

**DR. A.P.J. ABDUL KALAM TECHNICAL
UNIVERSITY, UTTAR PRADESH, LUCKNOW**



EVALUATION SCHEME & SYLLABUS

FOR

**MBA SECOND YEAR
(BUSINESS ANALYTICS)**

AS PER

AICTE MODEL CURRICULUM & NEP2020

[Effective from the Session: 2025-26]

MBA (Business Analytics) II Year Teaching and Evaluation Scheme
W.E.F. Academic Session 2025-26
(In Accordance with AICTE Model Curriculum & National Education Policy)

SEMESTER III

SN	Codes	SUBJECT	PERIODS			INTERNAL EVALUATION SCHEME				END SEMESTER		TOTAL	CREDIT
			L	T	P	CT	TA	PS	TOTAL	TE	PE		
1	BMBA301	Strategic Management	3	0	0	20	10	0	30	70	0	100	3
2		Elective -1 Specialization Group-1	3	0	0	20	10	0	30	70	0	100	3
3		Elective -2 Specialization Group-1	3	0	0	20	10	0	30	70	0	100	3
4		Elective -3 Specialization Group-1	3	0	0	20	10	0	30	70	0	100	3
5		Elective -1 Specialization Group-2	3	0	0	20	10	0	30	70	0	100	3
6		Elective -2 Specialization Group-2	3	0	0	20	10	0	30	70	0	100	3
7		Elective -3 Specialization Group-2	3	0	0	20	10	0	30	70	0	100	3
8	BMBA308	Summer Training Project Report & Viva Voce	0	0	0	0	30	0	30	0	70	100	4
9	BMBA351	Artificial Intelligence & Machine Learning using Python	0	0	2	0	30	70	100	0	0	0	NC*
TOTAL			21	0	2	140	100	0	240	490	70	800	25

**Non Credit but qualifying (students are required to secure 40% marks to qualify it).*

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SEMESTER IV

SN	SUBJECT CODES	SUBJECT	PERIODS			INTERNAL EVALUATION SCHEME				END SEMESTER		TOTAL	CREDIT
			L	T	P	CT	TA	PS	TOTAL	TE	PE		
1	BMBA401	Universal Human Values and Professional Ethics	3	0	0	20	10	0	30	70	0	100	3
2		Elective -3 Specialization Group-1	3	0	0	20	10	0	30	70	0	100	3
3		Elective -4 Specialization Group-1	3	0	0	20	10	0	30	70	0	100	3
4		Elective -3 Specialization Group-2	3	0	0	20	10	0	30	70	0	100	3
5		Elective -4 Specialization Group-2	3	0	0	20	10	0	30	70	0	100	3
6	BMBA406	Research Project Report & Viva Voce	0	0	0	0	100	0	100	0	200	300	10
TOTAL			15	0	0	100	200	0	250	350	200	800	25

Specialization Group: MARKETING (MK)**Elective Subjects in III Semester**

S. No.	Code	Course Title
1	BMBMK 01	Consumer Behaviour and Neuro Marketing
2	BMBMK 02	Marketing Analytics
3	BMBMK 03	Artificial Intelligence for Marketing

Elective Subjects in IV Semester

S. No.	Code	Course Title
1	BMBMK 04	Digital Marketing and E-Commerce Analytics
2	BMBMK 05	Customer Relationship Management Analytics

Specialization Group: FINANCE (FM)**Elective Subjects in III Semester**

S. No.	Code	Course Title
1	BMBAFM01	Investment and Portfolio Management
2	BMBAFM02	Financial Analytics Using Power BI
3	BMBAFM03	Financial and Credit Risk Analytics

Elective Subjects in IV Semester

S. No.	Code	Course Title
1	BMBA FM04	Behavioural Finance
2	BMBA FM05	Artificial Intelligence in Finance

Specialization Group: HUMAN RESOURCE MANAGEMENT (HR)**Elective Subjects in III Semester**

S. No.	Code	Course Title
1	BMBA HR01	Talent Acquisition Management
2	BMBA HR02	Employee Relations and Labour Laws
3	BMBA HR03	Performance and Reward Management

Elective Subjects in IV Semester

S. No.	Code	Course Title
1	BMBA HR04	HR Analytics using Power BI
2	BMBA HR05	Artificial Intelligence in Human Resource Management

Specialization Group: OPERATIONS (OM)**Elective Subjects in III Semester**

S. No.	Code	Course Title
1	BMBA OM01	Supply Chain Analytics
2	BMBA OM02	Operation Management for Business Analytics
3	BMBA OM03	Quality Management

Elective Subjects in IV Semester

S. No.	Code	Course Title
1	BMBA OM04	AI in Supply Chain Management
2	BMBA OM05	Project & Sourcing Management

Semester III STRATEGIC MANAGEMENT

Code: BMBA 301

Course Credits: 3

Teaching Hours: 40

Course Objectives

1. Demonstrate a clear understanding of the key concepts and principles of strategic management.
2. Apply appropriate tools and techniques to analyze a company's strategic position and performance.
3. Explain the nature and dynamics of strategy formulation and implementation processes within diverse organizational contexts.
4. Critically assess strategic decisions and challenges using strategic thinking and analytical reasoning.
5. Identify strategic issues and develop well-informed, actionable strategies for organizational success.

UNIT 1 (6 Hours)

Introduction: meaning nature, scope, and importance of strategy; Model of strategic management, Strategic Decision-Making Process.

Corporate Governance: Composition of the board, Role and Responsibilities of the board of directors, Trends in corporate governance, Corporate Social Responsibility. Case Studies and Latest Updates.

UNIT 2 (9 hours)

Environmental Scanning: *Understanding the Macro Environment*: PESTEL Analysis, Industrial Organization (IO) & the Structure Conduct Performance (SCP) approach, Porter's Five Forces Model, *Understanding the Micro Environment*: Resource Based View (RBV) Analysis, VRIO Framework, Using resources to gain Competitive advantage & its sustainability, Value Chain Analysis. Case Studies and Latest Updates.

UNIT 3 (9 hours)

Strategy Formulation: Situational Analysis using SWOT approach

Business Strategies: Competitive Strategy: - Cost Leadership, Differentiation & Focus, Cooperative Strategy: - Collusion & Strategic Alliances

Corporate Strategies: Directional Strategy: Growth strategies, Stability Strategies & Retrenchment Strategies. Corporate Parenting

Functional Strategies: Marketing, Financial, R&D, Operations, Purchasing, Logistics, HRM & IT. *The sourcing decision*: Outsourcing & offshoring

Case Studies and Latest Updates.

Unit 4 (9 hours)

Strategy Choice and Analysis: Scenario Analysis Process, Tools & Techniques of strategic Analysis: BCG Matrix, Ansoff Grid, GE Nine Cell Planning Grid, McKinsey's 7'S framework. Case Studies and Latest Updates.

Strategy implementation: Developing Programs, Budget and Procedures, Stages of Corporate Development, Organizational Life cycle, *Organizational Structures*: Matrix, Network & Modular/Cellular; Reengineering and Strategy implementation, Leadership and corporate culture, Case Studies and Latest Updates.

Unit 5 (7 hours)

Strategy Evaluation & Control: Evaluation & Control process, *Measuring performance*: types of controls, activity based costing, enterprise risk management, primary measures of corporate performance, balance scorecard approach to measure key Performance, responsibility centers, Benchmarking, Problems in measuring Performance & Guidelines for proper control. Strategic Audit of a Corporation. Case Studies and Latest Updates.

COURSE OUTCOMES:

CO Code	CO Statement	Bloom's K Levels
CO1	Formulate organizational vision, mission, goals, and values	K1, K2, K3
CO2	Develop strategies and action plans to achieve an organization's vision, mission, and goals	K1, K2, K3, K4, K5, K6
CO3	Develop powers of managerial judgment, assess business risk, and improve decision-making for effective outcomes	K1, K2, K3, K4
CO4	Evaluate and revise programs and procedures to achieve organizational goals	K1, K2, K3, K4
CO5	Consider the ethical dimensions of the strategic management process	K1, K2, K3, K4

Suggested Readings:

1. Wheelen, L. Thomas and Hunger, David J.; Concepts in Strategic Management and
2. Business Policy, Pearson Education,
3. Stewart Clegg, Chris Carter, Martin Kornberger & Jochen Schweitzer : Strategy - Theory and Practice.(SAGE Publishing India)
4. Kazmi, Azhar; Business Policy and Strategic Management; McGraw-Hill Education.
5. David, Fred; Strategic Management: Concepts and Cases; PHI Learning.
6. Thomson, Arthur A. and Strickland, A. J.; Strategic Management: Concept and Cases; McGraw Hill Education,
7. Jauch, L.F., and Glueck, W.F.; Business Policy and Strategic Management; McGraw-Hill Education

Artificial Intelligence & Machine Learning using Python

Code: BMBA 351

Teaching Hours: 30

Course objectives: This course will enable students to

1. Make use of Data sets in implementing the machine learning algorithms
2. Implement the machine learning and artificial intelligence concepts and algorithms using python

Lecture contents

Basic Concepts and understanding the application & usage of Machine Learning.

Meaning and basics of AI and its practical scenario and its application in medical, manufacturing etc.

