- Securities aspects in the Bank branch Activities regarding withdrawal of cash
- List of activities carried out Teller / Cash Counter
- Procedures for calculation of interests on deposits and loan account
- Inward and outward Bills Collection activity
- Clearing House Operations. – MICR clearing, High value clearing and RTGS
- Electronic Funds Transfer, DD, Mail Transfer, Telegraphic / Telephonic transfer
- Different types of crossing cheque and activities associated with them
- Extension of Bank overdraft facility in SB and CD accounts
- Procedure to be followed for sanctioning a gold loan
- Appraisal of loan application of ISB loan
- Sanctioning of working capital credit line
- Formalities associated with documentation of Security
- Agency Services : Issue of drafts
- Periodic Payments
- Merchant Banking activities : Bankers to IPO issues
- Treasury operations: Barriers to Government
- List of subsidiary books operated and writing final ledger
- Checking the balances
- Day-to-day vouching procedures Miscellaneous services offered by banks
- Gift Cheques, Pay orders, Bankers Cheque.
- Power of Attorneys
- Fore closing accounts and activating dormant deposits
- Discounting bills and cheques Locker facility – safe deposit services Loan against securities / deposits / LIC policies
- Advances against hypothecation of goods
- Advances against book debts and supply bills
- LC / LG facilities / documentation Precautions for averting frauds / Preventive vigilance

Division of Marks

- **Internship attendance : 40**
- **Report : 20**
- **Evaluation test : 20**
- **Viva : 20**

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
III SEMESTER

MBBT 511: BANK FINANCIAL MANAGEMENT

Hard Core
3 Credits

Course Objective

The objective of this course is to prepare the students to deal with the issue of management of various financing activities in the banks and financial institutions. The course facilitates methodology of calculating interest rates, Credit appraisal, and Risk framework and forex dealings.

1 **Introduction:** Overview of changing financial sector-Global financial system-Current issues- - Macroeconomic and financial stability –linkage-The Role of trust- The Role of regulation- financial stability - The impact of regulation on financial services- The financial crisis

2 **Bank's Financial Statements:** Bank liabilities-Bank assets-Contingent liabilities-of -The income statements of Indian banks- Analyzing Bank Financial Statements-Key Performance Indicators (KPI)-Bank financial statement analysis models- Interest income and non-Interest income

3 **Risk Managements:** Risk-Concept - Risk in Banks - Risk Management Framework - Organizational Structure – Risk Identification - Risk Measurement / - Sensitivity - Basis Point Value (BPV) - Duration –Downside Potential - Value at Risk, Back Testing - Stress Testing - Risk Monitoring and Control - Risk Reporting - Risk - Current guidelines on risk Management

4 **Treasury Management:** Concepts and function; instruments in the treasury market, development of new financial products, control and supervision of treasury management - Interest rate risk, interest rate futures- Investment and Funding Strategies – Stock options, debt instruments, bond portfolio strategy, risk control and hedging instruments.-Investments

5 **Forex Management:** Forex Business; factors determining exchange rates, Direct and indirect quotations, spot /forward rates, premium and discount, cross rates-Basics of forex derivatives; forward exchange rate contracts, Options, Swaps. - Role of RBI and exchange control - Regulations in India, Role and rules of FEDAI - Role of FEMA and its rules

Basic Text Book & References:

1. *Rose, Peter, and Sylvia Hudgins. Bank management and financial services. The McGraw− Hill, 2006.*
2. *Paul, Justin, and Padmalatha Suresh. "Management of Banking and financial services." Second impression, Dorling Kindersley (India) Pvt. Ltd., PHI (Latest)*
3. *Koch, Timothy, and Scott MacDonald. Bank management. Cengage Learning, 2009.*
4. *Hempel, George H., Donald G. Simonson, and Alan B. Coleman. "Bank management: text and cases." (Latest).*
5. *Matz, Leonard, and Peter Neu, eds. Liquidity risk measurement and management: A practitioner's guide to global best practices. Vol. 408. John Wiley & Sons, 2006.*

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
III SEMESTER

MBBT 512: BANK MARKETING

Hard Core
3 Credits

Course Objective

The objective of this course is to prepare the students to acquire required knowledge and skills for Marketing of Banking products and services. The course also looks into various aspects of service quality aspects of Bank Branches.

1. **Introduction:** Identification of needs-wants-Demands- Diagnosing various banking environments-Regulatory-cultural-Political-Economic-Public-Society-customers- Employees- Retail banking in India- Drivers of retail banking-Wholesale Banking- Retail banking products overview-customer requirements and -opportunities and challenges in retail banking

2. **Developing Banking Products and Services:** Meaning, Importance and Functions - Marketing of Services - Product Research & Development - Test Marketing of Bank Products - Product Life Cycle - Product Modification - New Product Development Branding of Bank Products - Pricing of Bank Products and Services - Objectives, Strategies and Methods - Factors Influencing the Pricing Decisions-Importance of Pricing- Deposit pricing-Loan pricing-Pricing of services-

3. **Distribution and Promotion:** Distribution - Factors Influencing - Direct and Indirect Channels of Bank Products - Physical Distribution - Channel Functions and Services - Role of Electronic Marketing Channels-ATMS-Debit Cards-Credit Cards-POS-Internet Banking-Mobile Banking-Vending Machines-Promotion - Promotion Mix and Role of Promotion in Marketing - Marketing Information Systems-

4. **Delivery Channels:** Operations-process and practical's- Traditional Delivery channels- Cheque/ Withdrawal slip-Demand draft-Bankers cheque- -Modern delivery channels- ATMs, POS, Internet Banking, M-Banking-Selling Process in retail products-Direct Selling Agents- Credit -Debit Cards - Credit Vs. Debit Cards, Eligibility, Purpose, Amounts, Margin,-Remittances -Funds Transfer

5. **Customer Relationship Management:** Bank Customer relationship-CRM –Role of Marketing officer-Branch servicing-Customer meet-Target achieving- Bank Marketing in Urban-Rural Areas-Trends in Bank Marketing- Role of MIS in bank Marketing.

Basic Text Book & References:

1. *Lovelock, Christopher. Services Marketing, 7/e. Pearson Education India, 2011.*
2. *Retail Banking. Indian Institute of Banking and Finance,Macmillan India Ltd (2010/Latest).*
3. *Arora, Sangeeta. Marketing of Financial Services. Deep and Deep Publications, 2005.*
4. *Lovelock, Christopher. Services Marketing, 7/e. Pearson Education India, 2011.*
5. *Buttle, Francis, ed. Relationship marketing: theory and practice. SAGE, (Latest)*

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME

III SEMESTER

MBBT 513: LEGAL ASPECTS OF BANKING

Hard Core
3 Credits

Course Objective

The objective of this course is to provide the students with practical legal knowledge of banking laws and other business law issues related to banking. The course focus fundamental legal issues pertaining to business especially banking.

1 **Introduction:** Introduction to Law- Fundamentals of Law-The Indian Contract Act, 1872- Formation of Agreement- Offer and Acceptance- Modalities of Communication- Unilateral and Bilateral Contracts- Consideration- Parties to Contract- Capacity to Contract- Free consent- Performance of contract- Breach of contract- Indemnity and guarantee- Termination of Contracts- Bailment- Agency

2 **Regulations and Compliance:** Provisions of RBI Act, 1934- Banking Regulation Act, 1949- Banking Companies (Acquisition and transfer of undertaking Act 1970 & 1980) - Government and RBI's Powers-Companies Act, 1956/2013

3 **Banking Operations:** The Negotiable Instruments Act,1881(Amendment and Miscellaneous Provisions) Act, 2002- Notes, Bills and Cheques-Promissory notes, Bills of exchange and cheques (Demand, drafts, payment orders etc.) - Responsibility of paying-collecting banker indemnities -guarantees - scope and application - obligation of a banker – Endorsement- Crossing of Cheques- Dishonors of Cheques

4 **Commercial Laws with reference to banking operations -Letter of Credit, Indemnity, Guarantee and Bond** precautions and rights-laws relating to bill finance, LC and Deferred payments - Law relating to securities - valuation of securities - modes of charging securities - lien, pledge, mortgage, hypothecation etc.

5 **Other Laws:** The Partnership Act, 1932- Definition- types of partnership-relation of partners to one another - Minor admitted to the benefits of partnership - Dissolution of firm- effect of non-registration - The Transfer of Property Act - The Sale of Goods Act, 1930 (Sale and Agreement to sell)2000 - Right to information Act

Basic Text Book & References:

1. *Pathak, Akhileshwar. Legal Aspects of Business. Tata McGraw-Hill Education, 2013.*
2. *Legal and Regulatory Aspects of Banking. Indian Institute of Banking and Finance,Macmillan India Ltd (2010/Latest).*
3. *Kumar, Ravinder: Legal Aspects of Business,Ceneage Learning India Pvt Ltd, 201/Latest.*
4. *Pathak, Akhileshwar. Legal Aspects of Business. Tata McGraw-Hill Education, 2013.*
5. *Satish B Mathur. Business Law. Tata McGraw - Hill Education,2013*

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME

III SEMESTER

MBBT 514: RISK MANAGEMENT IN BANKS

Hard Core
3 Credits

Course Objective:
To make the student understand the basic concept of risk management in banks and expose various types of risk faced by banks with a view to provide necessary knowledge and impart the skills required to mitigate and manage the risks as a professional risk manager.

1. **Introduction and Overview:** Risk definition - BIS – Basel Committee – Basel I, II and III norms; Risk Process- Risk Organization - Key risks-Credit risk, market risk, operational risk, liquidity risk, legal risk, interest rate risk and currency risk – Concept of ALM for Banks.

2. **Credit Risk:** Definition - - Framework for risk management - RBI guidelines for risk management - Risk rating and risk pricing - Methods for estimating capital requirements - Credit risk - standardized approach and advanced approach - Credit rating /scoring - Credit Bureaus - Stress test and sensitivity analysis - Internal Capital Adequacy Assessment Process (ICAAP) - Structured products.

3. **Operational Risk:** Definition - RBI guidelines for Operational risk - Types of operational risk - Causes for operational risk - Sound Principles of Operational Risk Management (SPOR) - Identification, measurement, control / mitigation of operational risks; Organizational set up and Policy requirements; Strategic approach and key responsibilities of ORM; Capital allocation for operational risk, methodology and qualifying criteria for banks for the adoption of the methods; Computation of capital charge for operational risk.

4. **Market risk:** Definition - Liquidity risk - Interest rate risk - foreign exchange risk - ALM organization - ALCO - Simulation, Gap, Duration analysis, Linear and other statistical methods of control; Price risk (Equity) - Commodity risk - Treatment of market risk under Basel- Standardized duration method- Internal measurement approach – VaR.

5. **Risk Measurement, Control and Risk management:** Risk Calculation - Risk exposure analysis - Risk management / mitigation policy - Risk immunization policy / strategy for fixing exposure limits - Risk management policy and procedure - Risk adjusted return on capital - Prudential norms – Income Recognition and Asset Classification (IRAC) norms - Capital adequacy norms - Hedging – Forwards – Futures – Options Arbitrage opportunities - Regulatory prescriptions of risk management –Exposure Norms - Systems Audit - Risk Organization and Policy.

TEXT BOOK AND REFERENCES:

1. **Foundations of Banking Risk: An Overview of Banking, Banking Risks, and Risk-Based Banking Regulation by GARP (Global Association of Risk Professionals).**
2. MooradChoudhry, Bank Asset and Liability Management: Strategy, Trading, Analysis, Wiley Publishing.
3. John C. Hull, Risk Management and Financial Institutions , Pearson, 2009
4. Indian Institute Of Banking, Amp, Finance(IIBF), Risk Management , Macmillan Publishers India, 2010
5. Risk Measurement Models to Capital Allocation Policies, Wiley, ISBN: 978-0-470-02978 IIBF Material.

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME

III SEMESTER

MBBT 515: INTERNATIONAL BANKING

Hard Core

3 Credits

1 **International Banking and Financial Institutions: International Banking**: Origin and Evolution of International banking – Global trends as reasons for growth of international banking – financial activity following real-sector transactions – Regulatory, Tax and Supervisory explanations – Definitions – Growth and future prospects of International banking – Need for regulation of international banking in the current scenario. **International financial institutions** – The World Bank Group – International Bank for Reconstruction and Development (IBRD) – IDA – IFC – MIGA – International Monetary Fund (IMF) in brief – Lending facilities – BIS – ADB - AfDB.

2 **Risk Management in International Banking: Risk Management**: Risks in Banking – Credit risk, Market risk, Settlement risk, Liquidity risk, Operational risk, and Legal risk – Need and importance of credit rating – Asset Liability Management (ALM) – Importance of ALM – off-Balance Sheet items – off-balance sheet risk – Asset/Liability and International Banking operations.

3 **International Banking Operations: Off-shore financial centres** – Rationale – Characteristics of offshore financial centres – Types of offshore centers – Benefit and reasons for growth – Factors of success – Tax Havens – Major Offshore Financial Centres – International Banking facilities – Special Economic Zones (SEZs) – Regulatory concerns. **Correspondent banking** – Origin and Growth of Correspondent banking – Challenges for correspondent banking – clearing house functions – payments and collections – credit services – foreign exchange services – other facilities. **Foreign Bank Branches' operations**: Factors behind overseas branch expansion – Objectives of abroad branches – constraints faced by overseas operations.

4 **International Payment Arrangements: International Transfer and Payment Systems**: International Payment Arrangements – Society for Worldwide Interbank Financial Telecommunication (SWIFT) – SWIFT messaging. Payment methods in International Trade – Cash in advance – Letter of Credit (L/C) – Documentary collection – Open account or credit – Countertrade or Barter.

5 **International Banking – recent trends:** Basel III compliance by Banking Industry across the globe – Shadow Banking – Issues pertaining to provisioning and non-performance assets – cross-border terrorism.

BASIC TEXT BOOKS AND REFERENCES:

1. A.W. Mullineux& Victor Murinde. (2003). Handbook of International Banking. ISBN 1840640936 Edward Elgar Publishing.
2. CheolEun& Bruce G. Resnick. (2012). International Financial Management, 6e. ISBN 9780078034657 McGraw Hill Education.
3. Indian Institute of Banking & Finance. International Banking Operations. ISBN 9780230632585 Macmillan Publishers India.
4. Jane Hughes & Scott MacDonald. (2002). International Banking: Text and Cases. ISBN 9780201635355 Prentice Hall.

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
III SEMESTER

MBBT 516: DATA WAREHOUSING & APPLIED DATA MINING

Hard Core
3 Credits

Learning Objectives:

The main purpose of the course is to develop and gain an understanding of the principles, concepts, functions and uses of data warehouses, data modeling and data mining in business. It focuses on data model for data warehouses and implementing data warehouses: data extraction, cleansing, transformation and loading, data cube computation, materialized view selection, OLAP query processing. Also, it concentrates on fundamentals of data mining, data mining process and system architecture, relationship with data warehouse and OLAP systems, data pre-processing and mining Techniques.

1. The Business Dimensional Lifecycle – Project Planning and Management – Dimensional Modeling – Advanced Dimensional Modeling.

2. Data Warehouse architecture – Back room technical architecture – architecture for the front room – infrastructure and metadata – selecting the products.

3. Aggregates – physical design – data staging – planning the deployment – maintaining and growing the data warehouse.

4. Data mining – motivation – functionalities – data for data mining – data pre-processing – need – data summarization – data cleaning – data integration and transformation – data reduction – data discretization and concept hierarchy generation.

5. Mining frequent patterns, associations and correlations – basic concepts – apriori algorithm
   – classification and prediction – introduction – classification by decision tree induction – cluster analysis – types of data in cluster analysis – k-Means and k-Medoids – – Mining time series Data – Trend Analysis.

***Syllabus covers 60% project and 40% Test**

Text Books and References:

1. **Kimball, Ralph; Reeves, Laura et al, "Data warehouse lifecycle toolkit: Expert methods for designing, developing, and deploying data warehouses", John Wiley & Sons, 2008(Text Book)**
2. **Han, Jiawei; Kamber, Micheline, —Data mining: concepts and techniques, Morgan Kaufmann Publishers, 2001. (Text Book)**
3. Paulraj Ponniah, **—** Data Warehousing Fundamentals: A Comprehensive Guide for IT Professionals, Wiley Publications, 2007.
4. Ralph Kimball, Margy Ross, **—** The Data Warehouse Toolkit‖, Wiley Publications, 2002.
5. Arun K. Pujari, Data Mining Techniques, Universities Press, 2001

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
III SEMESTER

MBBT 517: IT INFRASTRUCTURE MANAGEMENT FOR BANKS

Hard Core
3 Credits

Learning Objectives:

The objective of this course is to expose the emerging area of IT Infrastructure and its Management. It focuses on the IT governance and risk management. It also deals with the risk management framework. This course comprehensively deals with IT infrastructure management and ITIL service delivery and COBIT framework.