Introduction to Neural Network

Lab Work:

S.N	Lab Module	Lab work / Class
1	Write a Python program to load the iris data from a given csv file into a data frame and print the shape of the data, type of the data and first 3 rows.	1
2	Write a Python program using Scikit-learn to print the keys, number of rows-columns, feature names and the description of the Iris data	1
3	Write a Python program to split the iris dataset into its attributes (X) and labels (y). The X variable contains the first four columns (i.e. attributes) and y contains the labels of the dataset	1
4	Write a Python program to draw a scatterplot, then add a joint density estimate to describe individual distributions on the same plot between Sepal length and Sepal width.	1
5	Write a Python program using Scikit-learn to split the iris dataset into 70% train data and 30% test data. Out of total 150 records, the training set will contain 120 records and the test set contains 30 of those records. Print both datasets.	1
6	Implement and demonstrate the any suitable algorithm for finding the most specific hypothesis based on a given set of training data samples. Read the training data from a <i>.CSV file</i> .	1
7	For a given set of training data examples stored in a <i>.CSV file</i> , implement and demonstrate the Candidate-Elimination algorithm to output a description of the set of all hypotheses consistent with the training examples.	1

8	Write a program to demonstrate the working of the decision tree using any suitable algorithm. Use an appropriate data set for building the decision tree and apply this knowledge to classify a new sample.	1
9	Build an Artificial Neural Network by implementing the Back propagation algorithm.	1
10	Write a program to implement the naïve Bayesian classifier for a sample training data set stored as a .CSV file	1
11	Write a program to construct a Bayesian network considering medical data. Use this model to demonstrate the diagnosis of heart patients using standard Heart Disease Data Set.	2
12	Apply any suitable algorithm to cluster a set of data stored in a .CSV file. Use the same data set for clustering using k-Means algorithm. Compare the results of these two algorithms and comment on the quality of clustering.	2
13	Write a program to implement k-Nearest Neighbor algorithm to classify the iris data set.	2
14	Implement the non-parametric Regression algorithm in order to fit data points. Select appropriate data set for your experiment and draw graphs.	2
15	Write a Python program to get the accuracy of the Logistic Regression.	2
16	Demonstrate min-max scaling and standardization using Scikit-learn on a numerical dataset. Show how scaling affects different ML algorithms.	2
17	Implement the k-Nearest Neighbors classifier using Scikit-learn on the Iris dataset. Evaluate using accuracy, precision, and confusion matrix.	2
18	Implement linear regression using Scikit-learn on a dataset (e.g., housing prices). Visualize the regression line and report error metrics (MAE, RMSE).	2
19	Build a Decision Tree classifier using Scikit-learn on a suitable dataset. Visualize the tree structure.	2
20	Write a Python program to handle missing data using mean/median imputation, label encoding, and one-hot encoding for categorical variables in a dataset (e.g., Titanic dataset).	2

COURSE OUTCOMES:

CO Code	CO Statement	Bloom's K Levels
CO1	Ability to use data sets in implementing the machine learning algorithms	K2, K4
CO2	Ability to build an Artificial Neural Network	K2, K4
CO3	Understand and apply k-Nearest Neighbour algorithm	K2, K4
CO4	Ability to implement the Regression algorithms	K2, K4
CO5	Ability to use Scikit-learn for machine learning	K4

SUMMER TRAINING PROJECT REPORT & VIVA VOCE

Code: BMBA 308

Course Credit: 4

Guidelines for Summer Training Project Report (STPR)

Objective:

The internship module aims to provide the student with:

- A practice-oriented and 'hands-on' working experience in the real world or industry, and
- To enhance the student's learning experience.
- An opportunity to develop a right work attitude, self-confidence, interpersonal skills and
- Ability to work as a team in a real organisational setting.
- An opportunity to further develop and enhance operational, customer service and other
- Life-long knowledge and skills in a real-world work environment.
- Pre-employment training opportunities and an opportunity for the company or
- Organisation to assess the performance of the student and to offer the student an employment
- Opportunity after his/her graduation, if it deems fit.

Outcomes:

At the end of the course, a student will be able to:

CO – 1: Understand the application of knowledge and skill sets acquired from the course and workplace in the assigned job function/s.

CO – 2: Apply real life challenges in the workplace by analyzing work environment and conditions, and selecting appropriate skill sets acquired from the course.

CO – 3: Create critical thinking and problem-solving skills by analyzing underlying issue/s.

CO – 4: Develop the ability to harness resources by analyzing challenges and considering opportunities.

CO – 5: Understand appreciation and respect for diverse groups of professionals by engaging harmoniously with different company stakeholders.

Guidelines For Summer Internship Project Report

1. At the end of the second semester examination, it is mandatory for every student of MBA to undergo on-the-job practical training in any manufacturing, service or trading organization. The training will be of 6 to 8 weeks duration. The college/institute will facilitate this compulsory training for students.
2. During the training, the student is expected to learn about the organization and analyze and suggest solutions to a live problem. The objective is to equip the students with the knowledge of actual functioning of an organization and problems faced by them for exploring feasible solutions.

3. During the course of training, the organization (where the student is undergoing training) will assign a problem/project to the student.
4. The student, after the completion of training will submit a report to the College/Institute which will form part of the third semester examination. However, the report must be submitted by the end of September 30.
5. The report (based on training and the problem/project studied) prepared by the student will be known as Summer Training Project Report. The report should reflect in depth study of a micro problem, ordinarily assigned by the organization where the student undergoes training. Relevant tables and bibliography should support it. One comprehensive chapter must be included about the organization where the student has undergone training. This should deal with brief history of the organization, its structure, performance products/services and problem faced. The average size of report ordinarily will be of minimum 100 pages in standard font size (12) and double spacing. Two neatly typed (one sided only) and soft bound copies of the report will be submitted to the College/Institute. The report will be typed on A-4 size paper.
6. The report will have two certificates, one from the Faculty guide and another from reporting officer of the organization where the student has undergone training. These certificates should be attached in the beginning of the report.
7. The Summer Training Project Report will carry Total 100 marks and out of which 70 marks will be evaluated by two examiners (one external and one internal). The external examiner will be appointed by University. The evaluation will consist of (1) Summer Training Project Report evaluation (2) Project Presentation and Viva Voce. The average of the marks awarded by the 2 examiners will be taken into account for the results.
8. The Project Report evaluation will comprise of 30 sessional marks and would be evaluated by internal project guide.
9. Only such person will be appointed as an external examiner for the evaluation of the project report who has minimum three years of experience of teaching MBA classes in a College/University. Experience of teaching MBA classes as guest faculty shall not be counted.
10. It is mandatory that the student will make presentation in the presence of teachers and students. The student is expected to answer to the queries and questions raised in such a meeting.
11. The suggestive parameters on which external evaluation would be carried out are as under:

Summer Training Project Report Evaluation:

Evaluation Criteria	Marks
Understanding of Objectives with topic	20
Understanding of Relevance of topic	20
Interpretation & Analysis	10
Presentation	10
Query handling	10

Semester IV

Universal Human Values and Professional Ethics

Code: BMBA 401

Course Credit: 3

Teaching Hours: 40

Course Objectives:

The objective of this course is to

1. Understand and differentiate between values and skills, and explain the need, basic guidelines, content, and process of value education.
2. Engage in self-reflection and initiate an inner dialogue to evaluate personal and professional aspirations in alignment with one's true purpose.
3. Define and interpret the concepts of happiness and prosperity in the context of human well-being.
4. Analyze the concept of harmony across all levels of human existence—individual, family, society, and nature—and apply these principles in daily living.
5. Integrate the understanding of harmony in existence into professional contexts and design pathways for leading an ethically responsible life.

Course Outcomes

Understand the significance of value inputs in a classroom, distinguish between values and skills, understand the need, basic guidelines, content and process of value education, explore the meaning of happiness and prosperity and do a correct appraisal of the current scenario in the society

1. Distinguish between the Self and the Body, understand the meaning of Harmony in the Self the Co-existence of Self and Body.
2. Understand the value of harmonious relationship based on trust, respect and other naturally
3. Acceptable feelings in human-human relationships and explore their role in ensuring a harmonious society
4. Understand the harmony in nature and existence, and work out their mutually fulfilling participation in the nature.
5. Distinguish between ethical and unethical practices, and start working out the strategy to actualize a harmonious environment wherever they work.

Course Description

Every human being has two sets of questions to answer for his life: a) what to do? and, b) how to do?. The first set pertains to the value domain, and the other to the skill domain. Both are complimentary, but value domain has a higher priority. Today, education has become more and more skill biased, and hence, the basic aspiration of a human being, that is to live with happiness and prosperity, gets defeated, in spite of abundant technological progress. This course is aimed at giving inputs that will help to ensure the right understanding and right feelings in the students in their life and profession, enabling them to lead an ethical life. In this course, the students learn the process of self- exploration, the difference between the Self and the Body, the naturally acceptable feelings in relationships in a family, the comprehensive human goal in the society, the mutual fulfillment in the nature and the co- existence in existence. As a natural outcome of such inputs, they are able to evaluate an ethical life and profession ahead.

UNIT-1: Course Introduction - Need, Basic Guidelines, Content and Process for Value Education (7 Hours)

Understanding the need, basic guidelines, content and process for Value Education, Self- Exploration– what is it? - its content and process; ‘Natural Acceptance’ and Experiential Validation- as the mechanism for self-exploration, Continuous Happiness and Prosperity- A look at basic Human Aspirations, Right understanding, Relationship and Physical Facilities- the basic requirements for fulfillment of aspirations of every human being with their correct priority, Understanding Happiness and Prosperity correctly- A critical appraisal of the current scenario, Method to fulfill the above human aspirations: understanding and living in harmony at various levels.

UNIT-2: Understanding Harmony in the Human Being - Harmony in Myself (9 Hours)

Understanding human being as a co-existence of the sentient ‘I’ and the material ‘Body’, Understanding the needs of Self (‘I’) and ‘Body’ - Sukh and Suvidha, Understanding the Body as an instrument of ‘I’ (I being the doer, seer and enjoyer), Understanding the characteristics and activities of ‘I’ and harmony in ‘I’, Understanding the harmony of I with the Body: Sanyam and Swasthya; correct appraisal of Physical needs, meaning of Prosperity in detail, Programs to ensure Sanyam and Swasthya.

UNIT-3: Understanding Harmony in the Family and Society- Harmony in Human-Human Relationship (8 Hours)

Understanding harmony in the Family- the basic unit of human interaction , Understanding values in human-human relationship; meaning of Nyaya and program for its fulfillment to ensure Ubhay-tripti; Trust (Vishwas) and Respect (Samman) as the foundational values of relationship, Understanding the meaning of Vishwas; Difference between intention and competence, Understanding the meaning of Samman, Difference between respect and differentiation; the other salient values in relationship, Understanding the harmony in the society (society being an extension of family): Samadhan, Samridhi, Abhay, Sah-astitva as comprehensive Human Goals, Visualizing a universal harmonious order in society- Undivided Society (AkhandSamaj), Universal Order (Sarvabhaum Vyawastha)- from family to world family!.

UNIT-4: Understanding Harmony in the Nature and Existence - Whole existence as Co-existence (8 Hours)

Understanding the harmony in the Nature, Interconnectedness and mutual fulfilment among the four orders of nature- recyclability and self-regulation in nature, Understanding Existence as Co- existence (Sah-astitva) of mutually interacting units in all-pervasive space, Holistic perception of harmony at all levels of existence.

UNIT-5: Implications of the above Holistic Understanding of Harmony on Professional Ethics (8Hours)

Natural acceptance of human values, Definitiveness of Ethical Human Conduct, Basis for Humanistic Education, Humanistic Constitution and Humanistic Universal Order, Competence in Professional Ethics: a) Ability to utilize the professional competence for augmenting universal human order, b) Ability to identify the scope and characteristics of people-friendly and eco- friendly production systems, technologies and management models, Case studies of typical holistic technologies, management models and production systems, Strategy for transition from the present state to Universal Human Order: a) At the level of individual: as socially and ecologically responsible engineers, technologists and managers, b) At the level of society: as mutually enriching institutions and organizations

Suggested Readings

1. R R Gaur, R Sangal, G P Bagaria, 2009, A Foundation Course in Human Values and Professional Ethics.
2. Ivan Illich, 1974, Energy & Equity, The Trinity Press, Worcester, and Harper Collins, USA
3. E.F. Schumacher, 1973, Small is Beautiful: a study of economics as if people mattered, Blond & Briggs, Britain.
4. Susan George, 1976, How the Other Half Dies, Penguin Press. Reprinted 1986, 1991
5. Donella H. Meadows, Dennis L. Meadows, Jorgen Randers, William W. Behrens III, 1972, Limits to Growth – Club of Rome's report, Universe Books.
6. A Nagraj, 1998, Jeevan Vidya Ek Parichay, Divya Path Sansthan, Amarkantak.
7. P L Dhar, R R Gaur, 1990, Science and Humanism, Commonwealth Publishers.
8. A N Tripathy, 2003, Human Values, New Age International Publishers.
9. Subhas Palekar, 2000, How to practice Natural Farming, Pracheen (Vaidik) Krishi Tantra Shodh, Amravati.
10. E G Seebauer & Robert L. Berry, 2000, Fundamentals of Ethics for Scientists & Engineers, Oxford University Press
11. M Govindrajran, S Natrajan & V.S. Senthil Kumar, Engineering Ethics (including Human Values), Eastern Economy Edition, Prentice Hall of India Ltd.
12. B P Banerjee, 2005, Foundations of Ethics and Management, Excel Books
13. B L Bajpai, 2004, Indian Ethos and Modern Management, New Royal Book Co., Lucknow. Reprinted 2008

Specialization Group: Marketing Electives

CONSUMER BEHAVIOUR AND NEURO MARKETING

BMBA MK 01

Course Credit: 3

Total Hours: 40

Course Objectives:

1. Understand the fundamental concepts, theories, and models of consumer behaviour and their relevance in marketing decision-making.
2. Analyze the psychological, personal, social, and cultural factors influencing consumer decision-making.
3. Examine consumer behaviour across digital platforms and modern consumption contexts.
4. Understand the principles, techniques, and applications of neuromarketing in analyzing consumer behaviour.
5. Evaluate the ethical and legal considerations related to neuromarketing and consumer influence.
6. Apply consumer insights and neuromarketing tools to develop evidence-based marketing strategies.

Unit 1 (5 Hours)

Introduction: Consumer Behavior & the Marketing Mix, Consumer Goals, **Consumer Decision Making Process:** Need Recognition, Search for information, Pre purchase evaluation of alternatives, Purchase, Consumption, Post consumption Evaluation & Divestment, Interruption in buying process & their effects, Customer involvement, Consumer Journey through the World of

Technology.

Unit 2 (9 hours)

Psychological factors: Perception, learning, motivation, attitude formation and change, personality, and lifestyle. **Personal factors:** Demographics, life cycle, occupation, and income. **Social factors:** Family, reference groups, roles and status. **Cultural factors:** Culture, sub-culture, cross-cultural consumer behaviour. Consumer involvement and buying decision process (complex, habitual, variety-seeking). Organizational buying vs individual buying behaviour. **Case Studies and Industry Applications.**

Unit 3 (9 hours)

Consumer Behaviour in Digital Age Online and mobile consumer behaviour, Influence of social media, peer reviews, and digital communities. Role of AI, machine learning, and big data in understanding consumers. Behavioural targeting and personalization strategies. Consumer privacy and data protection in digital marketing. Emerging trends in digital consumption patterns. **Case Discussions and Industry Practices.**

Unit 4 (9 hours)

Introduction to Neuromarketing: Meaning and scope of neuromarketing. **Principles of neuroscience relevant to marketing:** Brain functions, emotions, and decision-making. **Neuromarketing techniques:** Eye-tracking, fMRI, EEG, biometrics, facial coding. Applications of neuromarketing in advertising, branding, packaging, and pricing strategies. Benefits and limitations of neuromarketing. Ethical issues, criticisms, and regulatory frameworks related to neuromarketing. **Case Studies.**

Unit 5 (8 hours)

Consumer Behaviour and Neuromarketing Strategies: Translating consumer insights into marketing strategy. Designing customer experiences using neuromarketing findings. Sensory marketing and subconscious consumer triggers. Role of neuromarketing in retail, FMCG, luxury brands, and service sectors. Developing integrated consumer behaviour and neuromarketing strategies for real-world challenges. Case Study.

Course Outcomes

CO Code	Course Outcome	Bloom's K Levels
CO1	Define and explain key concepts, theories, and models of consumer behaviour and neuromarketing.	K1, K2
CO2	Analyze the impact of psychological, social, personal, and cultural factors on consumer buying behaviour.	K4
CO3	Apply frameworks of consumer behaviour to develop marketing strategies suitable for traditional and digital markets.	K3
CO4	Evaluate neuromarketing techniques and their application in strategic marketing decisions, considering ethical and regulatory concerns.	K5
CO5	Design and develop integrated marketing strategies using consumer behaviour insights and neuromarketing data for real-world business scenarios.	K6
CO6	Critically assess emerging trends in digital consumer behaviour and recommend	K5

CO Code	Course Outcome	Bloom's K Levels
	appropriate marketing interventions.	

Suggested Readings

1. Schiffman, L. G., & Wisenblit, J. (2020). *Consumer Behavior*, Pearson.
2. Solomon, M. R. (2022). *Consumer Behaviour: Buying, Having, and Being*, Pearson.
3. Lindstrom, Martin (2009). *Buyology: Truth and Lies About Why We Buy*, Crown Business.
4. Majumdar, Ramanuj (2010). *Consumer Behaviour: Insights from Indian Market*, PHI Learning.
5. Morin, Christophe (2022). *The Science of Customer Connections: Manage Your Message to Gain and Retain Customers*, Wiley.
6. Lee, Darren Bridger (2015). *Neuromarketing: Understanding the Buy Buttons in Your Customer's Brain*, Kogan Page.
7. Kumar, S. R. (2015). *Consumer Behaviour: The Indian Context (Concepts and Cases)*, Pearson India.
8. Nair, Suja R. (2018). *Consumer Behaviour in Indian Perspective*, Himalaya Publishing House.

MARKETING ANALYTICS

Code: BMBA MK02

Course Credits: 3

Teaching Hours: 40

COURSE OBJECTIVES

1. Understand and explain the fundamental concepts and scope of Marketing Analytics.
2. Apply various analytical tools to extract marketing insights from empirical data across different marketing functions.
3. Interpret and examine marketing data to support effective marketing decision-making.
4. Evaluate marketing data to draw meaningful inferences that support descriptive, predictive, and prescriptive analyses.
5. Formulate data-driven strategies and recommendations to address key marketing challenges faced by managers.

Unit -1: Introduction to marketing Analytics (6 hrs.)

Meaning, characteristics, advantages and disadvantages of marketing analytics, Market Data Sources (Primary and Secondary). **Market Sizing:** Stakeholders, Applications & Approaches (Top-down and Bottom-up), PESTLE Market Analysis, Porter Five Force Analysis

Unit-2: Pricing Analytics (9 hrs.)

Pricing Policy and Objectives, Estimating Demand: Price Elasticity, Estimating Linear and Power Demand Curves, Optimize Pricing, Incorporating Complementary Products, Pricing using Subjective Demand Curve, Pricing Multiple Products, Price Bundling & Nonlinear Pricing: Pure Bundling & Mixed Bundling, Determine Optimal Bundling Pricing, Profit Maximizing strategies using Nonlinear Pricing Strategies, Price Skimming & Sales, Revenue Management: Markdown Pricing and Handling Uncertainty

Unit-3: Sales Forecasting (8 hrs.)

Introduction, Simple Linear Regression & Multiple Regression model to forecast sales, Forecasting in Presence of Special Events, Modeling trend and seasonality; Ratio to moving average forecasting method, Using S curves to Forecast Sales of a New Product

Unit-4: Customer Analytics (9 hrs.)

Customer Lifetime Value: Concept, Basic Customer Value, Measuring Customer Lifetime value, Estimating Chance that customer is still active, Using Customer Value to value a business

Market Segmentation: The segmentation-targeting-positioning (STP) framework, Segmentation, The concept of market segmentation, managing the segmentation process, Deriving market segments and describing the segments using Cluster analysis,

Unit-5: Retailing & Advertising Analysis (8 hrs.)

Market Basket analysis: Computing two way and three-way lift, RFM Analysis, **Allocating Retail Space and Sales Resources:** Identifying the sales to marketing effort relationship & its modeling, optimizing sales effort.