1. Server Management – Storage Management – Application Management – Information Life Cycle Management – Network Management – Security Management – Tools and Standards for Server, Storage, Application, Information Life Cycle Management, Network and Security Management

2. Data Center Management – Data Center Basics – Data Center Architecture – Data Center Design – Data Center Network Design - Data Center Maintenance – Data Center HVAC
– Data Center consolidation

3. IT Services Management – Service Management as a practice – Service strategy principles – Service economics – Strategy and Organization – Strategy, tactics and operations – Service Design principles – Service Design processes – Service Design Technology related activities – Implementing Service Design

4. Service Transition principles – Service Transition processes – Service Transition common operations – Implementing service transition – challenges, critical success factors and risk – Service Operation principles - Service Operation processes – Common Service Operation activities – Implementing service operation

5. Continual Service Improvement principles - Continual Service Improvement processes – Continual Service Improvement methods and techniques – Implementing Continual Service Improvement

***Syllabus covers 60% project and 40% Test**

TEXT BOOKS &REFERENCES

1. **Office of Government Commerce, —ITIL – Service Strategy‖, TSO publications, London, 2007 (Text Book)**
2. **Kailash Jayaswal, —Administering Data Centers : Servers, Storage and Voice over IP‖, Wiley Publications(Text Book)**
3. **EMC, Information Storage Management: —Storing, Managing and Protecting Digital Information‖, Wiley 2009(Text Book)**
4. Gilbert Held, Server Management‖ Best Practices Series, Aurebach Publications, 2000
5. Stephan R. Kass, —Information Life Cycle Management‖, Woodhead Publishing, 2006

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME III SEMESTER

MBBT 518: BUSINESS INTELLIGENCE LAB

Hard
Core 2
Credits

Learning Objectives:

This lab imparts the practical knowledge of the techniques and tools to provide effective business intelligence. It enables the students to leverage data warehousing and data mining to solve business problems faster by using online analytical processing, data warehousing and data mining tools. Also, this lab offers a comprehensive knowledge and strategic analysis of the data mining and warehousing technologies.

- Defining Business Requirements
  - Dimensional Analysis
  - Developing Information Packages
  - Requirements Definition
- Architecture and Infrastructure Specification
- Metadata definition
- Multi-Dimensional Modeling
  - Star Schema
  - Snow Flake Schema
- Extraction, Transformation and Loading
  - Defining rules for ETL
  - Usage of ETL Tools
- Information Delivery – OLAP, ROLAP and MOLAP
- Data Mining – Usage of Data Mining Tools

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME

MBABT 519: Comprehensive Viva

General Guidelines:

Learning Objectives:

- To evaluate the comprehensive Understands of Theoretical concepts of all subjects of that semester. All subjects in final comprehensive viva.
- To evaluate the Communication Skill of the MBA Students.

Procedure:

Gloxory of Terms: Every Student shall prepare a list of Technical Terms for every Hard core and elective subjects registered in the given semester. (All Subjects in case of final semester)
(A minimum of 100 concepts per subject to be compiled)

Test on Concepts: A comprehensive Viva would contain two components. Phase I is a written test on concepts for 1½ hr to be answered in one-two sentences. These papers will be evaluated by External Examiners (Test paper contain at least 10 concepts per subjects)

VIVA by External Experts : A students ability to comprehend and apply the theoretical concepts to practical Business operations will be tested by two external Examiners (Mostly one Academician and other Industry expert). They will conduct either individual / group viva on a comprehensive Business situation requiring the applications of Knowledge acquired in the core subjects.

Division of Marks:

Test: 20
Viva: Communication - 20
Domain Knowledge - 20
Comprehension - 20
Group participation - 20

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME

IV SEMESTER

MBBT: Elective I: Paper – 3	Hard 3 Credits
MBBT: Elective I: Paper – 4	Hard 3 Credits
MBBT: Elective II: Paper – 3	Hard 3 Credits
MBBT: Elective II: Paper – 4	Hard 3 Credits
MBBT 521: Final Project & Viva	Hard 6+2Credits
MBBT 522: Comprehensive Viva	Hard 2 Credits

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME

IV SEMESTER

MBABT 521: FINAL PROJECT AND VIVA

Hard Core
(6+2=8 Credits)

Guidelines:

- IV Semester of MBA: Banking Technology is a truncated Semester.
- Regular Classes would be held during December and February of the Even Semester.
- All students would be sent to carry out the Final Project Work on 1st March for a 8 week Industry based Final Project work.
- The Final Project has two Phases.
- In Phase I students under the guidance of a Faculty in-charge of the given Elective streem carry out the background work, identify a tentative Title for the Project work, Review 20-25 Research papers, prepare a Review Paper, take up Phase I theory Exam on Broad area of Final Project work.
- A public presentation on broad areas of proposed works to be made by students before starting II phase.
- Presentations would be evaluated by all Internal Faculty, one/two external experts appointed by Dean, School of Management.
- The division of Marks for Phase I and Phase II components is 40% and 60% respectively
- Final Project Work must be in the area of Elective stream of the student.
- Identification of the Company / Data Source should be completed by 1st March and students should report to Companies by 5th March.
- An E mail of Broad area, Company name, Name of the Company Internal Guide, Company permission letter must be mailed to HOD with a Copy to Faculty Guides.

Students should be in regular contact with their Faculty guides (at least one e mail per week) and submit a rough draft of the Report by last week of April; Project work will be evaluated by two external examiners in a Public presentation.

Final Project Report must contain the following Components: (75-100 Pages)

1. Title Page (Soft Binding)
2. Attendance Certificate from the Company
3. 4- 5Chapters (Back ground, Company Profile, Methodology/Algorithm/Mathematical Model), S

Division of Marks:

Phase I : Compilation of Research Papers and Presentation (Internal Assessment) : 20 Marks
Theory Exam on Area of Subject (based on Review papers) (Internal Assessment) : 20 Marks
Phase II : Final Project work Report (External Evaluation) : 30 Marks
Presentation and Viva (External Evaluation) : 30 Marks

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME

MBABT 522: Comprehensive Viva

General Guidelines:

Learning Objectives:

- To evaluate the comprehensive Understands of Theoretical concepts of all subjects of that semester. All subjects in final comprehensive viva.
- To evaluate the Communication Skill of the MBA Students.

Procedure:

Gloxory of Terms: Every Student shall prepare a list of Technical Terms for every Hard core and elective subjects registered in the given semester. (All Subjects in case of final semester)
(A minimum of 100 concepts per subject to be compiled)

Test on Concepts: A comprehensive Viva would contain two components. Phase I is a written test on concepts for 1½ hr to be answered in one-two sentences. These papers will be evaluated by External Examiners (Test paper contain at least 10 concepts per subjects)

VIVA by External Experts : A students ability to comprehend and apply the theoretical concepts to practical Business operations will be tested by two external Examiners (Mostly one Academician and other Industry expert). They will conduct either individual / group viva on a comprehensive Business situation requiring the applications of Knowledge acquired in the core subjects.

Division of Marks:

Test: 20
Viva: Communication - 20
Domain Knowledge - 20
Comprehension - 20
Group participation - 20

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME

ELECTIVE STREAMS

Every student should select two streams of electives. In each stream of elective, he/she has to take 4 papers out of 6 listed papers

1. Software Engineering And Technology Stream
2. Information Security Stream
3. Big Data Analytics and Storage Stream
4. Banking Operations Stream
5. Financial Services Stream
6. Capital Market Stream
7. International Finance Stream
8. Money And Development Banking Stream

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME

ELECTIVES

SOFTWARE ENGINEERING AND TECHNOLOGY STREAM

MBBT 611	Agile Software Process	Soft 3Credits
MBBT 612	Design Patterns	Soft 3Credits
MBBT 613	Software Testing And Quality Assurance	Soft 3Credits
MBBT 614	Enterprise Architecture	Soft 3Credits
MBBT 615	Service Oriented Architecture	Soft 3Credits
MBBT 616	Smart Banking Technologies	Soft 3Credits

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
ELECTIVE: SOFTWARE ENGINEERING AND TECHNOLOGY STREAM

MBBT 611: AGILE SOFTWARE PROCESS

Soft Core
3 Credits

1. **INTRODUCTION -** Software is new product development – Iterative development – Risk-Driven and - Client-Driven iterative planning – Time boxed iterative development – During the iteration, No changes from external stakeholders – Evolutionary and adaptive development - Evolutionary requirements analysis – Early "Top Ten" high-level requirements and skillful analysis – Evolutionary and adaptive planning – Incremental delivery – Evolutionary delivery – The most common mistake – Specific iterative and Evolutionary methods.

2. **AGILE AND ITS SIGNIFICANCE -** Agile development – Classification of methods – The agile manifesto and principles – Agile project management – Simple practices and project tools – Empirical Vs defined and prescriptive process – Principle-based versus Rule-Based – Sustainable discipline: The human touch – Team as a complex adaptive system – Agile hype – Specific agile methods. The facts of change on software projects – Key motivations for iterative development – Meeting the requirements challenge iteratively –Research evidence – A Business case for iterative development – The historical accident of waterfall validity.

3. **AGILE METHODOLOGY -** Method overview – Lifecycle – Work products, Roles and Practices values – Common mistakes and misunderstandings – Sample projects – Process mixtures - Adoption strategies – Fact versus fantasy – Strengths versus "Other" history.

4. **AGILE PRACTICING AND TESTING -**Project management – Environment – Requirements – Test – The agile alliances – The manifesto – Supporting the values – Agile testing – Nine principles and six concrete practices for testing on agile teams.

5. **CASE STUDY -** Agile – Motivation – Evidence – Scrum – Extreme Programming – Unified Process - – Evo – Practice Tips – Banking Case study.

***Syllabus covers 60% project and 40% Test**

TEXT BOOKS AND REFERENCES

1. Elisabeth Hendrickson, "*Agile Testing*" Quality Tree Software Inc, 2008. (Text Book)

2. Craig Larman,"*Agile and Iterative Development–A Manager's Guide*",PearsonEducation,2004. (Text Book)

3. Alistair "*Agile Software Development series*" Cockburn - 2001.
4. Robert C Martin, "*Agile Software Development, Principles, Patents and Practices, Prentice Hall, 2002.*
5. *James Shore and Shane Warden, The art of Agile Development, O' Reiely, 2007*

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
ELECTIVE: SOFTWARE ENGINEERING AND TECHNOLOGY STREAM

MBBT 612: DESIGN PATTERNS

Soft Core
3 Credits

1. **INTRODUCTION TO DESIGN PATTERNS -** Design Patterns Arose from Architecture and Anthropology - Architectural to Software Design Patterns - Advantages of Design Patterns - Adapter Pattern - Strategy Pattern - Bridge Pattern - Abstract Factory Pattern

2. **NEW PARADIGM OF DESIGN -** Principles and Strategies of Design Patterns - Open-Closed Principle – Designing from Context - Encapsulating Variation. Commonality and Variability Analysis - Analysis Matrix - Decorator Pattern - Open Closed Principle – The Principle of encapsulating variation – Abstract Classes vs Interfaces

3. **VALUES OF PATTERNS -** Observer Pattern - Categories of Patterns - Template Method Pattern – Applying the Template Method to the Case Study - Using Template Method Pattern to Reduce Redundancy

4. **APPLYING DESIGN PATTERNS -** Design Patterns: Factories - Singleton Pattern and the Double-Checked Locking Pattern - Applying Singleton Pattern to Case Study. Object Pool Pattern - Management of Objects - Factory Method Pattern - Object Oriented Pool Pattern

5. **CASE STUDIES -** What to Expect from Design Patterns - The Pattern Community An Invitation – A Parting Thought – Banking Case Study

***Syllabus covers 60% project and 40% Test**

TEXT BOOK AND REFERENCES

1. **Jason McC. Smith, "*Elemental design Patterns*", Pearson, 2012. (Text Book)**

2. Alan Shalloway and James R.Trott, "*Design Patterns explained*: A new perspective on Object-Oriented Design, 2006.
3. Erich Gamma, Richard Helm, Ralph Johnson, John Vlissides, "*Design Patterns: Elements of Reusable Object-Oriented Software"*, Addison-Wesley, 2003.
4. Eric Freeman, Elisabeth Freeman, Kathy Sierra, Bert Bates, "*Head First Design Patterns",* O'Reilly Media, Inc., 2004.
5. Elizabeth Freeman, Eric Freeman, Bert Bates and Kathy Sierra, "HeadFirst Design Patterns", O'Reily, 2004.

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
ELECTIVE: SOFTWARE ENGINEERING AND TECHNOLOGY STREAM

MBBT 613: SOFTWARE TESTING AND QUALITY ASSURANCE

Learning Objectives:

- Introduction of Software Testing
- Understanding of Test Automation
- Understanding of Software quality

Soft Core
3 Credits

1. **TESTING FUNDAMENTALS:** Principles of testing- Software development life cycle models-Types of testing- White box testing- Black box testing- Integration Testing – System and acceptance testing- Performance testing -Regression testing – Internalization testing – Ad hoc testing – Testing of object oriented systems – Usability and accessibility testing.

2. **TEST MANAGEMENT AND AUTOMATION:** Introduction – Test Planning – Test Management –Software test automation – Scope of automation – Test automation tools – Generic requirement for test tool/framework – Selecting a test tool – Challenges in automation.

3. **SOFTWARE QUALITY METRICS:** Software Measurement and Metrics – Measurement Theory – Software quality metrics – Product quality metrics – Software maintenance metrics – Collecting software engineering data.

4. **SOFTWARE QUALITY ASSURANCE:** Software quality in business context – Planning for software quality assurance – Product quality and process quality – Software process models – ISO – Capability Maturity Model – CMMi – People CMM – Test Maturity Model.

5. **TESTING PROJECTS:** Managing Testing projects and groups – Legal consequences of defective software – Managing a testing group – Role of testing group – Case Study: Testing in Banking Domain

***Syllabus covers 40% project and 60% Test**

TEXT BOOK and REFERENCE BOOKS:

1. **Gopalswamy Ramesh and Srinivasan Desikan, "Software Testing: Principles and Practices", Pearson Education, New Delhi, 2008. (Text Book)**
2. **Nina S Godbole, "Software Quality Assurance: Principles and Practice", Narosa Publishers, New Delhi, 2004. (Text Book)**
3. **Stephen H Kan, "Metrics and Models in Software Quality Engineering", Pearson Education, New Delhi, 2002. (Text Book)**
4. Glenford J Myers, Corey Sandler, Tom Badgett and Todd M Thomas, "The Art of Software Testing"-3rd Edition, Wiley, USA, 2011.
5. Ilene Burnstein, "Practical Software Testing", Springer – Verlag, New Delhi, 2003.

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
ELECTIVE: SOFTWARE ENGINEERING AND TECHNOLOGY STREAM

MBBT 614: ENTERPRISE ARCHITECTURE

Soft Core
3 Credits

Learning Objectives:

- **Understanding of Business Architecture**
- **Understanding of Data Architecture**
- **Practicing of Enterprise Architecture**

1. **Introduction to Enterprise Architecture** - Architecture Standards - Architecture, Architecture Description, Architecture Framework, Architectural Styles - Enterprise Architecture and Architectural Views - Reference Model - Introduction to UML and EA - UML diagrams - UML modeling elements - UML levels- model and model levels

2. **Modeling the Business Architecture** - Principles and Objectives - Context and Organization -Process Model - Semantic Data Model - Policies and Rules –Requirements - **Modeling the Application Architecture** - Logical Design - Component Design -- Functional View and Integration View - Use Case Realizations

3. **Modeling the Data Architecture** - Applications and Databases - Mapping between the common Semantic Information Model to the Data Model - Generating foreign key relationships - Creating the Application Architecture Data View - **Modeling the Service Architecture** - Service Taxonomies - Business Services - IT Services - Gleaning Business Services from the Business Architecture

4. **Modeling the Technology, Deployment, and Operations Architectures** - Modeling IT software applications and hardware configurations - Mapping applications, databases, and services to their technology requirements - Modeling instances of hardware configurations - Modeling deployments of applications, application components, databases, and IT software - Modeling sites and their network topologies - Capturing operations support software and processes - Applying the Technology, Deployment and Operations architectural views to Application Architecture

5. **Case Studies** Application on Banking Domain

***Syllabus covers 40% project and 60% Test**

TEXT BOOKS and REFERENCES BOOKS

1. **Ross, Jeanne W., Robertson, David, Weill, Peter. Enterprise Architecture as Strategy: Creating a Foundation for Business Execution (Harvard Business Review Press: August 8, 2014). (Text Book)**
2. Roger Sessions, "Simple Architectures for Complex Enterprises", Microsoft Press , 2010
3. Chris Potts, "Recreation: Realizing the Extraordinary Contribution of Your Enterprise Architects", Technics Publications, 2010
4. Scott A. Bernard, "An Introduction to Enterprise Architecture", Author House, 2010.

Stewen H Spewak, "Enterprise Architecture Planning", 2nd Edition, Adison Wisley, 2000.

5. Melissa Cook, Building Enterprise Information Architecture", HP Professional Book, 2005.

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
ELECTIVE: SOFTWARE ENGINEERING AND TECHNOLOGY STREAM
MBBT 615: SERVICE ORIENTED ARCHITECTURE

Soft Core
3 Credits

Learning Objective:

*** Understanding of SOA**

*** Understanding of BSB**

*** Practical on SOA**

1. **Introduction to SOA**- Understanding of SOA - Evolution of SOA - Concepts of services and SOA - Design principles of SOA - Relationship between SOA and web services - Advantages and risks of SOA - Service Oriented Methodology - Introduction to a SOA adoption roadmap - Service lifecycle - Three analysis approaches - Service oriented analysis - Service oriented design - Introduction to service oriented patterns - Traditional EAI Approach - Problems With Traditional EAI Approach - Building the Services - Advantages of SOA - Business Advantages - Adoption Stages - Benefits of employing SOA - Review of common business goals - Evaluating tradeoff strategies.
2. **SOA Past and Present** - From XML to Web Service to SOA - How SOA was done before - Emerging standards for SOA - Compare SOA with other architectures - Basic Concepts - Building from components - Modeling concepts - Object – Containment - Messages and methods - Object interaction - Introduction to Business Process - Collection of services - Simple request response interaction - Complex interaction involving many services - Need for a coordinator service emerges - Orchestration or Business process - Composing processes using processes - Business Process Execution Language (BPEL).
3. **Service Enablement** - Basic web services elements - Core web services standards stack - The Importance of WSDL - The design of SOAP - The use of registries via UDDI - The basic concepts of service orientation - Distributing Services Across a Network - Aligning functional and nonfunctional requirements - The role of Intermediaries in Service Networks - Modeling SOA building blocks - Using UML to analyze and design interfaces - Generating a domain model - Implementing and realizing Use Cases - Showing web service collaboration - Usage of communication diagrams.
4. **Enterprise Service Bus (ESB)** - Objectives - Service Invocation - Legacy System Integration - The role of ESB in SOA - Security and ESB - Process Driven Services - Service layer abstraction - Introduction to business process layer - Process patterns - Orchestration and choreography - WS-BPEL for process automation - Layered Architecture -The layers pattern - Classic three-their architecture - Application service layer - Business service layer - Orchestration service layer - Service Oriented Reference Model - Reference models and reference architectures - SOA vendors and their relationship with SOA - SOA support in .NET and J2EE platforms.
5. **SOA in Banking Domain** - Banking business processes – SOA in Core Banking Software – Case Studies.

***Syllabus covers 60% project and 40% Test**

BASIC TEXT BOOK AND REFERENCE:

1. ***Service-Oriented Architecture: Concepts, Technology and Design, Thomas Erl, Prentice Hall PTR, First edition, 2007 (Text Book)***
2. Service-Oriented Architecture: A Field Guide to Integrating XML and Web Services, Thomas Erl, Prentice Hall PTR, First edition, 2007
3. Enterprise SOA: Service-Oriented Architecture Best Practices, Dirk Krafzig, Karl Banke and Dirk Slama, Prentice Hall PTR, 2004
4. SOA Principles of Service Design, Thomas Erl, Prentice Hall PTR, First edition, 2007
   SOA Design Patterns, Thomas Erl, Prentice Hall PTR, First Edition, 2008.
5. Service Oriented Architecture, The Open Group, 2007

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
ELECTIVE: SOFTWARE ENGINEERING AND TECHNOLOGY STREAM

MBBT 616: SMART BANKING TECHNOLOGIES

Soft Core
3 Credits

Learning Objectives:

- **Introduction on Smart Banking**
- **Understanding of Smart Banking Technologies**
- **Practices on Smart Banking Technology.**

1. **Smart Banking** – Introduction – Characteristics of Smart Banking environment – Components and Technologies of Smart Banking environments – Issues in Smart Banking.

2. **Software Agents** – Introduction – Fundamentals - Agents as Tools of the Information Society - Fundamental Concepts of Intelligent Software Agents - Base Modules of Agent Systems - Development Methods and Tools – Applications - Application Areas for Intelligent Software Agents.

3. **RFID** – Introduction – RFID system components – Operating frequency – Close coupling smart cards – Proximity-coupling smart cards, Working of slotted Aloha – OSI layers and RFID, vicinity coupling smart cards, RFID security considerations – RFID Applications – Short range RFID applications, Long range RFID applications.

4. **Context Aware Computing** – Introduction – Structure and Elements of Context Aware Pervasive Systems – Context Aware Mobile Services – Context-Aware Artifacts – Context Aware Mobile Software Agents for Interaction with Web Services in Mobile Environment – Context Aware Addressing and Communication for People, Things and Software Agents – Context-Aware Sensor Networks – Context Aware Security.

6. **Case Studies in Software Agents**, RFID, Context Aware Computing.

***Syllabus covers 60% project and 40% Test**

BASIC TEXT BOOKS AND REFERENCES:

1. ***Intelligent Software Agents: Foundations and Applications, Walter Brenner, RudigerZarnekow, Hartmut Wittig, springer verlag 1998 (Text Book)***
2. RFID, Steven Shepard, McGraw Hill 2004 (Text Book)
3. Context-Aware Pervasive Systems: Architectures for a New Breed of Applications, SengLoke, Auerbach, 2006 (Text Book)
4. Agent Technology Handbook, Dimitris N. Chorafas, McGraw Hill 1997
5. RFID Implementation, Dennis Brown, McGraw Hill Osborne Media, 2006

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME

ELECTIVES

INFORMATION SECURITY STREAM

MBBT 621	Network Security Management	Soft 3Credits
MBBT 622	Secure Electronic Payment Systems	Soft 3Credits
MBBT 623	Information Security and Risk Management	Soft 3Credits
MBBT 624	Digital Crimes and Forensics Science	Soft 3Credits
MBBT 625	Security Metrics	Soft 3Credits
MBBT 626	Information Security Lab	Soft 2 Credits

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
ELECTIVE: INFORMATION SECURITY STREAM

MBBT 621: NETWORK SECURITY MANAGEMENT

Learning objectives **Soft Core**
3 Credits

- Understanding of Security Modals
- Understanding of security in different network layers
- Practices on Network Security Development

1 **Introduction** – Introduction to Network Security – Secure Network Design – Compliance with standards. Network device security: Administrative practices – Access control lists. Security Problem in TCP/IP Protocol suite: Identification of Security issues in Ethernet, ARP, IP, TCP, Application and Routing protocols.

2 **Security Models** – Military and Civil security, vulnerability and threat models – End-end security (COMSEC), link encryption (TRANSEC) – Compartments – privacy – Authentication – Denial of service – Non repudiation. Issues in multi-level secure systems. Internet security models: IPv4/IPv6 – encapsulation header.

3 **Security at Network Layer –** Routing algorithm vulnerabilities – Information hiding: DMZ networks – IPSec: IP security overview – IP security Architecture – security associations – security association database – security policy database – tunnel and transport mode.

3. **Security at Transport Layer: SSL and TLS** – Secure network infrastructure services –DNS, NTP, SNMP, SSL architecture, SSL/TLS Basic protocol, SSL Message Formats – Session key management – Blind key cryptosystems (NTP). **Security at Application Layer** – E-mail security – PGP – PEM – S/MIME.

4. **Firewalls and IDS** – Network partitioning, filewall platforms, partitioning models and methods – Secure SNMP – Secure routing interoperability **–** virtual networks – IDS – Honeypots – Honey nets – Source masking and hidden channels.

5. **Wireless Network Security** – Techniques of hacking wireless network – Countermeasures. **NOS Security issues**: Windows and Linux environment.

***Syllabus covers 60% project and 40% Test**

Text Books and References

1. **William Stallings, Cryptography and Network Security Principles and Practices, PHI Third Edition(Text Book)**
2. **Charles P. Pfleeger, Shari Lawrence Pfleeger, "Security in Computing", Fourth Edition, 2006(Text Book)**
3. Stalling W., "Network Security Essentials", Pearson
4. Garfinkel S., Spafford G., "Practical Unix and Internet Security", O'Reilly
5. Blackharski D., "Network Security in Mixed Environment"Scambray J. and Kurtz G., Hacking exposed: Network security secrets and solutions, McGraw-Hill, 1999

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
ELECTIVE: INFORMATION SECURITY STREAM

MBBT 622: SECURE ELECTRONIC PAYMENT SYSTEMS

Learning Objectives **Soft Core**

- Introduction on E-Commerce related security **3 Credits**
- Understanding in Security Algorithms and Architectures
- Understanding and Practices on E-Payment and Digital Money

1 **Overview of Electronic Commerce** – Introduction to Electronic Commerce – Internet and Transactional Security – Infrastructure for Electronic Commerce. **Money and Payment Systems:** Instruments of payment systems – Dematerialized currencies – Transactional properties of Dematerialized currencies.

2 **Algorithms and Architectures for Security** – Security of Commercial Transaction – Security Objectives – OSI Model for Cryptographic Security – Message confidentiality – Data Integrity – Identification and Authentication of the Participants.

3 **Secure Sockets Layer –** Functional models of SSL - SSL Security services – **TLS – WTLS – SET –**Security services of SET.

4 **Remote Micropayments:** Overview of Remote Micropayments – NetBill – Second Generation Systems – Prepaid Cards Systems – Systems Based on Electronic Mail – Minitel-like Systems.

5 **Digital Money** – Building blocks – DigiCash (Ecash) – Netcash. **Security of Integrated Circuit Cards**: Smart cards and their applications – Multiapplication smart cards – Limits on security.

***Syllabus covers 60% project and 40% Test**

Text books and References:

1. Mostafa Hashem Sherif, Protocols for Secure Electronic Commerce, CRC Press, Second Edition.
2. Stalling W., "Network Security Essentials", Pearson
3. Charles P. Pfleeger, Shari Lawrence Pfleeger, "Security in Computing", Fourth Edition, 2006.
4. Kurt Bauknecht, Sanjay K. Madria, Günther Pernul, Electronic Commerce and Web Technologies, Lecture Notes in Computer Science, August 27, 2001
5. Weidong Kou, Payment Technologies for E-Commerce, Springer, December 1, 2010.

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
ELECTIVE: INFORMATION SECURITY STREAM

MBBT 623: INFORMATION SECURITY AND RISK MANAGEMENT

Learning Objectives **Soft Core**

- Introduction to Right Assessment **3 Credits**
- Understanding of Risk Assessment Methodologies
- Understanding and Practices on Performance Assessment

1 **Introduction** – Introduction to assessing Network Vulnerabilities: type and procedure of network vulnerability assessment – Principles of Security: Information Classification – Policy framework – Role based security in an organization.

2 **Risk Assessment** – Laws – Mandates and Regulations – Risk assessment best practices.

3 **Risk Assessment Methodologies –** Defense – in depth approach – risk analysis – asset valuation approach – Quantitative and qualitative risk assessment approaches – Scoping the project – understanding the attacker.

4 **Performance Assessment:** Vulnerability scan and Exploitation – internet host and network enumeration – IP network scanning – Assessing remote information services – Assessing web servers – assessing web applications – assessing remote maintenance services – assessing database services – assessing windows networking services – assessing email services.

5 **Open source tools** – Open source tools used for Assessment and Evaluation, and exploitation framework – Final report preparation and post assessment activists.

***Syllabus covers 60% Case Studies and 40% Test**

Text Books and References:

1. **William Stallings, Cryptography and Network Security Principles and Practices, PHI Third Edition (Text Book)**
2. **Charles P. Pfleeger, Shari Lawrence Pfleeger, "Security in Computing", Fourth Edition, 2006 (Text Book)**
3. **Blackharski D., "Network Security in Mixed Environment" Scambray J. and Kurtz G., Hacking exposed: Network security secrets and solutions, McGraw-Hill, 1999 (Text Book)**
4. Stalling W., "Network Security Essentials", Pearson
5. Garfinkel S., Spafford G., "Practical Unix and Internet Security", O'Reilly

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
ELECTIVE: INFORMATION SECURITY STREAM

MBBT 624: DIGITAL CRIMES AND FORENSICS SCIENCE

Learning Objectives **Soft Core**
3 Credits

- Understanding of E-Procurement
- Understanding of Digital Crimes and Laws
- Understanding the practices of Forensic Science

1 **Introduction** – Laws, Investigation and Ethics – Digital Crime – Information Security and Law, Types & overview of Digital crimes – Ethical issues in Intellectual property rights – Copy Right – Patents – Data Privacy and protection – Domain name – Software privacy – Plagiarism – Issues in ethical hacking.

2 **E-Records, E-Discovery and Business Law:** E-Discovery – Records Retention – Destruction – Email Retention – Forensics – Privacy Policies – Evidence Law – Signatures. IT Security Laws and Policy: Security policy, Non-disclosure agreements and terms of use, Honeypots and Entrapment – Active Defenses – Hacking Back.

3 **Forensic Technology –** Introduction to computer forensics, use for forensics in law enforcement – employment proceedings – computer Forensics services. Types of computer Forensics Technology – Military, law, spyware and Adware – Biometrics security Systems.

4 **Types of Computer Forensics Systems:** Internet security, IDS, Firewall, Public key, net privacy systems, vendor and computer Forensics services. Computer Forensics evidence and capture: Data recovery, evidence collection and data seizure, duplication and preservation of digital evidence, computer image verification and authentication.

5 **Computer Forensics Analysis** – Discovery of electronic evidence – electronic document discovery – identification of data – time keeping – forensic identification and analysis of technical surveillance devices – Reconstructing fast events.

***Syllabus covers 60% Project and 40% Test**

TEXT BOOKS AND REFERENCES

1. **Nina Godbole, Sunit Belapure, Cyber Security: Understanding Cyber Crimes, Computer Forensics and Legal Perspectives, Willey.(Text Book)**
2. **John R. Vacca, Computer forensics:computer crime scene investigation,Volume 1 (Text Book)**
3. Sood,"Cyber Laws Simplified", McGraw Hill
4. 2. Anthony Reyes, "Cyber Crime Investigations: Bridging the Gaps Between Security
5. Professionals, Law Enforcement, and Prosecutors"

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
ELECTIVE: INFORMATION SECURITY STREAM

MBBT 625: IT SECURITY METRICS

Learning Objectives **Soft Core**

- Introduction of Software Metrics **3 Credits**
- Understanding Security Process Management
- Practices on Security Measurements

1 Introduction to Security Metrics – Metrics and Measurements – Security metrics today – Risk – Security vulnerabilities and incident statistics – Return on Investment – Ownership cost- Lessons from Industries - Designing effective security metrics – Understanding data.

2 Security Process Management – Managing security as a Business Process – Security Process Management Framework – Analyzing Security Metrics Data – Analysis Tools and Techniques: Descriptive Statistics – Inferential Statistics – Other Statistical Techniques – Quantitative and Mixed Method Analysis.

3 Designing the security measurement project - Measuring security operations – General Risk Assessment – Internal vulnerability assessment – Inferential Analysis – Measuring Compliance and Conformance – Measuring Security cost and value – Measuring People, Organizations and Culture.