Advertising Analysis: Measuring the Effectiveness of Advertising, Pay per Click (PPC) Online Advertising

COURSE OUTCOMES:

CO Code	Course Outcome	Bloom's K Levels
CO1	Understand the concepts, characteristics, and analytical tools related to marketing analytics.	K1, K2
CO2	Apply pricing analytics techniques to estimate demand, optimise pricing, and develop profit-maximising strategies.	K3, K4
CO3	Develop and use forecasting models to predict sales, including regression and trend-based methods.	K3, K5
CO4	Analyse customer data to estimate customer lifetime value and perform market segmentation using STP and cluster analysis.	K4, K5
CO5	Evaluate retail and advertising strategies using market basket analysis, RFM, PPC, and space/resource optimisation methods.	K5

Suggested Readings:

1. Marketing Analytics: Data-Driven Techniques with Microsoft Excel by Wayne L Winston Wiley India Pvt. Ltd.
2. Marketing Analytics: Strategic Models and Metrics by Stephan Sorger, Create Space Publishing
3. Marketing Engineering and Analytics by Gary Lilen, Arvind Rangaswamy, and Arnaud De Bruyn, Decision Pro, Inc.
4. Marketing Metrics by Dugar Anurag, SAGE Publishing India

ARTIFICIAL INTELLIGENCE FOR MARKETING

Code: BMBA MK03

Course Credits: 3

Teaching Hours: 40

COURSE OBJECTIVES:

1. Understand the fundamentals of Artificial Intelligence (AI) and its relevance in modern marketing.
2. Analyze how AI enhances customer insights, targeting, and personalization.
3. Apply AI tools and algorithms in marketing communications, campaign management, and decision-making.
4. Explore advanced applications of AI in pricing strategies, promotions, and customer retention.
5. Gain practical exposure to AI platforms, tools, and industry case studies for marketing innovation.

Unit 1: Foundations of AI in Marketing (8 hrs.)

Introduction to AI and its evolution in marketing, Machine Learning vs. Deep Learning in business
Types of AI: Narrow, General, and Super AI, AI and Big Data synergy in marketing, Consumer behavior modeling using AI, Overview of AI-powered marketing ecosystems, AI readiness for marketers: mindset and skills, Introduction to AI use cases in marketing channels

Unit 2: AI for Customer Insights and Segmentation (8 hrs.)

Customer data sources and structuring for AI, AI-driven segmentation models (e.g., clustering), Behavioral segmentation using ML, Sentiment analysis using NLP, Voice of the Customer (VoC) using AI tools

Personalization through predictive profiling, Persona generation using unsupervised learning, Case studies of segmentation with AI (Amazon, Netflix), AI in Customer Relationship Management (CRM)

Unit 3: AI in Marketing Communications and Campaigns (8 hrs.)

AI in content generation (text, video, images), Natural Language Processing for ad copy & email, Generative AI tools for creative marketing, AI-powered chatbots and conversational marketing, A/B testing and campaign performance optimization, Predictive lead scoring and funnel movement, Marketing automation platforms (e.g., HubSpot, etc), AI in social media analytics and influencer selection, Case studies of campaign success using AI

Unit 4: AI in Pricing, Promotion, and Personalization (8 hrs.)

Dynamic pricing algorithms and AI-based pricing models, Promotion optimization using AI simulations
Recommendation engines (content-based, collaborative filtering), AI in cross-selling and upselling strategies

Personalization engines in e-commerce, Customer churn prediction and retention modeling, Loyalty programs enhanced with AI, Retail analytics with AI: shelf placement, in-store behavior, Real-time personalization and contextual marketing

Unit 5: AI Tools, Platforms, and Case Applications in Marketing (8 hrs.)

Overview of tools: Google AI, Azure ML, AWS AI, IBM Watson, Python/R basics for marketers, Power BI/Tableau for AI-driven marketing dashboards, Using ChatGPT & Midjourney for marketing creatives
Deploying recommender systems with ML libraries, Interpreting AI model output for business actions
Future trends: AI in Metaverse and immersive marketing, Industry case studies (e.g., Coca-Cola, Sephora, Spotify)

COURSE OUTCOMES:

CO Code	Course Outcome	Bloom's K Levels
CO1	Understand the foundations, evolution, and types of AI in marketing, and identify key AI applications across marketing channels.	K1, K2
CO2	Apply AI and ML techniques to derive customer insights, perform segmentation, and personalise marketing strategies.	K3, K4
CO3	Utilise AI tools for campaign management, content generation, and performance optimisation in marketing communications.	K3, K4
CO4	Analyse the role of AI in pricing, promotions, and real-time personalisation to improve customer engagement and retention.	K4, K5
CO5	Evaluate and implement AI tools and platforms for marketing applications, and assess future trends and real-world case studies.	K5, K6

Suggested Readings

Textbooks:

1. "Artificial Intelligence for Marketing" by Jim Sterne Publisher: Wiley, 2017
2. "Predictive Marketing: Easy Ways Every Marketer Can Use Customer Analytics and Big Data" by Omer Artun & Dominique Levin Publisher: Wiley, 2015
3. "Marketing Artificial Intelligence" by Paul Roetzer & Mike Kaput Publisher: BenBella Books, 2022

Additional Resources:

1. McKinsey & Company Reports on AI in Marketing
2. Harvard Business Review Articles on Marketing Automation and AI Ethics
3. Google AI Blog and OpenAI Research for real-time trends and case studies
4. AI Marketing Tools: HubSpot AI, Salesforce Einstein, Adobe Sensei
5. Online Platforms for Practice: Google Colab, Kaggle, Azure ML Studio

DIGITAL MARKETING AND E-COMMERCE ANALYTICS

Code: BMBA MK04

Course Credits: 3

Teaching Hours: 40

Objectives:

1. Understand key concepts and metrics in social media and web analytics.
2. Explore digital platforms and techniques for data collection and audience insights.
3. Apply tools like Google Analytics, A/B testing, and NLP for campaign analysis.
4. Interpret web and social analytics to enhance digital marketing decisions.
5. Analyze campaign performance and implement qualitative evaluation techniques.

Unit 1 (8hrs)

Introduction to Web Analytics: Definition, Process, Key terms: Site references, Keywords and Key phrases; building block terms: Visit characterization terms, Content characterization terms, Conversion metrics; Categories: Offsite web, on site web; Web analytics platform, Web analytics evolution, Need of web analytics, Advantages & Limitations.

Unit 2 (8hrs.)

Basics of social network analysis: Nodes, ties, influencers, Structure and types of social networks, Capturing Web Data: Web logs, Beacons, JavaScript tags, Packet sniffing, Types of outcome data: E-commerce, Leads, Brand Advocacy, Competitive Data sources: Panel-based, ISP-based, Search engine data, Organizational structure and data governance in analytics, Understanding types and sizes of data in analytics, Use of cookies, page definitions, and link coding issues

Unit 3 (8hrs.)

Web Metrics & Analytics: Common metrics: Hits, Page views, visits, unique page views, Bounce, Bounce rate & its improvement, Average time on site, Real time report, traffic source report, custom campaigns, content report, Google analytics; Key Performance Indicator: Need, characteristics, perspective and uses.

Graphs and Matrices- Basic measures for individuals and networks. Random graphs & network evolution, Social Context: Affiliation & Identity

Web analytics tools: A/B testing, online surveys, Web crawling and Indexing. Natural Language Processing Techniques for Micro-text Analysis

Unit 4 (8hrs.)

Facebook Analytics: Parameters, reach, engagement, post-performance, Campaign goal setting and evaluation, Instagram, Twitter, LinkedIn, YouTube analytics overview, Google AdWords and traffic classification (organic vs paid), Introduction to Google Website Optimizer, Implementation technologies and performance concerns, Limitations and privacy concerns in digital analytics

Unit 5 (8hrs.)

Qualitative Analysis: Heuristic evaluations: Conducting a heuristic evaluation, Benefits of heuristic evaluations; Site Visits: Conducting a site visit, Benefits of site visits; Surveys: Website surveys, Post-visit surveys, creating and running a survey, Benefits of surveys.

Web analytics 2.0: Web analytics 1.0 & its limitations, Introduction to WA 2.0, competitive intelligence analysis and data sources; website traffic analysis: traffic trends, site overlap and opportunities.

COURSE OUTCOMES:

CO Code	Course Outcome	Bloom's K Level
CO1	Understand key concepts, processes, platforms, and categories of web analytics.	K1, K2
CO2	Analyse web data sources, social network structures, and digital data governance practices.	K3, K4
CO3	Apply web metrics and analytics tools to measure performance and extract actionable insights.	K3, K4
CO4	Evaluate social media analytics tools, campaign performance, and digital traffic sources.	K4, K5
CO5	Conduct qualitative evaluations and competitive analysis using Web Analytics 2.0 frameworks.	K4, K5

Suggested Readings

1. Rob Stokes, (2014), e marketing: The Essential Guide to Digital Marketing, Quirk Education.
2. Tuten & Bikramjit Rishi, Social Media Marketing, 3rd Ed. 2020, SAGE Publishing India
3. Dave Chaffey, Fiona Ellis-Chadwick, Richard Mayer, Kevin Johnston, (2012), Internet Marketing: Strategy, Implementation and Practice, Prentice Hall.
4. Liana Evans, Social Media Marketing: Strategies for Engaging in Facebook, Twitter & Other Social Media, Que Publishing.
5. Vandana Ahuja, (Digital Marketing, 1st edition, Oxford University Press.
6. Avinash Kaushik, Web Analytics 2.0: The Art of Online Accountability and Science of Customer Centricity, Clifton B., Advanced Web Metrics with Google Analytics, Wiley Publishing, Inc. 2nd ed.
7. Kaushik A., Web Analytics 2.0, The Art of Online Accountability and Science of Customer Centricity, Wiley Publishing, Inc. 1st ed.
8. Sterne J., Web Metrics: Proven methods for measuring web site success, John Wiley and Sons
9. Annmarie Hanlon, Digital Marketing, SAGE Publishing India

CUSTOMER RELATIONSHIP MANAGEMENT ANALYTICS

Code: BMBA MK05

Course Credits: 3

Teaching Hours: 40

Course Objectives:

1. Provide a comprehensive understanding of CRM concepts and their strategic importance in customer-centric organizations.
2. Enable students to explore analytical techniques for customer acquisition, retention, segmentation, and loyalty.
3. Equip learners with skills to use data-driven insights for CRM decisions and personalized marketing strategies.
4. Familiarize students with CRM tools and technologies including Salesforce, HubSpot, and customer analytics platforms.
5. Develop the ability to apply CRM analytics for lifecycle management, churn prediction, and revenue growth.