4 Security Improvement Program – Learning Security: Different contexts for Security Process Management.

5 Case studies on Enterprise Metrics – Web application Vulnerabilities etc.

***Syllabus covers 60% Project and 40% Test**

Text Books and References:

1. **IT Security Metrics, A Practical Framework for Measuring Security & Protecting Data, Lance Hayden, Tata McGraw-Hill PVT LTD. (Text Book)**
2. **Information Security Management Metrics A Definitive Guide to Effective Security Monitoring and Measurement 1st Edition, by W. Krag Brotby, Taylor & Francis Group Published in 2009, ISBN-10:1420052853, ISBN-13:9781420052855 (Text Book)**
3. Pragmatic Security Metrics: Applying Metametrics to Information Security, by W. Krag Brotby and Gary Hinson, CRC Press, 2013
4. Information Systems Security: Security Management, Metrics, Frameworks And Best Practices, by Nina Godbole, Wiley India Private Limited, 2008.
5. Metrics and Methods for Security Risk Management, by Carl Young, Elsevier, 2010

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
ELECTIVE: INFORMATION SECURITY STREAM

MBBT 626: INFORMATION SECURITY LAB

Soft Core
2 Credits

Every student has to choose a project related to information security and implement the same as part of this course. Implementation is to be done by adopting software engineering methodology. Object oriented design approach is to be adopted. After implementation a report is to be prepared and submitted.

For the Mini Project, the following documents are to be prepared:

1. ***Project Planning:*** Thorough study of the problem, Identification of the project's scope, objectives, Infrastructure and cost estimation
2. ***Software requirement Analysis:*** Feasibility study - Documentation of all the requirements as per the Software Requirement Specification – conventions.
3. ***Design and Development:*** Preparation of use case, collaboration or sequence, class, object, package, deployment diagrams and coding of the project.
4. ***Software Testing:*** Prepare test plan, test case and perform validation testing.

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME

ELECTIVES

BIG DATA ANALYTICS AND STORAGE STREAM

MBBT 631	Data Science and Big Data Analytics	Soft 3Credits
MBBT 632	Cloud Infrastructure and Services	Soft 3Credits
MBBT 633	Backup Recovery Systems and Architecture	Soft 3Credits
MBBT 634	Information Systems Control and Audit	Soft 3Credits
MBBT 635	Data Analytics and Social Networking	Soft 3Credits
MBBT 636	Data Visualization and Business Intelligence Reporting	Soft 3Credits

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
ELECTIVE: BIG DATA ANALYTICS AND STORAGE STREAM
MBBT 631: DATA SCIENCE AND BIG DATA ANALYTICS

Soft Core
3 Credits

Learning objectives*:*
This course provides practical foundation level training that enables immediate and effective participation in big data and other analytics projects. It establishes a baseline of skills that can be further enhanced with additional training and real-world experience. The course provides an introduction to big data and a Data Analytics Lifecycle Process to address business challenges that leverage big data. It provides grounding in basic and advanced analytic methods and an introduction to big data analytics technology and tools, including MapReduce and Hadoop. The course has extensive labs throughout to provide practical opportunities to apply these methods and tools to real-world business challenges and includes a final lab in which students address a big data analytics challenge by applying the concepts taught in the course in the context of the Data Analytics Lifecycle.

1 **Introduction to Big Data Analytics:** Big Data Overview, State of the Practice of Analytics, Big Data Analytics in Industry Verticals. Overview of Data Analytics Lifecycle, Discovery, Data Preparation, Model Planning, Model Building, Communicating Results and Findings, Operationalizing.

2 **Using R for Initial Analysis of the Data:** Introduction to Using R Initial Exploration and Analysis of the Data Using R Basic Data Visualization Using R.How to use the R package as a tool to perform basic data analytics, reporting, and apply basic data visualization techniques to sample data. Apply basic analytics methods such as distributions, statistical tests and summary operations, and differentiate between results that are statistically sound vs. statistically significant. Identify a model for sample data and define the null and alternative hypothesis

3 **Advanced Analytics and Statistical Modeling for Big Data – Theory and Methods:** Examining analytic needs and select an appropriate technique based on business objectives; initial hypotheses; and the data's structure and volume. Apply some of the more commonly used methods in Analytics solutions Explain the algorithms and the technical foundations for the commonly used methods. Explain the environment (use case) in which each technique can provide the most value. Use appropriate diagnostic methods to validate the models created. Use R and in-database analytical functions to fit, score and evaluate models.

4 **Advanced Analytics and Statistical Modeling for Big Data – Technology & Tools:** Learning various tools to Perform Analytics on Unstructured data using MapReduce Programming paradigm. Use Hadoop, HDFS, HIVE,PIG and other products in the Hadoop ecosystem for unstructured data analytics. Effectively use advanced SQL functions and Greenplum extensions for in-database analytics. Use MADlib to solve analytics problems in-database

5 **Endgame - Operationalizing an Analytics Project:** The various tasks needed to operationalize an analytics project. Deliverables of an analytics lifecycle project.Framework for creating final presentations for sponsors and analysts.Evaluation of data visualization and ways to improve – Application of these concepts to a big data analytics problem in the final lab.

***Syllabus covers 60% Project and 40% Test**

Text Book and References:

1) Analytics in Practice, Author: SoumendraMohanty, Publisher: Tata Mcgraw Hill Education (2011), ISBN-13:-9780070707061(Text Book)

2) Agile Analytics: A Value-Driven Approach to Business Intelligence and Data Warehousing, Author: Ken W. Collier Publisher: Pearson Education (2012), ISBN-13:- 9788131786826

3) MapReduce Design Patterns, Author: Donald Miner, Publisher: O'Reilly (2012), ISBN-13:- 9789350239810

4) C. Bishop, Pattern Recognition and Machine Learning, Springer 2007.

5) Airoldi, E.M., Blei, D.M., Fienberg, S.E., & Xing, E.P. (2008). Mixedmembership stochastic blockmodels

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
ELECTIVE: BIG DATA ANALYTICS AND STORAGE STREAM
MBBT 632: CLOUD INFRASTRUCTURE AND SERVICES

Soft Core
3 Credits

Learning objectives:
This course focuses on Cloud Infrastructure and Services (CIS), cloud deployment and service models, cloud infrastructure, and the key considerations in migrating to cloud computing. The course covers technologies required to build classic (traditional), virtualized, and cloud data center environments. These technologies include compute, storage, networking, desktop and application virtualization. Additional areas of focus include backup/recovery, business continuity, security, and management. Students will learn about the key considerations and steps involved in transitioning from the current state of their data center to a cloud computing environment. Upon completing this course, students will have the knowledge to make informed decisions about migrating to cloud infrastructure and choosing the best deployment model for their organization.

1. **Introduction to the Cloud Computing:** Business drivers, definition, essential characteristics, and phases of journey to the Cloud. Business drivers for Cloud computing, Definition of Cloud computing, Characteristics of Cloud computing as per NIST, Steps involved in transitioning from Classic data center to Cloud computing environment.

2. **Classic Data Center (CDC):** The key elements of CDC – compute, storage, and network, with focus on storage networking, business continuity, and data center management. Application, DBMS, Compute, Storage and Networking, Object based and Unified storage technologies, Business continuity overview and backup, Replication technologies, CDC Management.

3. **Virtualized Data Center (VDC):** Virtualization of core technologies in a data center, leading to Virtualized Data Center (VDC).Fundamental concepts of compute, storage, networking, desktop and application virtualization. Concepts and techniques employed for ensuring business continuity in a virtualized data center. Compute, Storage, Network virtualization techniques, Virtual machine (VM) components and process of converting physical to VMs, Block and file level storage virtualization, Virtual provisioning and automated storage tiering, Virtual LAN (VLAN) and Virtual SAN (VSAN) and their benefits, Key network traffic management techniques in VDC, Methods for implementing desktop virtualization, their benefits, and considerations, Application virtualization methods, benefits, and considerations, Backup and recovery of Virtual Machines (VMs), VM replication and migration technologies, Recovery options from total site failure due to a disaster

4. **Cloud Computing and Infrastructure:** Essential characteristics of Cloud Computing, Different Cloud services and deployment models, the economics of Cloud, Cloud infrastructure components, and Cloud service creation processes. Cloud service management processes that ensure that the delivery of Cloud services is aligned with business objectives and expectations of Cloud service consumers. Cloud services models, Cloud deployment models, Economics of Cloud, Cloud infrastructure components, Cloud service creation processes, Cloud service management processes.

5. **Cloud Security and Migration to cloud:** Key security concerns and threats and details Cloud model suitable for different categories of users. Security concerns and counter measures in a VDC and Cloud environment, Governance, Risk, and Compliance aspects in Cloud, Cloud security best practices, Cloud models suitable for different categories of users, Considerations for choosing applications suitable for Cloud, Different phases to adopt the Cloud

Syllabus covers 60% Project and 40% Test

Text Book and Reference Books:

1) **Cloud Computing: A Practical Approach Author: Anthony T. Velte, Publisher: Tata Mcgraw Hill Education Private Limited (2009), ISBN: 0070683514 (Text Book)**
2) Cloud Computing For Dummies Author: Halper Fern, Kaufman Marcia, Bloor Robin, Hurwit Judith, Publisher: Wiley India Pvt Ltd (2009)
3) Toby Velte, Anthony Velte, Robert Elsenpeter, Cloud Computing, A Practical Approach
4) Tim Mather, SubraKumaraswamy, ShahedLatif, Cloud Security and Privacy: An Enterprise Perspective on Risks and Compliance
5) John Rittinghouse, James Ransome, Cloud Computing

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
ELECTIVE: BIG DATA ANALYTICS AND STORAGE STREAM

MBBT 633: BACKUP RECOVERY SYSTEMS AND ARCHITECTURE

Soft Core
3 Credits

Learning objectives:

- To provide an overview of Backup and Recovery infrastructure
- To provide knowledge about backup and recovery theory, including backup methods, planning and key terminology
- The course focuses on the concepts and technologies used in Backup and Recovery environments

1 **Backup Theory:** This unit provides an introduction to backup and recovery, including the reasons for performing backups, definition of common backup and recovery terms, and a look at the flow of data in typical client/server backup and restore operations. Backup and Recovery Overview Backup/Recovery Methods and Operations.

2 **Information Storage Concepts:** This unit introduces disk architecture and storage systems including storage area networks (SAN) and network attached storage (NAS)..Introduction to Storage Systems, Protecting Disks in Arrays, Intelligent Storage Systems, Direct-Attached Storage, SCSI Architecture, Storage Area Networks, Network-Attached Storage, Protecting Data in External Storage, Continuous Data Protection. The unit concludes with a discussion of storage system features that are used in backup and recovery operations

3 **Backup Client:** This unit focuses on the various sources of backup data including file system data and several types of databases, including Oracle, Microsoft SQL, and Exchange, Protecting Data in File Systems vs. Applications, Microsoft Volume Shadow Copy Service, File Servers, Virtualization, Client and Remote Office Backups, Backup Considerations and Challenges.

4 **Backup Storage Node:** This unit looks at backup and recovery from the perspective of the storage node, including the various protocols used when writing data and the advantages and disadvantages of the various types of backup storage media Storage Node Components, Protocols, Backup to Physical Tape, Backup to Disk, Backup to Virtual Tape, Deduplication Systems, Cloud Storage.

5 **Backup and Recovery Planning:** This unit examines the various factors to be considered in backup and recovery planning, Management and Testing, Disaster Recovery Considerations, Students are given the opportunity to use the concepts they have learned in the course to develop a proposed solution that addresses the backup and recovery concerns of a sample company's backup and recovery concerns.

***Syllabus covers 60% Project and 40% Test**

Text Book and ***Reference Book:***

1) **Pro Data Backup and Recovery Author: Steven Nelson, Publisher: Apress (2011), ISBN: 9788132205876 (Text Book)**
2) Disaster Recovery & Business Continuity: Author: Thejendra BS, Publisher: Shroff / IT Governance Publishing ISBN:- 9788184043310
3) "Backup Recovery Systems and Architecture Student Guide", EMC Education Services, 2013.
4) Oracle DBA Backup and Recovery Quick Reference (The Prentice Hall Ptr Oracle Series)
5) Pro Data Backup and Recovery by Steven Nelson

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
ELECTIVE: BIG DATA ANALYTICS AND STORAGE STREAM

MBBT 634: INFORMATION SYSTEMS CONTROL AND AUDIT

Soft Core
3 Credits

Learning Objectives:
This course focuses on the audit and control aspects of information systems. It also deals with the risks, controls, and audit to information systems. This course emphasizes on the management control framework, data resource management controls, application control framework and processing controls. It also enables student to carry out projects which will provide experience in audit and control.

1. Introduction – Overview of Information Systems Auditing – Need for Control and Audit of Computers – Effects of Computers on Internal Controls – Effects of Computers on Auditing – Foundations of Information Systems Auditing - Conducting an Information Systems Audit – Audit risks – Types of Audit Procedures – Auditing around or through the computer.

2. Management Control Framework – Top Management Controls – Systems Development Management Controls –Programming Management Controls

3. Data Resource Management Controls – Security Management Controls – Operations Management Controls – Quality Assurance Management Controls

4. The Application Control Framework – Boundary Controls – Input Controls - Communication Controls

5. Processing Controls – Database Controls – Output Controls

***Syllabus covers 60% Case Studies and 40% Test**

Text Book and **References Books.**

1. Ron Weber, "Information System Control and Audit", Prentice Hall, 1998.
2. Dube, D.P. and Gulati V.P., ―Information System Audit and Assurance (Including CaseStudies and Checklists from the Bank), Tata McGraw-Hill, 1st edition.
3. Frederick Gallegos, Daniel P. Manson, Sandra Senft, and Carol GonzalesGallegos, ―Information Technology Control and Audit‖, Auerbach Publications, Second Edition, 2004
4. Alexander, Michael. 2007. Microsoft Access 2007 Data Analysis. Wiley. ISBN 978-0-470-10485-9
5. Mayor-Schönberger, V., and K. Cukier. Big Data. First Mariner Books

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
ELECTIVE: BIG DATA ANALYTICS AND STORAGE STREAM

MBBT 635: DATA ANALYTICS AND SOCIAL NETWORKING

Soft Core
3 Credits

Learning Objectives:

- To understand the components of the social network
- To model and visualize the social network
- To mine the users in the social network
- To understand the evolution of the social network
- To mine the interest of the user

1 **INTRODUCTION:** Introduction to Web - Limitations of current Web – Development of Semantic Web – Emergence of the Social Web – Statistical Properties of Social Networks - Network analysis - Development of Social Network Analysis - Key concepts and measures in network analysis - Discussion networks - Blogs and online communities - Web-based networks

2 **MODELING AND VISUALIZATION:** Visualizing Online Social Networks - A Taxonomy of Visualizations - Graph Representation - Centrality- Clustering - Node-Edge Diagrams - Visualizing Social Networks with Matrix-Based Representations- Node-Link Diagrams - Hybrid Representations - Modelling and aggregating social network data – Random Walks and their Applications –Use of Hadoop and Map Reduce - Ontological representation of social individuals and relationships.

3 **MINING COMMUNITIES:** Aggregating and reasoning with social network data, Advanced Representations – Extracting evolution of Web Community from a Series of Web Archive - Detecting Communities in Social Networks - Evaluating Communities – Core Methods for Community Detection & Mining - Applications of Community Mining Algorithms - Node Classification in Social Networks.

4 **EVOLUTION:** Evolution in Social Networks – Framework - Tracing Smoothly Evolving Communities - Models and Algorithms for Social Influence Analysis - Influence Related Statistics - Social Similarity and Influence - Influence Maximization in Viral Marketing - Algorithms and Systems for Expert Location in Social Networks - Expert Location without Graph Constraints - with Score Propagation – Expert Team Formation - Link Prediction in Social Networks - Feature based Link Prediction – Bayesian Probabilistic Models - Probabilistic Relational Models

5 **TEXT AND OPINION MINING:** Text Mining in Social Networks -Opinion extraction – Sentiment classification and clustering - Temporal sentiment analysis - Irony detection in opinion mining - Wish analysis - Product review mining – Review Classification – Tracking sentiments towards topics over time

***Syllabus covers 80% project and 20% Test**

Text Book and References

1. Charu C. Aggarwal, "Social Network Data Analytics", Springer; 2011(Text Book)
2. Peter Mika, "Social Networks and the Semantic Web", Springer, 1st edition, 2007. (Text Book)
3. Borko Furht, "Handbook of Social Network Technologies and Applications",Springer,1ed, 2010. (Text Book)
4. Guandong Xu , Yanchun Zhang and Lin Li, "Web Mining and Social Networking – Techniques and applications", Springer, 1st edition, 2011.
5. Giles, Mark Smith, John Yen, "Advances in Social Network Mining and Analysis", Springer, 2010.

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
ELECTIVE: BIG DATA ANALYTICS AND STORAGE STREAM

MBBT 636: DATA VISUALIZATION &BUSINESS INTELLIGENCE REPORTING

Soft Core
3 Credits

OBJECTIVES:

- To introduce visual perception and core skills for visual analysis
- To understand visualization for time-series analysis
- To understand visualization for ranking analysis
- To understand visualization for deviation analysis
- To understand visualization for distribution analysis
- To understand visualization for correlation analysis
- To understand visualization for multivariate analysis
- To understand issues and best practices in information dashboard design

1. **CORE SKILLS FOR VISUAL ANALYSIS:** Information visualization – effective data analysis – traits of meaningful data – visual perception – making abstract data visible – building blocks of information visualization – analytical interaction – analytical navigation – optimal quantitative scales – reference lines and regions – trellises and crosstabs – multiple concurrent views – focus and context – details on demand – over-plotting reduction – analytical patterns – pattern examples

2. **TIME-SERIES, RANKING, AND DEVIATION ANALYSIS:** Time-series analysis – time-series patterns – time-series displays – time-series best practices – part-to-whole and ranking patterns – part-to-whole and ranking displays – best practices - deviation analysis – deviation analysis displays – deviation analysis best practices

3. **DISTRIBUTION, CORRELATION, AND MULTIVARIATE ANALYSIS:** Distribution analysis – describing distributions – distribution patterns – distribution displays – distribution analysis best practices – correlation analysis – describing correlations – correlation patterns – correlation displays – correlation analysis techniques and best practices – multivariate analysis – multivariate patterns – multivariate displays – multivariate analysis techniques and best practices

4. **INFORMATION DASHBOARD DESIGN I:** Information dashboard – categorizing dashboards – typical dashboard data – dashboard design issues and best practices – visual perception – limits of short-term memory – visually encoding data – Gestalt principles – principles of visual perception for dashboard design

5. **INFORMATION DASHBOARD DESIGN II:** Characteristics of dashboards – key goals in visual design process – dashboard display media – designing dashboards for usability – meaningful organization – maintaining consistency – aesthetics of dashboards – testing for usability – case studies: sales dashboard, CIO dashboard, Telesales dashboard, marketing analysis dashboard

***Syllabus covers 80% project and 20% Test**

TEXT BOOKAND REFERENCES:

1. Stephen Few, "Now you see it: Simple Visualization techniques for quantitative analysis", Analytics Press (Text Book)

2. Stephen Few, "Information dashboard design: The effective visual communication of data", O'Reilly, 2006. (Text Book)

3. Edward R. Tufte, "The visual display of quantitative information", Second Edition, Graphics Press, 2001. (Text Book)

4. Nathan Yau, "Data Points: Visualization that means something", Wiley, 2013.

5. Ben Fry, "Visualizing data: Exploring and explaining data with the processing environment", O'Reilly, 2008.

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME

ELECTIVES

BANKING OPERATIONS STREAM

MBBT 641	Bank Fund Management	Soft 3Credits
MBBT 642	Credit Risk Management in Banks	Soft 3Credits
MBBT 643	Banking Supervision and Control	Soft 3Credits
MBBT 644	E-Banking Issues and IT Laws	Soft 3Credits
MBBT 645	ALM and CAR Practice – Internship Lab	Soft 2 Credits
MBBT 646	Emerging Trends in Banking	Soft 2 Credits

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
ELECTIVE: BANKING OPERATIONS STREAM

MBBT 641: BANK FUND MANAGEMENT

Soft Core
3 Credits

Course Objective:
To familiarize the students with the basic concepts of funds management in the banking business and understand the management process and practice with regard to management of various liabilities and assets component and develop learning and analytical skills to manage the funds of the bank judiciously and efficiently in order to improve the profitability.

1 **Fundamentals:** Understanding Bank Funds; Bank Balance Sheet; Source of Funds – Equity, Deposits, CASA Borrowings; Application of Funds – Loans and Advances, Investments; Cost of Funds – Yield on Funds – Financial Margin; Interest Rates - Repo rate – Reverse Repo - Traditional Vs Modern Fund Management – Asset Liability Management Concept – Pricing of Assets & Liabilities- Basel Committee.

2 **Liquidity Management:** Definition of liquidity - Liquidity Management Practices in Banks – Cash Management - Cash Reserve Ratio (CRR)- Statutory Liquidity Ratio (SLR) - Maintenance of CRR / SLR - RBI Guidelines and regulations, Funding Liquidity - Trading / Managing Liquidity - Contingency Funding - Important provisions of Banking Regulation Act – Compliance - Penalties.

3 **Investments Management:** Investment Objectives and Process; Bond Valuation and Equity Valuation; Fundamental and Technical analysis; Efficient Market Theory- Portfolio Construction and Investment Process; Risk and Return; Markowitz Portfolio selection model; Sharpe Index Model; Capital Asset Pricing Model; Arbitrage Pricing Theory;Bond Portfolio Management Strategies - Valuation and Pricing; SLR and Non SLR Investments - Exposure Norms for Investments.

4 **Credit Management:** Definition of credit - Credit Appraisal - Credit Appraisal techniques - trade cycle - credit rating - Technical and economic feasibility- Risk Assessment and Control – Credit rating - Credit Policy- Credit Scoring - Credit Delivery System - Term Lending – Infrastructure financing - Working Capital Fianancing, Cash Credit Loan- Mortgage loan, Debt- Service Coverage Ratio - Documentation - Post sanction Supervision, Control and monitoring of credit - Documentation- Insurance – Collection Methods and Legal Action - Role of credit Department - Consortium finance, Multiple banking, Syndication of loans - Exposure norms – Best Practices.

5 **Balance Sheet Management** Prudential regulation - IRAC Norms - Capital Adequacy - RBI guidelines- ALM Implementation - Gap Analysis - Mechanics, Assumptions, and Limitations - Relationship Between Gap and Income Statement – Ratios- Business Strategies: NPA Management - Effect of NPA on profitability, Shareholder value maximization & EVA - profit planning- MIS and Reporting -Disclosure guidelines.

Text Books and Reference:

1. John A. Haslem, Bank Funds Management: Text and Readings, Prentice Hall (Higher Education Division, Pearson Education), ISBN: 9780835903660.
2. IIBF, Bank Financial Management, Palgrave Macmillan, ISBN: 9780230330467
3. Ray Russell, An Introduction to Fund Management
4. Andrew Fight, Credit Risk Management Paperback
5. Ramachandran A, Kavitha. N, Funds Management in Commercial Banks: Indian Perspectives VDM Verlag, ISBN: 9783639327359

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
ELECTIVE: BANKING OPERATIONS STREAM

MBBT 642: CREDIT RISK MANAGEMENT

Soft Core
3 Credits

Course Objective:
To make the student understand the basic concept of credit risk management in banks and introduce various forms of credit risk faced by banks with a view to provide necessary knowledge and input besides imparting the skills required to mitigate and manage the credit risk as a professional risk manager.

1. **Need for risk management in Banks:** Basle I Accord - Banking supervision -Basle Accord II. – Credit Process – Operational Practices and Credit Environment – Lending Objectives – Credit selection process – Transaction Risk exposure – Financial products in the extension of Business credit – Credit Policy – Role of Credit Department.

2. **Credit Facility and Credit risk**: Financial risks – Banking and Non Banking Institutions - Company specific risks – Risk evaluation – Fundamentals of Credit analysis – Credit Rating Systems and Practice – Credit Scoring - Loan classification – Credit Delivery System - Documentation - Post sanction -Supervision, Control and monitoring of credit - Term Lending- Infrastructure financing - Debt recovery tools.

3. **Credit Risk Measurement and Control:** Cash flow analysis – Comparative Statement - Common size Statement, Preparation of projected Financial Statements - Ratio analysis - Trend Analysis - Quantitative Models – Sensitivity and Simulation – Finding the Certainty levels – Expected default frequency - Value at Risk - Black-Sholes & Merton Models.

4. **Financial Distress Models and Credit Derivatives:** Bankruptcy risk – Credit Portfolio Management – Optimizing three variables of share holder's value, cost of capital and credit grade – Mc Kinsey Valuation Model – Pricing of Products - International Best Practice - International Swaps and Derivatives Association (ISDA) standard – Credit default swaps – Total Return Swaps – Regulatory concerns of Credit derivatives.

5. **Credit Management:** Structuring a Credit Proposal - Appraisal techniques- Technical and economic feasibility Analysis- Documentation- Consortium finance, Syndication of loans - Dealing with credit defaults, Stressed assets, Corporate Debt restructuring, IRAC Norms; Recovery options, Legal Options – Asset Reconstruction Companies - The Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest Act, 2002 (SARFAESI Act), write-off- Disclosure of the list of defaulters: objectives and procedure.

Basic Text Book and References:

1. Joetta Colquitt, Credit Risk Management, McGraw Hill, New Jersey (2007)
2. Michel Crouhy, Dan Galai and Robert Mark, Risk Management, McGraw Hill, NJ, 2000.
3 Robin Kendall, Risk Management for Executives, A practical Approach to Controlling Business Risks, FT Pitman Publishers.
4. William H Beaver and George Parker, Risk Management, Problems and Solutions, McGraw Hill.NJ.
5. VijayaBhaskar P and Mahapatra.B, Derivatives simplified An Introduction to Risk Management,Sage publications,2006.

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
ELECTIVE: BANKING OPERATIONS STREAM

MBBT 643: BANKING SUPERVISION AND CONTROL

Soft Core
3 Credits

Course Objective:
To make the students understand the fundamental principles of banking supervision and its practices in India from the regulatory perspective and the banks management aspects and familiarize the control systems in banks, so as to help the students to learn and develop the required skills to manage the banking operations effectively and efficiently.

1 **Effective Banking Supervision:** Bank for International Settlement (BIS) and its Role – Basel Committee Recommendations -Core Principles of Supervision – Preconditions for Effective Supervision – Supervisory Powers, Responsibilities and Functions of Supervisor - Prudential regulations and requirements – Criteria for assessment of compliance - International Financial Stability, International standards and codes - Role of Supervisor under Basel-II.

2 **Indian Banking System and Supervision:** Reserve Bank of India – Policies and Supervisory Guidelines - Board for Financial Supervision (BFS) – Department of Banking Supervision (DBS) and its Role and Functions –Board of Management of Banks – Roles and responsibilities of Board of Directors - Corporate Governance Practice - Risk Management System and Practice; Prudential Norms - Risks to Financial stability, Early warning signs and remedial action

3 **Internal Supervision and Control System:** Internal Supervision and Control Policy and System - Statutory Audit Practice and Concurrent Audit System; Internal audit functions in banks; House Keeping in Banks - Information Systems - Segregation of Duties - Audit Program - Record Keeping - Protection of Physical Assets – Training of Staff - Succession Planning; Banking Frauds and Preventive Vigilance -Recommendations of Jilani Committee relating to internal control systems in banks.

4 **External Supervision and Control System:** RBI supervision and inspection – On site Inspection – Annual Financial Inspection – CAMELS Rating - Off site surveillance (OSS) and Monitoring – Disclosure of accounts and balance sheets – Financial Reporting – Submission of returns to RBI; Independent audit committee of the board, Role of RBI nominees on the boards of banks, Compliance officer- role and functions; Role of Board of Directors.

5 **Computer Frauds Management:** Risk assessment; Security Controls – Preventive controls, Detective Controls, Corrective controls, Physical controls, Technical Controls and Adminstrative Controls; Other Controls- Deterrent Controls, Recovery controls, Directive Controls; Cryptography- Encryption, Public Key Infrastructure (PKI), Key Management, Cryptanalytic Attacks, Payment Security- IS Security - IS Audit.

Basic Text Book and References:

1. Charles Goodhart, Basel Committee on Banking Supervision,Cambridge University Press
2. Charles Goodhart, CA Goodhart, GoodhartCharle, Financial Regulation: Why, How and Where Now?,Routledge Publishers , ISBN : 0415185041
3. Basel Committee on Banking Supervision, BIS, 2012.
4. Charles Goodhart, Gerhard Illing, Financial Crises, Contagion, and the Lender of Last Resort: A Reader, Oxford University Press, USA, ISBN : 0199247218.
5. RBI Master Circulars on Supervision and Control System for Indian Banks.

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
ELECTIVE: BANKING OPERATIONS STREAM

MBBT 644: E-BANKING ISSUES AND IT LAWS

Soft Core
3 Credits

Course Objective:
To make the students understand the importance of cyber security in banks and familiarize with various kinds of cyber crimes with particular reference to banking operations and services today and make them understand the basics of cyber forensics, investigation and cyber security so that the students acquire necessary knowledge and understanding of cyber crimes in banks and the relevant legal framework to deal with such issues.

1. **Fundamentals ofCriminal Behaviour and cyber crime:**
Nature and fundamental principles of crime – Theories of Criminal Behaviour - Cyber crimes – definition, scope and growing dimensions – Cyber Criminals and characteristic- Nature and Types of cyber crimes - Cyber Crime Techniques; Computer insecurity and computer attacks; Internet Crimes and Internet Frauds; Computer Hacking and Hackers; Social Engineering; Digital signatures and forgery.

2. Emerging Banking Environment and Vulnerability:
Development in Banking Industry and Banking operations – Payment and Settlement; E-commerce, Online Banking and Crimes; Banking Software crimes, Computer Hacking – browsing, password cracking, session hijacking, man in the middle attack, Website hacking, DOS, DDoS, Source code theft - On-line banking crimes and Frauds - Spamming – Phishing - identity theft, cyber money laundering, intercepting electronic communication, Accounting frauds, forgery and counterfeiting; Vulnerability in Banks - Bank Failure and its impact on the system.

3. Cyber Forensics and Investigation:
Introduction to Cyber Forensic Investigation, Investigation Tools, e-Discovery, Digital Evidence Collection, Evidence Preservation, E-Mail Investigation, E-Mail Tracking, IP Tracking, E-Mail Recovery, Encryption and Decryption methods, Search and Seizure of Computers, Recovering deleted evidences, Password Cracking.

4. **Cyber Security in Banks:**
Introduction to Cyber Security, Implementing Hardware Based Security, Software Based Firewalls, Security Standards and Best Practices, Assessing Threat Levels, Penetration Testing Security Controls – Preventive, Detective and Corrective controls; Forming an Incident Response Team, Reporting Cyber crime, Operating System Attacks, Application Attacks, Cryptanalytic Attacks; Reverse Engineering & Cracking Techniques - Cryptography- Encryption- Public Key Infrastructure (PKI), Key Management - IS Security and IS Audit - Global initiatives and development.

5. Cyber Crimes and Legislative Framework:
Salient features of IT Act, 2000 and latest amendments – offenses and penalties – Amendments to Indian Evidence Act, 1872 - Amendments to Indian Penal Code, 1860 - Amendments to Bankers Book of Evidence Act, 1891 - Amendments to RBI Act, 1934 - Civil and criminal liability of cyber crime - Challenges of legislative, law enforcement and justice system – Indian and International Initiatives.

Books and References:

1. VermaAmita, Cyber Crimes and Law, Central Law Publications, Allahabad, 2009.
2. Dasgupta .M. , Cyber Crimes in India – A Comparative Study, Eastern Law House, Kolkata, 2009.
3. Barkha and Mohan Rama.U., Cyber Law and Crimes – IT Act 2000 and Computer Crime Analysis, Asia Law House, Hyderabad, 2009.
4. Eoghan Casey, Digital Evidence & Computer Crime, Forensic Digital Science, Computers and the Internet (Academic Press, 2000) Text Book
5. Cyber Crimes and Fraud Management, Macmillan, 2012.

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
ELECTIVE: BANKING OPERATIONS STREAM

MBBT 645: ALM AND CAR PRACTICE – INTERNSHIP LAB

Soft Core
2 Credits

Course Objective:
To make the students understand the importance of Asset Liability Management and Capital Adequacy for a banking institution and familiarize the students with the ALM and Capital Adequcy practice in banks with a view to develop the required knowledge and skill to manage the risk in banks.