Unit 1: Fundamentals of CRM and Customer-Centric Strategy (8 Hours)

CRM overview and definitions, Evolution of CRM from sales to analytics, Strategic importance of CRM in business, Types of CRM – Operational, Analytical, Collaborative, CRM lifecycle stages, CRM success factors and challenges, Role of data in CRM, Customer touchpoints and omnichannel experience

Unit 2: Customer Data Management and Segmentation (8 Hours)

Types of customer data – demographic, transactional, behavioral, Data collection techniques and customer data platforms (CDPs), Customer database design and data quality management, Customer segmentation techniques – RFM, cluster analysis, behavioral segmentation, Data visualization in CRM using dashboards, Predictive analytics for customer behavior, Customer personas and journey mapping

Unit 3: CRM Analytics and Metrics (8 Hours)

Key CRM metrics – CLV, CAC, churn rate, retention rate, Customer satisfaction and Net Promoter Score (NPS), Models for customer acquisition and retention, Uplift modeling and cross-sell/up-sell strategies, Lead scoring and pipeline analytics, Campaign effectiveness analytics, Customer lifetime value models, Role of machine learning in CRM analytics

Unit 4: Tools, Technology and CRM Platforms (8 Hours)

Overview of CRM software – Salesforce, Zoho, HubSpot, Microsoft Dynamics, CRM implementation process and challenges, CRM and cloud-based architecture, CRM integration with ERP, Social CRM and mobile CRM, Real-time CRM analytics and automation, AI applications in CRM – chatbots, recommender systems, CRM dashboards and KPI monitoring

Unit 5: Advanced Applications and CRM Strategy Design (8 Hours)

Churn analysis and customer win-back strategies, Personalization using CRM insights, Email and loyalty program analytics, Voice of customer analytics, Case study: CRM success in banking/retail/e-commerce, Ethics and data privacy in CRM analytics, ROI measurement of CRM initiatives, Building CRM roadmap for digital transformation

COURSE OUTCOMES:

CO Code	Course Outcome	Bloom's K Levels
CO1	Understand the fundamentals of CRM, its types, lifecycle, and strategic importance in customer-centric business models.	K1, K2
CO2	Analyse customer data, segmentation methods, and customer journey mapping using CRM tools and techniques.	K3, K4
CO3	Apply CRM analytics and metrics to measure customer value, retention, satisfaction, and campaign effectiveness.	K3, K4
CO4	Evaluate CRM technologies, platforms, and AI-based tools for implementation, integration, and automation.	K4, K5
CO5	Design data-driven CRM strategies using advanced applications and assess their impact on business performance and transformation.	K5, K6

Suggested Readings

Textbooks:

1. **Customer Relationship Management: Concepts and Technologies** by Francis Buttle & Stan Maklan, Publisher: Routledge, 4th Edition
2. **CRM at the Speed of Light** by Paul Greenberg, Publisher: McGraw-Hill
3. **Customer Analytics for Dummies** by Jeff Sauro, Publisher: Wiley

Supplementary Resources:

1. Salesforce Trailhead (Free CRM learning modules)
2. Hub Spot Academy – CRM Certification
3. Harvard Business Review articles on Customer Experience & Retention
4. Real-time dashboards using Power BI or Tableau for CRM

Specialization Group: Finance Elective Subjects Investment & Portfolio Management

Code BMBA FM 01

Credits 3

Total Hours 40

Course Objective: This course will emphasize an understanding of the economic forces that influence the pricing of financial assets with an objective to

1. Understand the fundamental concepts of investment theory and their application in portfolio selection and management.
2. Apply appropriate financial models and formulae to solve business problems related to active portfolio management.
3. Analyze securities using various tools and techniques to assess risk-return trade-offs and investment performance.
4. Evaluate different investment avenues and portfolio strategies to enhance returns and manage risks effectively.
5. Develop the ability to construct and manage efficient portfolios by integrating theoretical

knowledge with practical insights.

Unit I Investments

(10 hrs)

Overview of Capital Market: Market of securities, Stock Exchange and New Issue Markets - their nature, structure, functioning and limitations; Trading of securities: equity and debentures/ bonds. Securities trading - Types of orders, margin trading, clearing and settlement procedures. Regularity systems for equity markets, Type of investors, Aim & Approaches of Security analysis.

Unit II Portfolio Theory

(8 Hrs)

Risk & Return: Concept of Risk, Component & Measurement of risk, covariance, correlation risk. Fundamental coefficient, Measurement of systematic Analysis: Economic, Industry, Company Analysis, Portfolio risk and return, Beta as a measure of risk, calculation of beta, Selection of Portfolio: Markowitz's Theory, Single Index Model, Case Studies.

Unit III Capital Market & Asset Pricing

(6 Hrs)

Technical Analysis: DOW Theory, Support and Resistance level, Type of charts & its interpretations, Trend line, Gap Wave Theory, Relative strength analysis, Technical Versus Fundamental analysis. Nature of Stock Markets: EMH (Efficient Market Hypothesis) and its implications for investment decision. Capital market theorem, CAPM (Capital Asset Pricing Model) and Arbitrage Pricing Theory. Case Studies.

Unit IV Bond, Equity and Derivative Analysis

(8 Hrs)

Valuation of Equity Discounted Cash-flow techniques: Balance sheet valuation, Dividend discount models, Intrinsic value and market price, earnings multiplier approach, P/E ratio, Price/Book value, Price/sales ratio, Economic value added (EVA). Valuation of Debentures/Bonds : nature of bonds, valuation, Bond theorem, Term structure of interest rates. Meaning, features, and types of derivatives, Role and significance of derivatives in financial markets, Participants in derivative markets: hedgers, speculators, and arbitrageurs, Regulatory framework of derivative markets

Unit V Active Portfolio Management

(8Hrs)

Portfolio Management and Performance Evaluation: Performance Evaluation of existing portfolio, Sharpe, Treynor and Jensen measures; Finding alternatives and revision of portfolio; Portfolio Management and Mutual Fund Industry

Course Outcomes

CO Code	Course Outcome	Bloom's Level
CO1	Understand the structure, functioning, and regulatory systems of capital markets and trading mechanisms.	K1, K2
CO2	Analyse risk and return, and apply portfolio theories such as Markowitz and the Single Index Model.	K3, K4
CO3	Evaluate technical and fundamental analysis tools and apply asset pricing models like CAPM and APT.	K4, K5
CO4	Apply valuation techniques for equity, bonds, and understand the role of derivatives in financial markets.	K3, K4
CO5	Assess portfolio performance using standard models and develop strategies for active portfolio management.	K4, K5

Suggested Readings:

Text Books :

- 1) Ranganatham - Security Analysis and Portfolio Management (Pearson Education, 2nd Ed.)
- 2) Chandra P - Investment Analysis and Portfolio Management (Tata McGrawHill, 3rd Ed)
- 3) Bhatt- Security Analysis and Portfolio Management (Wiley ,1st Ed)
- 4) Pandian P - Security Analysis and Portfolio Management (Vikas, 1st Ed.)
- 5) Bodie, Kane, Marcus & Mohanti - Investment and Indian Perspective (TMH, 10th Ed)

Reference Books

1. William F. Sharpe, Gordon J. Alexander and Jeffery V. Bailey: Investments, (Prentice Hall, 6th Ed).
2. Donald E. Fischer and Ronald J. Jordan: Security Analysis and Portfolio Management, (Pearson Education, 6th Ed)
3. Charles P. Jones, Investments Analysis and Management, (John Wiley & Sons, 13 Ed)..
4. Edwin J. Elton, Martin J. Gruber: Modern Portfolio Theory and Investment Analysis, 9/e, John Wiley & Sons, 2001.
5. Sidney Cottle, Roger F. Murray, Frank E. Block, Graham and Dodd: Security Analysis, 5/e, Tata McGraw-Hill, New Delhi, 2002.

FINANCIAL ANALYTICS USING POWER BI

Code: MMBA FM02

Course Credits: 3

Teaching Hours: 40

Course Objectives:

1. Understand the financial analysis concepts and visual analytics using Power BI.
2. Equip learners with the skills to extract, clean, and transform financial data for analysis.
3. Enable students to design interactive dashboards for financial reporting and KPIs.
4. Apply Power BI tools to analyze profitability, liquidity, valuation, risk, and cost management.
5. Develop the ability to interpret financial performance for strategic decision-making.

Unit 1: Introduction to Financial Analytics and Power BI Basics (8 Hours)

Introduction to financial analytics, Scope and applications in business decision-making, Types of financial data (structured/unstructured), Overview of Microsoft Power BI ecosystem, Power BI Desktop interface and features, Data import methods (Excel, CSV, databases), Data modeling basics and relationships, Creating your first financial dashboard

Unit 2: Financial Data Preparation and Transformation (8 Hours)

Data cleaning using Power Query, Handling missing, duplicate, and inconsistent financial records, Date and time intelligence in financial data, Introduction to DAX (Data Analysis Expressions), Calculated columns and measures for financial KPIs, Financial data modeling best practices, Building hierarchies (fiscal year, quarter, month), Creating time-based financial metrics (YoY, MoM)

Unit 3: Financial KPIs and Visualization Techniques (8 Hours)

Key financial ratios: profitability, liquidity, solvency, efficiency, ROI/ROE, Dynamic visuals for income statements, balance sheets, and cash flow reports, Trend analysis and variance reports using line/bar charts, Financial KPI cards and conditional formatting, Drill-down and drill-through for financial insights, Forecasting and scenario analysis in Power BI, Building waterfall charts for profit/loss analysis, Creating dashboards for CFO/finance executives

Unit 4: Budgeting, Forecasting, and Risk Analysis (8 Hours)

Budget vs Actual analysis using slicers and filters, Cash flow forecasting and projection models, Working capital analysis and dashboards, Risk identification using financial indicators, Sensitivity analysis using parameters, Data alerts and Power BI service for report sharing, Financial benchmarking and competitor comparison, Compliance and audit dashboards

Unit 5: Advanced Analytics and Business Use Cases (8 Hours)

Using What-If parameters for financial simulations, Embedding Power BI reports in Excel and PowerPoint, Integration with Excel, SQL Server, and cloud sources, Introduction to Power BI Service and publishing reports, Role-based dashboards for accountants, analysts, and managers, Case study: Financial performance analysis of a listed company, Capstone project: Build a complete financial dashboard, Ethical considerations and best practices in financial analytics

COURSE OUTCOMES:

CO Code	Course Outcome	Bloom's K Levels
CO1	Understand the fundamentals of financial analytics and navigate the Power BI environment for data visualization.	K1, K2
CO2	Apply data preparation and transformation techniques to clean and model financial data using Power Query and DAX.	K3
CO3	Develop interactive dashboards and visualisations for financial KPIs, statements, and forecasting analysis.	K3, K4
CO4	Analyse budgeting, cash flows, and financial risks through advanced Power BI tools and real-time reporting.	K4, K5
CO5	Design and implement end-to-end financial analytics solutions using business use cases and ethical data practices.	K5, K6

Suggested Readings & Tools

Textbooks:

1. Financial Analytics with Power BI by Lukas Ruebbelke (eBook / blog-based resources)
2. Analyzing Data with Power BI and Power Pivot for Excel by Alberto Ferrari and Marco Russo, Publisher: Microsoft Press
3. Financial Statement Analysis by K.R. Subramanyam, Publisher: McGraw-Hill Education

Tools & Platforms:

- Microsoft Power BI Desktop (Free version)
- Power BI Service (cloud)
- DAX Guide (<https://dax.guide>)
- Microsoft Learn – Power BI modules
- Kaggle/Excel datasets for finance case studies

FINANCIAL AND CREDIT RISK ANALYTICS

Code: BMBA FM 03

Course Credit: 3

Teaching Hours: 40

Course Objectives

1. Introduce credit risk fundamentals and types of credit facilities.
2. Evaluate trade credit risks and regulatory frameworks.
3. Understand non-fund-based facilities, letters of credit, and loan commitments.
4. Analyse and manage operational risks in credit processes.
5. Apply credit risk analysis and credit rating methodologies.