PRACTICE PAPER

Class Room - Exercise

1. Introducing the concept of ALM and Capital Adequacy
2. Familiarizing the ALM and Capital Adequacy Internal Practices
3. Understanding the concept of ALM and its Practice in Indian Banks
4. Understanding the concept of the Capital Adequacy and its Practice in Indian Banks

Lab Exercise

- Working of ALM for select Banks using Gap Analysis and using other statistical methods
- Evaluation of ALCO functioning of select Indian Banks
- Critical Analysis of Capital Adequacy position of Select Indian Banks
- Comparative Analysis of Capital Adequacy position of Select Indian Banks with MN Banks

Sources:

- CMIE and RBI data Basis

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
ELECTIVE: BANKING OPERATIONS STREAM

MBBT 646: EMERGING TRENDS IN BANKING

Soft Core
2 Credits

Course Objective:
To make the students discuss, brainstorm, debate and role play the contemporary issues in banking business in order to understand and gain deeper knowledge in the field of Bank Management and also improve the communication skills to become a professional banker.

PRACTICE PAPER

This paper consists of discussion, debate, brainstorming and role play by the students – The teacher act as a facilitator in all the above activities. Some of the emerging issues are;

- Economic Environment and Monetary Policy - Examine the impact of monetary policy on banks, inflation, the housing market and the economy.
- Bank as a Financial Intermediary and Deposit Creator - Examine the role of the bank as a financial intermediary and deposit creator.
- Emerging Issues in Banking Risk and Risk Management Practices – Indian and International Practice – Examine and analyze international factors impacting on banks
- Regulation and Competitive Environment – Critically analyze the regulatory framework and the competitive environment in which banks operate.
- Consolidation in Banking Industry – International and Indian Experience and Examine the critical issues
- Financial Literacy and Financial Inclusion – Critically review the progress and challenges for the banks.
- Innovation and Technology- Critically review the latest trends in innovation and technology in banking.
- Impaired Assets in Indian and Internal Banking – Examine the reasons and challenges for the banks.
- Productivity and Efficiency in Indian and International Banks – Critically analyze the productivity performance of Indian and international banks.

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME

ELECTIVES

FINANCIAL SERVICES STREAM

MBBT 651	Financial Services Intermediaries and Regulators	Soft 3Credits
MBBT 652	Merchant Banking Financial Services	Soft 3Credits
MBBT 653	Management of Mutual Funds	Soft 3Credits
MBBT 654	Electronic Financial Services	Soft 3Credits
MBBT 655	Marketing of Financial Services	Soft 3Credits
MBBT 656	Security Market Operations Lab - Internship	Soft 2Credits

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
ELECTIVE: FINANCIAL SERVICES STREAM

MBBT 651: FINANCIAL SERVICES INTERMEDIARIES AND REGULATORS

Soft Core
3 Credits

Learning Objectives

1. To introduces meaning and functions of Financial Intermediaries
2. To understand the role of Financial Intermediaries
3. To understand the role and functions of Financial Regulators

1. Financial services – need for financial services, various types of financial service: Fund based and Non-Fund based - Financial Markets- Meaning, Types, Classification of Financial Markets - Financial Institutions: Broad Categories- Special Characteristics, Money Market Institutions, Capital Market Institutions, Financial Services Institutions, Functions and structure introduced - Stock Exchanges - Constitution, control, functions

2. Financial Intermediation: Depository Institutions - Characteristics and role of financial intermediaries - Depository Institutions and financial services- NSDL – CDSL - Non-Depository institutions and their role - Clearing Corporation of India Ltd, Discount and Finance House of India Ltd - Role of governance and regulatory bodies.
   Commercial Banks and industrial finances - Bank credit: Working Capital and bank funds; Term lending. Developing a credit information system. Credit Rating Agencies – Nature – Factors considered – Rating procedure – Instruments rated – Revisions in rating

3. Financial Regulators – Types – Role – Functions - Ministry of finance (MOF), Ministry of corporate affairs (MCA), Reserve Bank of India (RBI) - its role as regulator

4. Security Exchange Board of India (SEBI) and its role as regulator

5. Insurance Regulatory and Development Authority (IRDA), Forward Markets Commission (FMC) - its role as regulator - Recent developments in financial regulations

Basic Text Book and Reference Books

1. Financial Services, Thummuluri Siddaiah, Pearson India, 2012
2. Khan M.Y, Indian Financial System, Tata McGraw Hill, 2014
3. Meir Kohn, Financial Institutions and Markets, McGraw Hill Publishing Company, New York.2008
4. Bhole M.K., Financial Markets and Institutions, Macmillan Publishing Co. Inc., New York.2010
5. Auerbach Robert D., Finance Markets and Institutions, Macmillan Publishing Co. Inc., New York.2012

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
ELECTIVE: FINANCIAL SERVICES STREAM

MBBT 652: MERCHANT BANKING FINANCIAL SERVICES

Soft Core
3 Credits

Learning Objectives

1. To introduces meaning and functions of Merchant Banks
2. To understand the role of merchant bank and its services
3. To understand the Merchant Banking Regulatory Frameworks

1. Merchant Banking – Functions, Merchant Banking in India, SEBI guidelines for Merchant Bankers - Role of merchant bankers in fund raising -Managing public issue- Issue pricing - Pre and Post issue –Book Building - private placement-raising of Funds through Bonds and public deposits – Underwriting of securities.

2. Role of Merchant Banker in Project counselling and Appraisal of Projects, Credit Syndication – Portfolio management – Working capital finance

3. Role of Merchant Banker in Foreign currency Financing – Pre-investment services – Capital Restructuring services – Merchant Banking Regulatory Frame works - Recent trends in merchant banking services

4. Role of Merchant Banker in - Mergers and Amalgamations - Revival and Restructuring of Sick Companies - Takeovers: Meaning and concept, types of takeovers, legal aspects - Funding of Mergers and Takeovers - Corporate Demergers / Splits and Divisions - Financial Restructuring: Buy-back of shares.

5. Fund based Financial services – Leasing – Hire purchase finance and consumer credit – Factoring and forfeiting – Bills discounting – House Financing - Insurance Services and products – Venture Capital Financing

Basic Text Book and References Books

1. H.R.Machiraju, Merchant Banking: Principles and Practice New Age International (P) Limited, New Delhi, 2005.
2. S.Gurusamy,Merchant banking and financial services, Thomson South – Western.
3. E.Gordon, K.Natarajan, Emerging Scenario of Financial Services, Himalaya Publishing House, Mumbai.
4. M.Y.Khan, "Financial Services" – Tata McGraw Hill, 3rd Edition, 2014.
5. Machiraju, Indian Financial System – Vikas Publishing House, 2nd Edition, 2012.

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
ELECTIVE: FINANCIAL SERVICES STREAM

MBBT 653: MANAGEMENT OF MUTUAL FUNDS

Soft Core
3 Credits

Learning Objectives

1. To introduces structure and types of Mutual Funds
2. To understand the measurement and evaluation of Mutual fund performance
3. To provide information regarding management of mutual funds and Regulations

1. INTRODUCTION TO MUTUAL FUNDS – Structure of Mutual Funds in India – Custodian – Role of AMC – NFO - Role of Registrar and Transfer Agents – Investors Right and Regulations

2. MUTUAL FUND PRODUCTS AND FEATURES – Open ended and Close ended – Equity Funds – Index Fund – Diversified large scale funds – Midcap funds – Sectoral funds – Other Schemes – NAV – Expenses Ratio – Portfolio turnover – Entry and Exit loads.

3. Gold ETF –salient features – Market making by Aps – Creation units, cash components, Portfolio deposit - Debt Funds – Interest Rate Risk Credit Risk – Pricing of Debt Instrument – Debt Mutual fund schemes - Liquid funds – salient features – Floating rate scheme – Portfolio churning in liquid funds

4. Fund distribution and sales practices and investor services: Distribution channel, sales practices, application and redemption, investment plans and services - Accounting, valuation, taxation of MFs, measurement and evaluation of MF performance - Capital gain taxation – Indexation - Regulation of MFs and MFs prospectus and balance sheet and offer document: Role of regulator in India and self regulatory organization (SROs) and investors rights and obligations, contents of offer document, the key information memorandum - SIP – STP – SWP – Choosing between Dividend payout, Divident Reinvestment and growth options.

5. Management of MFs (Investor advisory services): Helping investors with financial plan and recommending financial planning strategies to investors; Strategies of investors in MF investing: Selecting the right investment products, understanding risk in fund investing and constructing model portfolio and selecting right fund.

Basic Text Book and Reference Books:

1. Mutual Funds in India: A Study of Investment Management by Amitabh Gupta - Anmol Publications
2. Financial Services by MY Khan, McGraw Hill Education (India) Private Limited, 7th edition 2013
3. Mutual Funds in India by Sadhak.H, Response Books New Delhi.
4. Mutual Fund Year Book 2000.
5. Financial services, ICFAI publication.

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
ELECTIVE: FINANCIAL SERVICES STREAM

MBBT 654: ELECTRONIC FINANCIAL SERVICES

Soft Core
3 Credits

Learning Objectives

1. To introduces various e-financial services and its applications
2. To provide e-services training
3. To create various e-applications

1. OTCEI - Dematerilisation – Demat account – Procedure for opening Demat account – Trading Account - Online Stock Trading - Online trading template - Different Types of Online Stock, Trading Accounts , How to Open a Stock Trading Account – Electronic Trading platform – Electronic Communication Networks (ECNs) - Online Stock Trading In India , Online Stock Trading System , Buy Stocks/Shares Online , Online Stock Trading Companies- Websites

2. How to Trade Stocks Online , Online Stock Trading Software , Trading through virtual stock market trading game using *Moneybhai*, MarketWatch, *wallstreetsurvivor, wallstreetsurvivor*, BSE's Stock Market CHALLENGE

3. Stock Trading through Mobile – Mobile Trading System - Different applications – How to open a mobile trading account – How to trade using mobile – Various service providers – Creation of new Mobile Applications

4. Stock trading through Social Networks – uses – procedure – applications – services of social networks – Creation of trading networks Dashboards – applications – How to use Professional Stock trading Dashboard – Creation of new Dashboard

5. Other E-Financial sevices – e-banking services - e-insurance services – e-tax services and e-filing of income tax – How to file e-tax returns

Basic Text Book and References Books

1. The Dynamics of Online Stock Trading (Finance Series) by Priya Raju and Raja Rajan T R (2006)
2. Trade Stocks Online (Wiley Online Trading for a Living) by Mark L. Larson
3. How I Enjoy Trading Stocks Online: The Principles of Cognitive Perception and Intuition by Manuel T Prospero MD
4. Options Trading: Understanding Options Trading For Beginners, How To Make Money Online With Options Trading! (... by Derek Stanzma (21 June 2014)
5. Guide to Intraday Trading by Ankit Gala & Jitendra Gala (1 August 2008)

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
ELECTIVE: FINANCIAL SERVICES STREAM

MBBT 655: MARKETING OF FINANCIAL SERVICES

Soft Core
3 Credits

Learning Objectives

1. To introduces concepts of Financial Services Marketing
2. To understand the role and functions of Financial Services Marketing

1. Marketing Management - Meaning, Importance and Functions - Marketing of Services - Product Research & Development - Test marketing of bank products - Product Life Cycle - Product Modification - New Product Development - Packaging and Branding of bank products

2. Diversification - Pricing of bank products and services - Objectives, Strategies and Methods - Factors Influencing the Pricing Decisions, Importance of Pricing.

3. Distribution – Factors Influencing - Direct and Indirect Channels of bank products - Physical Distribution – Channel

4. Functions and Services - Promotion - Promotion Mix and Role of Promotion in Marketing – Marketing Information Systems.

5. Role of DSA (Direct Sales Associates) / DMA (Direct Marketing Associates) in Bank Marketing - Channel Management - Selling function in a bank Portfolio and Wealth Management - Tele marketing / Mobile Phone banking – Marketing through Social Networks.

Text Books and Reference Books

1. Macmillan, Marketing of Banking Services, Macmillan India Limited. (Text Book)

2. Marketing of Financial Services by Dr. Dhananjay Bapat(Text Book)

3. C B Gupta & Rajan Nair, Marketing Management, Sultan Chand & Sons
4. S Arora, Marketing of Financial Services, Deep and Deep Publications
5. R Keshavanathan, Banking and Insurance Management, Academic Excellence Publications

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
ELECTIVE: FINANCIAL SERVICES STREAM

MBBT 656: SECURITY MARKET OPERATIONS LAB – INTERNSHIP

Soft Core
2 Credits

Learning Objectives

1. To introduces the operations of Securities market
2. To understand the Trading process, settlement and legal frameworks

1. **OVERVIEW OF THE INDIAN SECURITIES MARKET -** Primary Market – Secondary Market – Key Indicators of secondary market – Index, Market Capitalization, Market Capitalization Ratio, Turnover, Turnover Ratio – Products and Participation – Market segments and their products.

2. **TRADING MEMBERSHIP -** stock brokers – exchange membership - *eligibility criteria for membership - admission procedure for new membership*- surrender of trading membership - suspension & expulsion of membership – brokers - broker-clients relations - sub-broker-clients relations.

3. **TRADING -** neat system - market types - trading system users hierarchy - local database - market phases - logging on - log off/exit from the application - neat screen - invoking an inquiry screen - order management - trade management – auction - limited physical market - block trading session - retail debt market - trading information downloaded to members - internet broking - wireless application protocol (wap).

4. **CLEARING, SETTLEMENT AND RISK MANAGEMENT -** key terminologies used in clearing and settlement process - transaction cycle - settlement agencies - clearing and settlement process - securities and funds settlement - shortages handling - risks in settlement - risk management - international securities identification number - data and report downloads.

5. **LEGAL FRAMEWORK** - SEBI (intermediaries) regulations, 2008 - SEBI (prohibition of insider trading) regulations, 1992 - SEBI (prohibition of fraudulent and unfair trade practices relating to securities market) regulations, 2003 - the Depositories act, 1996 - Indian contract act, 1872 - Income tax act, 1961.
   FUNDAMENTAL VALUATION CONCEPTS - Time value of money - understanding financial statements - R*atio analysis.*

Text Books and Reference Books

1. PunithavathyPandian, Security Analysis and Portfolio Management, Vikas Publishing House Pvt. Ltd.
2. V. A. Avadhani, Investment and Securities Market in India , Himalaya Publishing House.
3. Prasanna Chandra, Security Analysis and Portfolio Management , Tata McGraw-Hill.
4. SanjeevAgarwal, A Guide to Indian Capital Market , Bharat Publishers
5. Ravi Puliani and Mahesh Puliani, Manual of SEBI , Bharat Publication

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME

ELECTIVES

CAPITAL MARKET STREAM

MBBT 661	Security Analysis and Portfolio Management	Soft 3Credits
MBBT 662	Financial Derivatives and Risk Management	Soft 3Credits
MBBT 663	Fixed Income Securities and Treasury Management	Soft 3Credits
MBBT 664	Financial Econometrics and Modeling	Soft 3Credits
MBBT 665	Asset pricing and Equity Research	Soft 3Credits
MBBT 666	Investment Analytics Lab	Soft 2 Credits

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
ELECTIVE: CAPITAL MARKET STREAM

MBBT 661: SECURITY ANALYSIS AND PORTFOLIO MANAGEMENT

Soft Core
3 Credits

1. **Investment:** Meaning – Features - Alternatives - Investment, Speculation and Gambling – Indian Capital Market – Primary Market and Secondary Markets – Processes of Buying and Selling Securities – Secondary Markets – Types – Stock Exchanges – OTCEI - Depository – Role of SEBI in security markets.

2. **Risk – Return Framework**: Security Returns – Measurement of Returns – Risk– Systematic and Unsystematic Risk

3. **Fundamental Analysis**: Meaning – Importance – Objectives - Analysis of Economic, Industry, and Company– Financial and Non-Financial Parameters – Technical Analysis: Meaning – Difference between fundamental analysis and Technical analysis - The Dow Theory – Technical indicators – Charting Techniques – Stock market indicators – Market Efficiency: Weak form – Semi-strong form – Strong form

4. **Portfolio Analysis** : Portfolio Returns and Risk – Mean Variance Criterion – Markowitz Diversification – Efficient Frontier – Dominance Principle – Optimum Portfolio – Utility Theory

5. **Asset Pricing Model** – Capital Market Theory – Capital Asset Pricing Model (CAPM) –
   Assumptions – Inputs - Capital Market Line - Security MarketLine – CAPM Anomalies

Basic Text Book & References:

1. Fisher & Jordan, 'Portfolio Management", Prentice Hall, New York, 2002.
2. Alexander, Gordon J and Sharpe, William F., Fundamentals of Investment, Englewood Cliffs, New Jersey, Prentice Hall Inc, 2004
3. Elton, Edwin J and Gruber, Martin J., Modern Portfolio Theory and Investment Analysis, John Wiley, NY, 2001
4. Lee, Cheng F., et. al., Security Analysis and Portfolio Management, Foresman, Scott, 1999 Jack Clark Francis, Investments, Prentice Hall Inc, NY, 2004
5. Bhalla V K, Investment Management: Security Analysis and Portfolio Management, S Chand, New Delhi 2002 (Text Book)

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
ELECTIVE: CAPITAL MARKET STREAM

MBBT 662: FINANCIAL DERIVATIVES AND RISK MANAGEMENT

Soft Core 3
Credits

1. **Derivatives:** Introduction - Evolution – Structure of Derivatives markets – Types of Derivatives – Underlying assets – Spot markets – Participants in Derivatives markets – Derivatives and Risk Management- Technical terminologies used in derivatives trading

2. **Derivatives Pricing Theory:** Option pricing – Black - Scholes Model – Assumptions – Derivation and Properties – Determination of volatility – Historical and Implied volatility – Option pricing on dividend paying stocks – Binomial Model – One period – Two period – Three Period – Infinite Periods – Option strategies – Put – Call Parity Theorem

3. **Futures:** Meaning – Evolution of futures contract – Over – the - Counter Market – Forward contracts – Types of traders in the derivatives markets – Specification of the futures contract – Difference between forward contract and futures contract – Convergence of futures price to spot price – Operation of margins – Role of clearing house – Forward and futures prices – investment assets versus consumption assets – short selling – Assumption and notation – Cost of carry – Delivery options – Hedging strategies using futures – Short hedges and long hedges – Basis risk – Minimum variance hedge ratio – Stock index futures

4. **Swaps:** Meaning – Mechanics of interest rate swaps – Valuation of interest rate swaps – Currency swaps – Valuation of currency swaps

5. **Trading & Clearance: Trading system:** Trader Workstation – Clearing entities – Open position calculation – Margin and settlement – Regulatory Framework – Risk Management – Accounting Issues

Basic Text Book & References:

1. **Hull J C, Options, Futures and Other Derivatives, Prentice Hall, NJ 2002 (Text Book*)***
2. Baye and Jansen, "Money, Banking and Financial Markets- An economics approach, AITBS Publishers & Distributors, Delhi, 1996
3. Marshal JF, "Futures and Options Contracting: Theory and Practice' south Western Publishing Company, NY 1991
4. Kolb R W, Futures, Options and Swaps, Blackwell Publishers, NY 2002

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
ELECTIVE: CAPITAL MARKET STREAM

MBBT 663: FIXED INCOME SECURITIES AND TREASURY MANAGEMENT

Soft Core 3
Credits

1. **Debt Instruments**: Fundamental Features – Indian Debt Markets – Market segments – Participants - Secondary Market for Debt instruments – Bond Market – SEBI (Disclosure and Investor Protection) guidelines 2008

2. **Analysis and Valuation of Bonds:** The present value model – The yield value model – Computing Bond yields – Nominal yield – current yield – Promised yield to maturity – Promised yield to call – Realized (Horizon) yield – Computation of future bond prices – Realized yield with differential re-investment rates – Price and yield determination on Noninterest dates – Yield adjustments for tax- exempt bonds – Bond valuation using spot rates – Determinants of interest rates – Term structure theories – Determinants of price volatility for bonds – Trading strategies – Duration measures – Modifies duration and bond price volatility – Duration and convexity for callable bonds

3. **Bond Portfolio Management Strategies:** Passive management strategies – Active management strategies – Global fixed income investment strategy – Core-plus bond portfolio management – Matched-funding Techniques

4. **Central Govt. Securities**: G-Secs – Tenor and Yields – Primary Issuance Process, Participants – SGL accounts – Dealers – Secondary Market – Negotiated Dealing system – T bills – Cut off Yields – State Govt. Bonds – Money market instruments -Call Money Markets – Participants

5. **Fixed Income Derivatives:** Meaning – Types – Mechanics for forward rate agreements – Guidelines for exchange traded interest rate derivatives.

Basic Text Book & References:

1. **Reilly, Brown, Investment Analysis and Portfolio Management, Cengage Learning, 8th Edition, 2008.**
2. Fixed-Income Securities. L. Martellini, P. Priaulet and S. Priaulet. John Wiley & Sons, Chichester, UK, 2003.
3. Website of National Stock Exchange,

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
ELECTIVE: CAPITAL MARKET STREAM

MBBT 664: FINANCIAL ECONOMETRICS AND MODELING

Soft Core 3
Credits

1. **Introduction to Econometrics** – Meaning – Different data types – Cross – section – Time series – Panel data

2. **Basic Regression Analysis** – Time series data – OLS with time series data – Dummy variables – Seasonality

3. **Multiple Linear Regression Model** – Estimation using method of OLS – Testing of Hypothesis – Specification errors – The assumption of Multi collinearity – Exact multi collinearity – Near and Exact Multi collinearity

4. **Univariate time series modeling and forecasting** – Introduction – Notation and concepts – Moving Average processes – Autoregressive processes – The partial autocorrelation function – ARMA Processes – Building ARMA models – Box – Jenkins approach – Modeling long run relationship in finance _ Stationarity and Unit root testing – Co-integration – Equilibrium correction models – Testing of co-integration in regression – Residual based approach – Lead – lag and long term relationships

5. **Modeling and Volatility and Correlation** – Models for volatility – Historical volatility – Implied volatility models – Autoregressive volatility models – Autoregressive conditionally hetroscedastic(ARCH) models – Generalized ARCH (GARCH) models – Extension to the basic GARCH models – The EGARCH models.

Basic Text Book & References:

1. **Damodar N. Gujarati and Sangeetha, Basic Econometrics Tata McGraw Hill , Edition 2007**
2. Chris Brooks, Introductory Econometrics for Finance, Cambridge University Press, Edition 2008
3. JeffreuM.Wooldridge, Econometrics, Cengage Learning, Edition,2009.

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
ELECTIVE: CAPITAL MARKET STREAM

MBBT 665: ASSET PRICING AND EQUITY RESEARCH

Soft Core 3 Credits

1. **Asset Pricing Theory** – Consumption based model and overview – Applying basic model – Mean variance frontier and Beta representation

2. **Asset Pricing Models** – Capital Asset Pricing Model (CAPM) – Intertemporal Capital Asset Pricing Model (ICAPM) – Comments on CAPM and ICAPM – Arbitrage Pricing Theory (APT) – APT vs ICAPM

3. **Fama – French Models** – Fama – Mecbeth Procedures - Three factor model – Multifactor model

4. **Contrarian and Momentum Strategies** – Debondt and Thaler model – Jegadeesh and Titman model – Carhart model

5. **Contemporary Issues in Asset Pricing Research**

Basic Text Book & References:

1. **Sanjay Sehgal, Multifactor Asset Pricing Models in Indian Stock Market, New Century Publications, Edition 2005**
2. John H.Cochrane, Asset Pricing, Priceton University Press, Edition 2001 **3. Journal of Finance**
4. **Journal of Financial Economics**

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
ELECTIVE: CAPITAL MARKET STREAM

MBBT 666: INVESTMENT ANALYTICS - LAB

Soft Core
2 Credits

Data Extraction

- Extraction of Industry wise data on select fundamentals
- Extraction of Company specific data
- Annual data on select indicators across companies in a given industry
- Data on select Big Business Houses in India
- Data on Capital structure designs of select industries
- Sector wise Stock Price Indices
- Company specific Price charts and identification of events

Excel Based Exercises:

- Estimation of Daily Returns, Weekly Returns, Monthly, Quarterly and Half yearly returns
- Calculation of Geometric Mean and Standard deviation to returns

Eviews based Exercises:

- Estimation of Beta for select stocks in select industries
- Working out of lead and lag relationship
- Calculation of correlation between fundamentals and stock returns
- Estimation of Simple Regression Equation between select firm values and market returns
- Estimation of Multiple Regression Equation between select firm values and market returns
- Dummy value regressions, step-wise regressions
- Univariate time series modeling
- Multivariate time series modeling

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME

ELECTIVES

INTERNATIONAL FINANCIAL STREAM

MBBT 671	Global Financial Markets & Instruments	Soft 3Credits
MBBT 672	International Financial Management	Soft 3Credits
MBBT 673	Forex and Currency Derivatives	Soft 3Credits
MBBT 674	Foreign Trade and Documentation	Soft 3Credits
MBBT 675	Bloomberg – International Finance Lab	Soft 2 Credits
MBBT 676	CMIE Corporate Finance Lab	Soft 2 Credits

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
ELECTIVE: INTERNATIONAL FINANCE STREAM

MBBT 671: GLOBAL FINANCIAL MARKETS AND INSTRUMENTS

Soft Core
3 Credits

1. Global Business Environment –World Economy–Developing and Developed Nations –Trade between countries –Trade Blocks and Regional Economic Cooperation – World Bank–IMF –WTO – Growths of Multinationals – Globalization.

2. International Financial System –Euro Currency Markets –International Money Market –Instruments –Global Debt problem –Debt and International Banks –LDC Debt crisis – GDRs, ADRs– Euro Bonds–FRN – Medium Term nodes.

3. Global Capital Markets –Major Stock Markets – International Equity Trading – Instruments –Private placement - structure and Regulations of International Equity and Bond Markets – New Issue procedure – Linkages between Domestic, Euro bond Secondary Markets.

4. Euro currency Derivatives –Currency Forward and Futures Markets – Currency Options – Option Combinations – Put – Call parity – Hedging – Trading on Volatility – Currency and Interest Rate Swaps – Swap valuation – Credit Risk of Swaps.

5. Global Commodity Markets – Globally Traded Commodities – Commodity price Indicators – Futures price and cost of carry – Backwardation – Linkage between commodity Futures and Interest Rate Futures – Commodities in a Portfolio – Commodity swaps - option based commodity Hedging.

Basic Text Book &References:

1. Ian H Giddy, "Global Financial Markets", AITBS Pub, Delhi 11 051.
2. Adhikary, Manab, "Global Business Management", Macmillan, New Delhi.
3. Avadhani V, International Finance: Theory and Practices, Himalaya, New Delhi.
4. Adrian Buckley, "Multi-National Finance", Prentice Hall, New Delhi.
5. PG Apte, International Financial Management, MacGraw Hill
Maurice,Levi.,InternationalFinance,McGaw Hill, NewDelhi.

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
ELECTIVE: INTERNATIONAL FINANCE STREAM

MBBT 672: INTERNATIONAL FINANCIAL MANAGEMENT

Soft Core
3 Credits

1. Globalization and Multinational Finance –Goals of International Financial Management – Globalization of the World Economy – International Monetary System – Flexible Exchange Rate System – Balance of Payments.

2. Foreign Exchange Markets - Exchange Rate Determinants – International Parity Relationships and Forecasting Foreign Exchange Rates – Currency Derivatives Market – Linkage Between Euro Dollar Market and Derivatives Prices

3. Exposure Management – Types of Exposure - Hedging – Exposure Netting Measurement of Economic Exposure – Translation Expoure - Tools to Handle – Political Risk and Country Risk – Interest Rate Exposure.

4. Financial Management in MNCs – FDI Cross Broader Acquisitions – International Portfolio Investments – Short Term International Financing – Long Term International Financing – Country Risk Analysis – Covered Deals – Money Market Hedge.

5. Multinational Capital Budgeting – Parent Cash flows, Project Cash flows – Multinational Cash Management – International Trade Finance – International Capital Structure and Cost of Capital – Global Shopping for Funds – Financial Swaps and Credit Derivatives – Long Term Borrowing in Global Capital Markets – Tax Implications on International Activities.

Basic Text Book &References:

1. Cheol S Eun, Bruce G Resnick, " International Financial Management", TATA McGraw Hill, New Delhi, 2008.

2. PG Apte, "International Financial Management",TATA McGraw Hill, New Delhi, 2013.
3. AnujVerma and Kogent Learning solution Inc, ".International Financial Management",Dreamtech, New Delhi, 2012.
4. Alan C Shapiro, "Multinational Financial Management",Prentice Hall, New Delhi, 2007.
5. Siddaiah T, "International Financial Management",TATA McGraw Hill, New Delhi, 2013.

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
ELECTIVE: INTERNATIONAL FINANCE STREAM

MBBT 673: FOREX AND CURRENCY DERIVATIVES

Soft Core
3 Credits

1. **The Foreign Exchange Market**: Organisation – Spot Vs Forward Markets–Bid and Ask rates – Inter bank Quotations – International Market Quotations – Cross Rates– Merchant Rates –FEDAI Regulations– Role of RBI.

2. **Exchange Rates** – Exchange rate systems – Gold Standard – Bretton Woods –Fixed Vs Floating Exchange Rate systems – Determinants of Exchange Rates –Exchange Controls.

3. **Foreign Exchange Transactions** – Purchase and Sale transactions – Spot Vs Forward transactions – Forward Margins – Inter bank Deals – Cover deals –Trading – Swap deals - Arbitrage Operations – Factors determining Forward margins.

4. **Ready and Forward Exchange Rates** – Principle types of Ready Merchantrates – Ready rates based on cross rates – Forward exchange contracts –Execution of Forward contracts – cancellation and Extensions – Dealing position –Exchange position – Cash position.

5. **Currency Derivatives** – Currency Forwards – Currency Futures– Currency Options – Exchange traded transactions – Financial Swaps –Forward Rate agreements –Interest Rate Options.

Basic Tex tBook and Referecnes:

1. ***Alan C Shapiro: Multinational Financial Management, Prentice Hall, New Delhi (Text Book).***
2. Francis Cherunilam :International Economics, Tata Mc Graw Hill Pub Ltd, NewDelhi
3. Ian H Giddy: Global Financial Markets, AITBS Publishers and Distributors, New Delhi
4. C Jeevanandam, Foreign Exchange : Practice, Concepts, Sultan Chand & Sons, New Delhi
5. Vijayabhaskar P and Mahapatra B., Derivatives Simplified, Respose Books, Sage Publications, New Delhi

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
ELECTIVE: INTERNATIONAL FINANCE STREAM

MBBT 674: FOREIGN TRADE AND DOCUMENTATION

Soft Core
3 Credits

1. **Introduction: Export documentation**; Foreign exchange regulations; ISO 9000 series and other internationally accepted quality certificates; Quality control and pre-shipment inspection; Export trade control; Marine insurance; Commercial practices.

2. **Export Procedures**: General excise clearances; Role of clearing and following agents; shipment of export cargo; Export credit; Export credit guarantee and policies; Forward exchange cover; Finance for export on deferred payment terms; Duty drawbacks.

3. **Import Procedures**: Import licensing policy; Actual user licensing; Replenishment licensing; Import-export passbook; Capital goods licensing; Export houses and trading houses.
4. **Export Incentives** : Overview of exportincentives-EPCG, Duty drawbacks, duty exemption schemes, tax incentives; Procedures and documentation.

5. **Trading Houses**: Export and trading houses schemes–criteria, procedures and documentation; Policy and procedures for EOU/FTZ/EPZ/SEZ units.

Basic Text Book& References:

1. ***Cherianand Parab: Export Marketing, Himalaya Publishing House, New Delhi (TextBook)***
2. Government of India: Handbook of Procedures, Import and Export Promotion, New Delhi.
3. Rathod, Rathor and Jani: International Marketing, Himalaya Publishing House, New Delhi.
4. Export –Import manual, Nabhi Publication, New Delhi Government of India: Export-Import Policy, procedures, etc.(Volumes I, II and II) New Delhi.