UNIT 1: Introduction (8 hours)

Financial Credit: Meaning & Objectives, Credit Risk, Credit Analysis, Seven C's, Credit Analysis Process, Credit Process, Documentation, Loan Pricing and Profitability Analysis. Regulations, Types of Credit Facilities: Various types of Credit Facilities- Cash Credit, Overdrafts, Demand Loan, Bill Finance – Drawee Bill Scheme, Bill Discounting. Cash Delivery: Types of Facilities, Modes of Delivery.

UNIT 2: Trade Credit Risk (8 hours)

Sole -Banking Arrangement, Multiple Banking Arrangement, Consortium Lending, Syndication. Credit Thrust, Credit Priorities, Credit Acquisitions, Statutory & Regulatory restrictions on Advances. Credit Appraisal: Validation of proposal, Dimensions of Credit Appraisals, Structuring of Loan documents, Credit Risk, Credit Risk Rating, Credit Worthiness of Borrower, Purpose of Loan, Source of Repayment, Cash Flow, Collateral.

UNIT 3: Letter of Credit and Loan Commitments (8 hours)

Quasi Credit Facilities: Advantages of Non-Fund Facilities, Various types of NFB Facilities, Various types Letter of Credits, Assessment of LC limits, Bills Purchase/ Discounting under LC. Loan commitments, Un-funded lines of credit and their characteristics, Various types of Bank Guarantees: Performance Guarantee, Financial Guarantees, Deferred Payment Guarantees, Types of Performance and Financial Guarantees, Assessment of Bank Guarantees Limit, Period of Claim under Guarantee.

UNIT 4: Operational Risk: Overview (8 hours)

Risk & Uncertainty, Financial Sector, Risk Types, Operational Risk Management- Recruitment & Training, Work flow Design, Work Flow Documentation, Delegation of Authority, Independent Internal Audit, Independent Compliance Function, Independent Risk Management Function, System Audit, Corporate Governance, Whistle Blower Policy, Risk Management Culture.

UNIT 5: Credit Analysis & Rating (8 hours)

Importance of credit analysis, Stages of credit analysis profitability analysis and pricing of loans, Credit risk analysis (Debt ratios and risk of leverage), Analysis of working capital, liquidity, operating and cash cycle risk.

Credit Rating: Measurement of Risk, Objective of Rating, Internal & External Rating, Model Credit Rating, Methodology of Rating, Internal & External Comparison, Model Rating Formats.

COURSE OUTCOMES:

CO Code	Course Outcome	Bloom's Level
CO1	Understand the objectives, processes, and regulations involved in credit analysis and types of credit facilities.	K1, K2
CO2	Apply techniques for evaluating trade credit risks, appraising loan proposals, and assessing creditworthiness.	K3
CO3	Analyse quasi credit facilities, letters of credit, and bank guarantees, and evaluate risk mitigation mechanisms.	K4
CO4	Examine operational risk in banking environments and recommend risk mitigation strategies and internal controls.	K4, K5
CO5	Assess credit risk using financial indicators and credit rating models to support sound lending decisions.	K5, K6

Suggested Readings

1. Fundamentals of Credit and Credit Analysis: Corporate Credit Analysis Kindle Edition by Arnold Ziegel (Author), Ronna Ziegel (Editor)
2. Credit Appraisal Risk Analysis & Decision Making by V.Rajaraman (Author)
3. Financial Engineering, Risk Management & Financial Institutions (English, Paperback, Rao S.S. Prasada)
4. The Bank Credit Analysis Handbook: A Guide for Analysts, (Wiley Finance) Hardcover by Jonathan Golin (Author), Philippe Delhaise (Author)
5. Credit Risk Measurement: New Approaches to Value at Risk and Other Paradigms (Wiley Finance) by Anthony Saunders (Author), Linda Allen (Author)
6. Credit Risk Analytics: Measurement Techniques, Applications, and Examples in SAS (Wiley and SAS Business Series) Hardcover – by Daniel Roesch (Author), Harald Scheule (Author), Bart Baesens (Author)
7. Credit Risk Modeling Theory And Applications by David Lando, New Age International (P) Ltd., Publishers

BEHAVIOURAL FINANCE

Code: BMBA FM04

Course Credits: 3

Teaching Hours: 40

Course Objectives:

1. Understand the foundations of rational finance and behavioural finance, and the challenges behavioural finance poses to traditional financial theories.
2. Apply knowledge of cognitive and emotional biases in making informed and rational investment decisions
3. Analyze the impact of overconfidence, herd behaviour, and other social factors on financial markets division and investor decisions.
4. Evaluate the principles of value investing through the lens of behavioural biases and investor psychology.
5. Develop informed investment strategies by integrating behavioural insights into financial decision-making and market outcomes.

Unit 1 (8 Hours)

Introduction to Behavioral Finance: Foundations of behavioral Finance, behavioral Finance Vs Conventional Finance

Rational Markets Hypothesis and Challenge of Behaviouralist : Intellectual Underpinnings, The rise of Rational Market Hypothesis, Impact on wall street and the choices, The Challenge of Behaviouralist, Synthesis and Future Horizons. Impact on Capital Market

Foundations of Rational Finance: Introduction, Neoclassical, Economics, Rational Preferences, Utility maximization, Relevant information; Expected Utility Theory, Modern Portfolio Theory, Capital Asset Pricing Model, Efficient Markets Hypothesis, Agency Theory, From Rationality to Psychology.

Unit 2 (8 Hours)

Heuristics and Biases : How the Human mind Works: The Two Systems, Familiarity and related Heuristics, Anchoring, Irrationality and Adaption, Hyperbolic Discounting.

Self Deception: Introduction, Miscalibration, Forms of Over confidence, Causes of Over confidence, Other forms of self- Deception, Implications of Over confidence for financial decision making. Factors Impeding correction, How much do the experts know, the Success equation: Untangling skill and Luck in business.

Unit 3 (8 Hours)

Prospect Theory, Framing and Mental Accounting: Error in Bernoulli's Theory, Prospect Theory, SP/A Theory, Framing, Mental Accounting, From theory to practice.

Challenge to market efficiency: Theoretical foundations of EMH, Empirical for EMH, Theoretical Challenges for EMH, Noise trading and limits to Arbitrage, Keynes Beauty contest and guess- a number game, Assessment of EMH.

UNIT 4(8 Hours)

Investor Behaviour: Portrait of an individual investor, what the heuristics and biases mean for financial decision making, implications of: emotions and mental accounting. Behavioural portfolio theory, psychographic models, basic ingredients of sound investment philosophy, guidelines for overcoming psychological biases.

UNIT 5(8 Hours)

Market outcomes: Size effect and seasonality, Momentum and reversal, post- earnings announcement drift, value premium, premium puzzle, excessive volatility, Bubbles, Behavioral Asset Pricing Model.

Value Investing: Central tenets of value investing, Evidence and prospects of value investing, Strategies of well-known value investors, academic research on value investing.

Course Outcomes

CO Code	Course Outcome Statement	Bloom's K Level
CO1	Understand the foundations of rational finance and behavioural finance.	K1, K2
CO2	Apply knowledge of cognitive and emotional biases in making informed and rational investment decisions.	K3
CO3	Analyse the impact of overconfidence, herd behaviour, and other social factors on financial market behaviour.	K4, K5
CO4	Evaluate the principles of value investing through the lens of behavioural biases and investor psychology.	K5
CO5	Develop informed investment strategies by integrating behavioural insights into financial decision-making processes.	K6

Suggested Readings

1. Chandra Prasanna (2016): *Behavioral Finance*, Tata Mc Graw Hill Education(India) Private Limited, Chennai.
2. Acket Lucy F and DeavesRichard(2011): *Understanding Behavioral Finance*, CENGAGE Learning
3. Wood, Arnold Ed(2010), *Behavioral Finance and Investment Management*, Charlottesville, Virginia: Research Foundation of CFA Institute.
4. PompianM(2006): *Behavioral Finance and Wealth Management: How to build optimal portfolio's That account for Investor Biases*, New Jersey: John Wiley and Sons.
5. Peterson Richard(2007): *Inside the investors Brain: The power of mind over money*, Hoboken, N.J.: John Wiley and Sons.

ARTIFICIAL INTELLIGENCE IN FINANCE

Code: BMBA FM05

Course Credits: 3

Teaching Hours: 40

Course Objectives:

1. Introduce students to the core principles and innovations of AI in modern financial services.
2. Analyze investor behavior, market reactions, and classical financial theories through AI-driven tools.
3. Explore AI applications across insurance, credit scoring, and risk analytics.
4. Develop analytical skills for wealth management using AI techniques like algorithmic trading and portfolio optimization.
5. Understand ethical, regulatory, and governance challenges in AI-driven finance.

Unit 1: Foundations of AI in Finance and Quantitative Analysis (8 hrs.)

Introduction to AI in Finance, Evolution of FinTech and key components, Metaverse and financial innovation, Decentralized Finance (DeFi): Concepts and Applications, NFTs and asset tokenization in finance, Blockchain's impact on traditional financial systems, Robo-advisors and digital lending

Unit 2: Behavioral Finance, Event Studies, and Financial Theory (8 hrs.)

Introduction to behavioral finance and cognitive biases, Psychology of investors: Herding, anchoring, overconfidence, Prospect theory and loss aversion, Event study methodology: Concept and setup, Application of AI in financial event detection, Measuring abnormal returns from events, Text mining for financial news impact

Unit 3: AI in Insurance and Credit Risk (8 hrs.)

Insurance Fundamentals, The Insurance Value Chain, AI in Product Development and Behavioural Pricing, Personalisation & Customer Experience, Claims Management and Fraud Detection, Credit Scoring Fundamentals, Alternative Credit Scoring Models, Opportunities and Challenges in Credit Risk Assessment

Unit 4: AI in Wealth and Asset Management (8 hrs.)

AI in Wealth and Asset Management, Benefits of AI in Wealth and Asset Management, Market Research and Data Analytics, Investment Strategy and Algorithmic Trading, Robo-Advisory: Concepts and Industry Examples, Portfolio Optimization using Machine Learning, Client Personalization and Behavioral Profiling with AI

Unit 5: Ethics, Risks, and Human-AI Collaboration in Finance (8 hrs.)

Ethical Issues in AI Models, Model Validation and Governance, Cooperation Between Humans and Machines, Regulatory Frameworks and AI Risk Mitigation, Bias and Fairness in Financial AI Models, Explainable AI (XAI) in Financial Decision-Making

COURSE OUTCOMES:

CO Code	Course Outcome Statements	Bloom's K levels
CO1	Understand the foundations and disruptions of AI and FinTech in financial services	K2
CO2	Analyze behavioral finance concepts and apply AI to event-driven market studies	K3, K4
CO3	Evaluate AI-driven solutions in insurance, credit scoring, and fraud detection	K5
CO4	Apply machine learning for wealth management, portfolio optimization, and robo-advisory platforms	K4, K6
CO5	Assess ethical issues, governance frameworks, and human-AI collaboration in financial decision-making	K5

Suggested Readings & References

1. Artificial Intelligence in Finance **by** Yves Hilpisch, Publisher: O'Reilly Media
2. The AI Book: The Artificial Intelligence Handbook for Investors, Entrepreneurs and FinTech Visionaries by Ivana Bartoletti, Anne Leslie, and Shân M. Millie, Publisher: Wiley
3. Behavioral Finance: Psychology, Decision-Making, and Markets by Lucy Ackert & Richard Deaves, *Publisher: Cengage Learning*
4. Machine Learning for Asset Managers by Marcos López de Prado, Publisher: Cambridge University Press

Specialization Group: Human Resource Management

Talent Acquisition Management

Code BMBA HR 01

Credit: 3

Total Hours: 40

Course Objectives

1. Understand and describe the core principles and practices of Talent Management, including its scope and relevance in modern organizations.
2. Analyze strategies for talent acquisition, development, retention, and compensation to address organizational talent needs.
3. Evaluate global talent management practices and evaluate their applicability across cultural and organizational contexts.
4. Apply talent management frameworks to effectively manage human capital in organizational settings.
5. Evaluate the strategic role of HR and leadership in talent optimization and design initiatives to align talent strategies with business goals.

Unit 1: Introduction to Talent Management

(6 Hr)

Concept and evolution of Talent Management; Talent Value Chain: Acquisition, Retention, & Development; Talent Management Models (Zinger Model, Six Principles of TM); Talent Practices: India, USA, Europe, other Asian countries; Strategic relevance of talent for competitive advantage; **Cases and latest updates.**

Unit 2: Talent Acquisition & Retention Strategies

(10 Hr)

Talent Acquisition lifecycle: Job analysis, sourcing, assessment; Use of Psychometric tools in recruitment; Best practices in recruitment of various MNCs; Employer Branding and Employee Value Proposition (EVP); Employee Engagement & Retention Strategies; **Cases and EVP design exercise.**

Unit 3: Talent Development for Global Leadership

(8Hr)

Talent development methods: Coaching, Mentoring, Training; Global Leadership Competencies (GLOBE study, case analysis); Integrated Talent Management Process Succession Planning and Career Development; Use of Meta-Analysis & Talent Analytics; Cases on succession planning; **Exercises on leadership assessment.**

Unit 4: Performance Management & Rewards

(10 Hr)

Performance Appraisal Systems (MBO, 360-degree feedback); Compensation and Reward Strategies; Motivating Star Employees and High Potentials; Cultural aspects in talent mobility; Coaching with Compassion (Daniel Goleman framework); Cases on the evaluation of reward policies with latest updates; **Exercises on performance reviews and rewards mapping.**

Unit 5: Strategic Talent Management & Contemporary Issues

(6Hr)

Strategic Workforce Planning; Talent Success Drivers & Talent-Powered Organizations; Big Data, AI & Talent Analytics; Talent Management Challenges; Ethical considerations & Future of Work (employment-to-consultation shifts); Cases and latest updates; **Exercises on the talent strategy design using analytics.**

Suggested Readings

Textbooks:

1. Berger, L. A., & Berger, D. R. *The Talent Management Handbook*. Association for Talent Development, USA.
2. Joshi & Vohra, *Talent Management*, Cengage India Private Limited
3. Gerard Assey, *Case Studies in Human Resources & Talent Management*
4. Goel Dewakar, *Performance Appraisal and Compensation Management*, PHI

Reference Books:

1. Silzer, R., & Dowell, *Strategy-Driven Talent Management: A Leadership Imperative*, Jossey-Bass.
2. Goleman, D. *Coaching with Compassion*, Harvard Business Review.
3. Joel Alemibola Elegbe, *Talent Management in the Developing World: Adopting a Global Perspective*, Routledge

Course Outcomes

CO Codes	Course Outcome Statements	Bloom's K Levels
CO1	Remember and understand talent management practices at national and global levels	K1, K2
CO2	Apply talent management principles to real-world organizational problems	K3
CO3	Analyze the interplay between engagement, motivation, and retention	K4
CO4	Evaluate leadership and HRM roles in managing high-potential talent	K5
CO5	Design and create comprehensive talent management strategies using analytics	K6

EMPLOYEE RELATIONS AND LABOR LAWS

Code BMBA HR 02

Course Credit: 3

Total Hours: 40

Course Objectives:

1. Explain and understand the conceptual framework and key principles of Industrial Relations.
2. Identify and describe major Indian labor legislations relevant to industrial relations.
3. Interpret and apply the basic requirements, provisions, and mandates of key labor laws in India.
4. Analyze the existing framework of Industrial Relations and labor legislation to assess their implications in real-world organizational contexts.

Unit 1: (9 Hours)

Employee Relations Management (ERM) & Industrial Relation: Introduction and Importance of Employee Relations, Employee Relations Management Tools, Approaches **to Understand IR, the Trends of Industrial Relations in India, Factors Leading the Present State of Industrial Relations, Impact of Globalization on the Liberalized Economy** Emerging challenges of IR in India, Linking Industrial Relations with economic growth of a country, **Trade Unionism:** Development of trade unionism, functions, type and structure of trade union, Why Employees Join Trade Unions , Trade Unions in the Eyes of the Management, Politics and Trade Unions, Outside Leadership of Trade Unions problems & suggestive remedial measures of trade unions, The Trade Unions Act 1926 & Amendment Bill, **2019** : Objective, Recognition and registration, Industrial Democracy & Participative Management. **Case Studies**

Unit2: (8 Hours)

Collective Bargaining: Significance, types & procedure of Collective bargaining **Discipline:** The Industrial Employment (Standing Orders) Act 1961, Misconduct, Disciplinary Action, Types of Punishments, Code of Discipline, Domestic Enquiry, **Grievance Handling in IR:** Grievance Settlement Procedure, Industrial Disputes, Preventive & Settlement Machinery in India. **Employee Participation and Empowerment:** Objectives, Employee Participation, Advantages of Employee Participation, Employee Participation in India, Methods of Participation, Employee Empowerment. **Case Studies**

Unit 3 (8 Hours)

The Factories Act, 1948 & The Factories (Amendment) Bill, 2016 & The shop & Establishment Act 1948, The Payment of Wages Act, 1936 and amendment in 2020, The Workmen's compensation Act, 1923, The Industrial Disputes Act, 1947

Unit 4 (8 Hours)

The Payment of Minimum wages act 1948 & its revisions 2019, 2020 & 2021, The Contract Labor (Abolition & regulative) act The ESI Act, 1948 and latest amendments, Child Labour (Prohibition & Regulation) Act, 1986 and its latest amendment,

Unit 5 (7 Hours)

The payment of Bonus Act, 1965 and amendments, The payment of Gratuity Cat, 1972 and its amendment 2018 ,The Maternity Benefit Act, 1961 and amendments, Employee's Provident fund & Miscellaneous Provisions Act, 1952 .

COURSE OUTCOMES

CO Code	Course Outcome Statement	Bloom's K Levels
CO1	Understand the framework and fundamentals of Industrial Relations.	K1, K2
CO2	Explain the importance of Employee Relations within the Industrial Relations perspective.	K1, K2, K3, K4
CO3	Describe and apply relevant laws governing Human Resource Management.	K1, K2, K3
CO4	Interpret and implement Labour Laws effectively within the organisation.	K4, K5
CO5	Demonstrate use of Collective Bargaining and Grievance Redressal mechanisms in HR practice.	K1, K2, K3

Performance and Reward Management BMB HR 03

Code BMBA HR 03

Course Credit: 3

Hrs 40

Course Objective:

1. Understand and explain the key concepts of performance management and describe contemporary methods for administering compensation and rewards in practice.
2. Evaluate the benefits of implementing a performance development plan and evaluate the potential consequences of its absence in organizational settings.
3. Differentiate and analyze the essential components of an effective and integrated performance development system.
4. Create “SMART” annual performance objectives that are specific, measurable, attainable, relevant, and trackable.
5. Describe the concept of competency mapping and demonstrate its relevance in individual and organizational career development.
6. Explain the structure of compensation systems in India and assess key issues related to salary fixation, dearness allowance, bonuses, incentive schemes, and employee benefits.