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
ELECTIVE: INTERNATIONAL FINANCE STREAM

MBBT 675: BLOOMBERG – INTERNATIONAL FINANCE LAB

Soft Core 2 Credits

List of Practicals

- Comparative Analysis of growth trends among different classes of countries
- Trends in GDP, Population, Prices, Human Living Index, Mortality, literary lands
- Trends in Exports and Imports of OECD Country Vs Developed world.
- Cross country comparison of Labor Migration
- Trends in International Banking Operation
- Financial Centre wise Investment Flows
- Global equity issues OTC and Private placement
- Global Sovereign Debt flows
- Financial Assistance of World Bank LMF
- FDI Flows across Asian and European Countries
- FII investment in North Vs South
- Trends in issue of Euro currency Bonds, GDRs, ADRs across Continents
- Comparison of International Equity Markets over last 5 years
- Global Financial Crisis – Effects and Recovery Trends
- Statistics of International Financial Settlements

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
ELECTIVE: INTERNATIONAL FINANCE STREAM

MBBT 676: CMIE CORPORATE FINANCE LAB

Soft Core
2 Credits

List of Practicals

Based on Annual Reports of Companies:

- Analysis of Financial Statements based on the any five select annual reports, Important Ratios, Funds Flow Analysis statements, Examining the trends over a period of time, Comparison between cross category ratios, cross sectional analysis

CMIE Based:

- Extraction of Industry wise data on select fundamentals •
  Extraction of Company specific data
- Annual data on select indicators across companies in a given industry •
  Data on select Big Business Houses in India
- Data on Capital structure designs of select industries •
  Sector wise Stock Price Indices
- Company specific Price charts and identification of events

Excel Based Exercises:

- Estimation of Daily Returns, Weekly Returns, Monthly, Quarterly and Half yearly returns
- Calculation of Geometric Mean and Standard deviation to returns •
  Estimation of Beta for select stocks in select industries
- Working out leads and lags in the stock

market SPSS Based Exercises:

- Calculation of correlation between funds and stock returns
- Estimation of Multiple Regression Equation between select firm values and market returns
- Dummy value regressions, step-wise regressions
- Multivariate Analysis : Factor Analysis and Principle Component Analysis •
  Discriminate functions and Credit Rating
- Cluster Analysis and Data distances

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME

ELECTIVES

MONEY AND DEVELOPMENT BANKING STREAM

MBBT 681	Monetary Policy & Central Banking	Soft 3Credits
MBBT 682	Development Banking	Soft 3Credits
MBBT 683	Rural Banking and Micro Finance	Soft 3Credits
MBBT 684	Corporate Governance and Ethics in Banks	Soft 3Credits
MBBT 685	Public Finance and Development Economics	Soft 3Credits
MBBT 686	Entrepreneurship and New Ventures – Internship Soft 2 Credits	

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
ELECTIVE: MONEY & DEVELOPMENT BANKING STREAM

MBBT 681: MOMENTARY POLICY AND CRENTRAL BANKING

Soft Core
3 Credits

Course Objective

The objective of this course is to expose students to the theory and functioning of the monetary Policy and the role of Central Banks in the Economy. It also discusses the conduct of monetary policy and its effect on interest rates, credit availability, price and inflation.

1. **Introduction**: Understanding money- Concept-functions of money-kinds money of measurement-theories of money supply determination-savings-investments-role of debit card-credit card-plastic money-electronic money

2. **Central Banking System:** RBI as Central Bank- **s**tructure-functions- working-reforms-current regulatory structure- reserve system- balance sheet; goals, targets, indicators

3. **Monetary Theory:** Reserve system-money creation-money multiplier-money supply- The Level of Prices and the Value of Money- money supply- money demand, and monetary equilibrium-Quantity theory-inflation- classical theory of money-modern theory of money and income

4. **Central Banking and Monetary Policy**- Functions-goals-targets-indicators and instruments of monetary control-monetary management in an open economy-Tools of monetary policy- conduct of monetary policy- effect of monetary injection-current monetary policy of India.

5. **Economics of Banking:** Understanding Interest Rates- Risk and Term Structure of Interest Rates- Interdependence of Markets and Interest Rates- Rational Expectations and Efficient Markets- Role of financial markets and institutions-problem of asymmetric information – adverse selection and moral hazard-financial crises.

Basic Text Book & References:

1. ***Mankiw, N. Gregory. Principles of macroeconomics. Cengage Learning, 2014.***
2. ***F. S. Mishkin and S. G. Eakins, Financial Markets and Institutions, Pearson Education, Latest Edition.***
3. ***M. Y. Khan, Indian Financial System, Tata McGraw Hill, Latest edition.***
4. *Mishkin, Frederic S., ed. Monetary policy strategy. Mit press, 2007.*
5. *Gans, Joshua, et al. Principles of economics. Cengage Learning, 2011.*

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
ELECTIVE: MONEY & DEVELOPMENT BANKING STREAM

MBBT 682: DEVELOPMENT BANKING

Soft Core
3 Credits

Course Objective

The objective of this course is to creating awareness about various development banking institution In Indian and international context. The study focus their working of these institutions and their role in economic growth. The study also covers, various financing schemes of development banks giving special focus to India.

1. **Introduction**: Origin of development banks-Meaning- scope and importance in the economy- Structure and functions of development banks-Difference between development banks and commercial banks-Development banks and merchant banks

2. **Development Banks In India:** Origin-Growth-Pre Independence and Post-Independence and lending policies-The role-coverage-functions-importance in industrial growth- Working of IDBI-IFCI-SIDBI-STCs-UTI-NABARD- RBI and Government Initiative- Subsidies for SMEs

3. **Operational Activities**- Direct Assistance-Indirect Assistance-Refinance Schemes-Refinance Schemes for Industrial rehabilitation- Refinance Schemes for modernization-Bill rediscounting schemes-Soft loan schemes-seed capital-Development Assistance Fund (DAF)

4. **Non-financial Development Activities:** Introduction - Development of Backward Areas - Spread of Industrial Culture Among Weaker and Underprivileged Sections of Community - Research Studies and Surveys -Seminars, Workshops and Conferences-Science and Technology Entrepreneurs Parks

5. **International Development Banks:** The role-coverage-functions-importance in the world economy- Development aids-Organization for Economic Co-operation and Development-International Monetary Fund-International Bank for Reconstruction and Development -Asian Development Bank-World Bank Group, Bank for International Settlements

Basic Text Book & References:

1. ***Pradeeb Dubey, Developmnet Banking in India, Raj Publications (2012)***
2. ***F. S. Mishkin and S. G. Eakins, Financial Markets and Institutions, Pearson Education, Latest Edition.***
3. ***M. Y. Khan, Indian Financial System, Tata McGraw Hill, Latest edition.***
4. *Advance Bank Management, Macmillan Publishers India Limited, 2010*
5. *MY Khan,Financial Services, Tata McGraw-Hill Education,2013*

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
ELECTIVE: MONEY & DEVELOPMENT BANKING STREAM

MBBT 683: RURAL BANKING AND MICRO FINANCE

Soft Core
3 Credits

Course Objective
The objective of this course is to expose students to the key issues linked to rural banking including the challenges in Indian context. It also discusses the initiatives of the government for inclusive financial system such as micro finance.

1 **Introduction**: Demographic features- Population- occupation- literacy, socio-economic development – indicators-health- nutrition and education, - urban migration- -Caste and power structure - rural social stratification- Economic life of rural people, share in National income- Trends in percapita income, rural money markets, rural indebtedness, rural poverty - main causes and methods of measuring rural poverty.

2 **Agricultural Economy:** Agriculture Economy-Structure and characteristics of Indian agriculture- Role of agriculture in economic development-agriculture-industry linkages - constraints to agriculture development- Emerging issues in Indian Agriculture- Rural infrastructure; Transport, Power- Markets and other services

3 **Rural Financing and Development Policy**- policies and programmes for rural farm and non-farm sectors. Economic reforms and its impact on rural economy- Regulation of Rural Financial Services; - NABARD, RBI- role, refinance support. Lead bank approach, State level and- District level Credit committees- subsidy-linked credit programmes of the Government- -Priority Sector Financing

4 **Micro Finance:** Genesis and evolution of microfinance- different models of microfinance operating in India; - Bank Linkage Programme (SBLP) as an innovative strategy of microfinance evolved in India - SME Finance; Definition of SME .Importance to Indian economy- Financing of SME- Revival of sick units; revival package- and implementation, Stressed assets under rehabilitation.

5 **Problems and prospects in Rural Banking:** Problems of Rural branches of Commercial banks- transaction costs and risk costs- Technology based Financial Inclusion- Emerging trends in rural banking-financing poor as bankable opportunity- Micro Credit, Self- Help Groups / NGOs, linkages with banking, latest guidelines of GOI and RBI

Basic Text Book & References:

1. ***Rural Banking. Indian Institute of Banking and Finance,Macmillan India Ltd (2010/Latest).***
2. ***Shetty, S. L." Microfinance in India: issues, problems and prospects. A critical review of literature (2012).***
3. *Karmakar, K. G. Rural credit and self-help groups: micro-finance needs and concepts in India. Sage Publications India Pvt Ltd, 1999.*
4. *Harper, Malcolm. Profit for the poor: cases in micro-finance. Intermediate Technology Publications Ltd (ITP), 1998.*
5. *Robinson, Marguerite S. The microfinance revolution: sustainable finance for the poor. Vol. 1. World Bank Publications, 2001.*

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MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
ELECTIVE: MONEY & DEVELOPMENT BANKING STREAM

MBBT 684: CORPORATE GOVERNANCE AND ETHICS IN BANKS

Soft Core
3 Credits

Course Objective

The objective of this course is to expose students to the Principles, Policies and Practices of Corporate Governance. The Course also presents theories, models and issues. The course prepares the students for ethical practices and leadership.

1. **Introduction**: Corporate governance-separation of ownership- developments in 1980s,1990s and in 21st century-Governance and Management-Definitions-Scope-Drivers of corporate governance-Pillars of corporate governance-Corporate governance in Banks-RBI Initiatives-BRI Act

2. **Board Architecture:** Directors-Role-Types-Appointments-Board Structures-Board Committees- Unitary and Dual Role- Functions of Board-Board and firm performance-Board Room reality-Directors responsibilities-Director compensation-Board effectiveness-Board meetings

3. **Corporate Governance Models**– American Model-Commonwealth model-Single tier and Two tier model-Corporate governance in India- Companies Act-Sarbanes-Oxley Act-Cadbury Committee-OECD Principles-CII Code-Kumara Mangalam Birla Committee- Murthy Committee- New Companies Bill

4. **Disclosures:**Disclosure practices around the world- Disclosure practices in India-Current Practices-Disclosures in annual reports- company webistes-dsclosures to stock exchanges-Disclosures related to financial statements-Disclosure of key personnel and executive compensation- Disclosures of financial institutions- RBI guideline-Audit Committee-BCSBI Codes

5. **Corporate Ethics:** Definitions- theories of ethics-Ethics and Business: A sense of business ethics-Conflicts and Ethical Dilemmas – moral & ethical dilemmas-Ethics and Economics: Ethical concerns of economic individuals and societies-Behavior of Business to its colleagues / competitors-Ethics of Marketing & advertising-Ethics of Finance & Accounting-corporate-Corporate citizenship-Environmental Ethics

Basic Text Book & References:

1. ***Bob Tricker, Corporate Governance: Principles, Policies, and Practices Oxford University Press, Indian Edition,Latest***
2. ***Fernando, A. C. Business ethics and corporate governance. Pearson Education India, 2010/Latest.***
3. ***Bhatia, S. K. Business Ethics and Corporate Governance. Deep and Deep Publications, Latest Edition***
4. *Levine, Ross. The corporate governance of banks: a concise discussion of concepts and evidence. Vol. 3404. World Bank Publications, 2004.*
5. *Huse, Morten. Boards, governance and value creation: The human side of corporate governance. Cambridge: Cambridge University Press, 2007.*

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
ELECTIVE: MONEY & DEVELOPMENT BANKING STREAM

MBBT 685: PUBLIC FINANCE AND DEVELOPMENT ECONOMICS

Soft Core
3 Credits

Course Objective

The objective of this course is to expose students to the role and functions of government financing. The course also look into the efficiency and equity aspects of taxation of the centre, states and the local governments and the issues of fiscal federalism and decentralization in India

1 **Introduction**: Public Finance-Meaning-Nature-Scope and Importance of Public Finance-Private Finance and Public Finance- Elementary Theories of Product and Factor Taxation-Principle of Maximum Social Advantage- Dr. Dalton

2 **Public Revenue and Expenditure:** Meaning and Principle of Public Revenue and Expenditure-Source of Public Revenue-Objectives of Taxation-Concepts- Impact of Tax, incidence of Tax, Shifting of Tax and Taxable capacity-Indian Tax Structure- Classification of Public Expenditure -Trends in Public Expenditure-Causes of Growth of Public Expenditure -Effects of Public Expenditure

3 **Public Debt and Fiscal Policy**- Meaning and Types of Public Debt -Sources of internal and external Public Debt-Effects of Public Debt-Methods of Repayment-Meaning and Objectives of Fiscal Policy-Review of Fiscal Policies

4 **Budget :**Meaning, Revenue and Capital Budget- Surplus, Deficit and Balance Budget- Preparation of Indian Central Budget- Concept of Deficit - Revenue, Fiscal, Primary- Gender Budget-Deficit Financing- Meaning, Objectives and Causes- Deficit finance since 1991- Effects of Deficit Financing

5 **Centre-State Financial Relationship:**Constitutional Provisions - Recommendations of finance Commission- Centre- State Conflict- Fiscal Federalism in India- State and Local Finances

Basic Text Books & References:

1. *Public finance. Vikas Publishing House Pvt Ltd, Latest.*
2. ***D. K. Srivastava, Issues in Indian Public Finance, New Century Publications,Latest***
3. ***Srivastava, D.K. (Ed) (2000) Fiscal Federalism in India, Har-Anand Publication, Ltd. New Delhi.***
4. *D. K. Srivastava. Issues in Indian Public Finance. New Century Publications,2005*
5. *Hyman, David. Public finance. Cengage Learning, 2010.*

MBA: BANKING TECHNOLOGY DEGREE PROGRAMME
ELECTIVE: MONEY & DEVELOPMENT BANKING STREAM

MBBT 686: ENTREPRENEURSHIP AND NEW VENTURES

Soft Core
2 Credits

Course Objective

The focus of this course is to create a learning experience to enable the students to face the challenges of starting new ventures. This involves the process of starting new business and the skills for managing existing family business.

1 Evaluating Entrepreneurial Career Options and Startup Opportunities

- Overview of Entrepreneurship
- What Does It Take to Be an Entrepreneur?
- Evaluating New-Business Opportunities
- Research & Analysis to Guide Your Startup Strategy
- The Entrepreneur's Role, Task and Personality
- Defining Survival and Success

2 Understanding Startup Finances and Capital Requirements

- An Overview of Startup Finances and Sources of Investment Capital
- Developing Financial Projections—How to Forecast Expenses and Revenue
- Case Discussion: Raising Seed Financing
- Workshop: Capitalization and Ownership for New Ventures

3 Developing and Presenting Startup Business Plan

- The Venture Communication -Communication for Startups
- Examining Sample Business Plans and Executive Summaries
- Workshop: Business Plan Critique
- The Art of the Venture Presentation
- Developing Entrepreneurial Marketing: Competencies, Networks and Frameworks
- Gathering Resources

4 Launching and Managing the Startup Enterprise

- Maintaining Competitive Advantage
- The Changing Role of the Entrepreneur: Mid-Career Dilemmas
- What to Expect During the "Launch Stage"
- Where to Focus First? The Imperatives of the Launch Stage
- Legal Issues Facing Entrepreneurs
- Building Your Team

Suggested Readings:

1. ***Barringer, Bruce R. Entrepreneurship: Successfully launching new ventures. Pearson Education India, 2008.***
2. *Drucker, Peter F., and Peter Ferdinand Drucker. Innovation and entrepreneurship: Practice and principles. Routledge, 2007.*
3. *Kuratko, Donald F., and Richard M. Hodgetts. Entrepreneurship: A contemporary approach. Fort Worth;: Harcourt College Publishers, 2001.*
4. *Timmons, Jeffry A., and Stephen Spinelli. "New venture creation: Entrepreneurship for the 21st century." (1999).*
5. *Timmons, Jeffry A. The Entrepreneurial Mind. Brick House Publishing 1989.*