Unit1: (7 hours)

Introduction to Performance Management System :Meaning, Uses and purpose of Performance Management, Performance Management vs Performance Appraisal, Performance management and its challenges in current scenario, Performance management as a System and Process, Establishing Performance Criterion of developing an Effective Appraisal System, Criteria (KRA, KSA VS KPI).

Case Studies

Unit2: (9 hours)

Managing Performance: Methods of managing performance of all the levels of Management, 360 degree Performance Appraisal, MBO and Performance analysis for Individual and organizational development. **Case Studies**

Unit3: (7 hours)

Contemporary Issues: Potential appraisal, Competency mapping & its linkage with Career Development and Succession planning, **Balance score card:** Introduction and Applications, Advantages and limitations. **Case Studies**

Unit 4: (9 hours)

Reward System: Compensation- Definition, Function, and significance. **Job evaluation:** Methods of job evaluation, Inputs to job evaluation, Practical implication for technical/non-technical and executive/managerial positions and significance of wage differentials. **Case Studies**

Unit 5: (8 Hours)

Compensation: Method of pay and Allowances, Pay structure: Basic Pay, DA, HRA, Gross Pay, Take home pay etc. Incentive schemes; **Methods of payment:** Time and piece rate. **Fringe benefits & other allowances:** Overtime, City compensatory, Travelling etc. **Regulatory compliance:** Introductions, Wage and Pay commissions, Overview of minimum wages Act- 1948 and Equal Remuneration Act-1976. Profit Sharing options; **Case Studies.**

Course Outcomes

CO Code	Course Outcome Statements	Bloom's K Levels
CO1	Knowledge of Performance Management and Performance Appraisal	K1, K2
CO2	Competency to understand the importance of Performance Management	K1, K2
CO3	Knowledge about the Compensation and Reward Systems	K1, K2
CO4	Competency to implement effective reward systems in the organization	K3, K4, K5
CO5	Ability to explain the relevance of competency mapping and its linkage with career development	K1, K2, K3

Suggested Readings

1. T V Rao (2007). Performance Management and Appraisal Systems: HR Tools for Global Competitiveness (Response Books)
2. Michael, Armstrong (1999). Performance Management. Kogan Page.
3. Shrinivas R Kandula (2006). Performance Management : Strategies , Intervention & Drivers. Pearson
4. Chadha, P. (2003). Performance Management: It's About Performing Not Just Appraising. McMillan India Ltd.
5. B D Singh (2012). Compensation and Reward Management, Excel Book
6. Robert Bacal (2007). Performance Management ,McGraw-Hill Education.
7. T V Rao : Performance Management :Towards organisational Excellence (Sage Publications)

HR ANALYTICS USING POWER BI

Code: BMBA HR04

Course Credits: 3

Teaching Hours: 40

Course Objectives

1. Introduce the concepts, techniques, and business applications of HR analytics with practical implementation using Power BI.
2. Equip students with skills to visualize and analyze workforce data using Power BI dashboards.
3. Develop the ability to track, store, retrieve, analyze, and interpret HR metrics for evidence-based decision-making.
4. Apply statistical and visualization techniques to measure recruitment, performance, training, and compensation metrics.
5. Demonstrate how HR results can be connected to business outcomes using Power BI dashboards.

Unit 1: Foundations of HR Analytics and Power BI Overview (8 Hours)

Introduction to HR Analytics, Evolution from HRIS to data-driven decision-making, Overview of HR metrics and their strategic significance, HR analytics frameworks: LAMP, HR Scorecard, Workforce Scorecard, Overview of Power BI interface, Importing HR data from Excel/CSV/SQL, Data types, data modeling basics, Hands-on: Building your first Power BI HR report

Unit 2: Workforce Planning, Recruitment & Selection Analytics with Power BI (8 Hours)

Quantitative and qualitative dimensions of HR forecasting, Methods of HR demand forecasting, Data preparation for workforce analytics, Building forecasting visuals in Power BI (line charts, KPIs), Recruitment funnel metrics: sourcing, screening, selection, Analyzing selection model reliability and bias, Visualizing attrition and turnover risk using Power BI, Predictive hiring using trend visuals and filters

Unit 3: Performance, Training & Compensation Analytics Using Power BI (8 Hours)

Performance evaluation data preparation, Creating dashboards for performance tracking, Measuring training effectiveness using HR KPIs, Predicting training needs and skill gaps, Designing compensation metrics (pay ratio, equity, benchmarks), Power BI visuals for salary analysis (histogram, matrix), Competency scorecards and promotion decisions using slicers and filters, DAX functions to calculate HR indicators (Average, % Growth, Ratio)

Unit 4: Monitoring Interventions & Employee Well-being Analytics (8 Hours)

Tracking impact of HR interventions (L&D, engagement, retention), Using Power BI for stress level and pulse survey analysis, Moderation and mediation insights using calculated columns, Data-driven decisions using scenario analysis, Visualizing pre/post-intervention trends, Using Power BI Q&A and smart narratives for insights, Building HR evidence-based dashboards with annotations

Unit 5: HR Metrics Dashboarding and Storytelling in Power BI (8 Hours)

Types of HR metrics: recruitment, development, performance, retention, Building KPI tiles and drill-through dashboards in Power BI, Advanced HR dashboards: Attrition, DEI, training ROI, Use of bookmarks, filters, tooltips for HR storytelling, Visual best practices for HR reporting, Publishing HR dashboards on Power BI Service, Case study: End-to-end HR dashboard development and presentation

COURSE OUTCOMES:

CO Code	Course Outcome Statement	Bloom's K Levels
CO1	Understand the fundamental concepts of HR analytics and the role of Power BI in visualizing HR data	K2
CO2	Apply HR forecasting, recruitment, and performance metrics using Power BI tools and techniques	K4
CO3	Analyze workforce trends and training ROI through interactive dashboards and visuals	K4
CO4	Design and interpret dashboards for compensation planning, attrition, and HR interventions	K5,K6
CO5	Demonstrate data-driven HR storytelling and connect HR analytics to organizational goals	K5

Suggested Readings & Tools**Textbooks:**

1. HR Analytics: Understanding Theories and Applications by Dipak Kumar Bhattacharyya, *Publisher: SAGE Publications*
2. Data-Driven HR: How to Use Analytics and Metrics to Drive Performance by Bernard Marr, *Publisher: Kogan Page*
3. Microsoft Power BI Cookbook by Brett Powell, *Publisher: Packt Publishing*

Tools & Online Resources:

- Microsoft Power BI Desktop (Free software for hands-on practice)
- Power BI Service (cloud publishing and collaboration)
- HR dashboards on PowerBI.com (samples)
- Microsoft Learn – Power BI modules (<https://learn.microsoft.com/en-us/training/powerplatform/power-bi/>)
- DAX Guide (<https://dax.guide>) for advanced calculations
- ExcelHR, HRAnalyticsHub, Kaggle for sample HR datasets

ARTIFICIAL INTELLIGENCE IN HUMAN RESOURCE MANAGEMENT

Code: BMBA HR05

Course Credits: 3

Teaching Hours: 40

Course Objectives:

1. Understand the fundamentals and evolution of AI in HRM.
2. Explore how AI is transforming traditional HR functions.
3. Analyze the ethical, operational, and strategic implications of AI in people management.
4. Develop skills in using AI-driven HR tools for decision-making and communication.

Unit 1: The Dawn of AI in HR (6 Hours)

Introduction to AI and Machine Learning: Concepts & Terminologies, Historical evolution of HR technology, Drivers of AI adoption in HR, Benefits and limitations of AI in HR, Case Studies: Early adopters and their outcomes. Activities: Class debate on “AI as a disruptor vs. enabler in HR”

Unit 2: Unraveling the AI and HR Interface (6 Hours)

Talent Acquisition: AI-enabled recruitment tools, chatbots, resume screening, Onboarding and training: Virtual assistants, L&D personalization, Performance Management and Feedback Systems, Employee Lifecycle Automation, Legal and Ethical implications in AI-driven HR processes
Activities: Tool Demonstration – students analyze existing AI HR software (e.g., HireVue, Pymetrics, Eightfold AI)

Unit 3: AI Impact: Driving Efficiency in HR (8 Hours)

Automation of repetitive HR tasks, Time and cost savings through AI, Workforce planning and optimization, Predictive analytics in employee attrition and engagement, AI-driven payroll and benefits administration.

Case Study: Comparison of manual vs. AI-based HR processes in a mid-size firm

Unit 4: From Insight to Foresight: AI in Data Analysis (8 Hours)

HR metrics and KPIs supported by AI, Predictive modelling in hiring, retention, performance, Natural Language Processing (NLP) in employee sentiment analysis, AI for diversity, equity & inclusion (DEI) analytics, Ethical considerations in people analytics,

Activity: Group project on creating an HR analytics dashboard using mock data

Unit 5: Changing the Way HR Communicates: AI and Personalization (8 Hours)

AI in internal communication tools, Chatbots for employee services, Personalized learning and development journeys, Sentiment-aware employee engagement platforms, Building trust and transparency with AI communication tools.

COURSE OUTCOMES:

CO Code	Course Outcome Statement	Bloom's K Levels
CO1	Understand the fundamentals and evolution of Artificial Intelligence in Human Resource Management	K2
CO2	Analyze the applications of AI in core HR functions such as recruitment, onboarding, performance, and training	K4
CO3	Evaluate the operational, strategic, and ethical implications of AI in managing people and processes	K5
CO4	Apply AI tools and platforms to automate HR workflows and improve workforce analytics	K4
CO5	Design AI-enabled communication strategies for personalized employee engagement and experience	K6

Suggested Readings:**Textbooks:**

1. Artificial Intelligence for HR: Use AI to Support and Develop a Successful Workforce by Ben Eubanks, Publisher: Kogan Page
2. AI for HR: A Guide to Navigating the Future of Human Resources by Jeanne Meister and Kevin Mulcahy, Publisher: Wiley
3. Predictive HR Analytics: Mastering the HR Metric by Martin Edwards and Kirsten Edwards Publisher: Kogan Page
4. People Analytics in the Era of Big Data: Changing the Way You Attract, Acquire, Develop, and Retain Talent by Jean Paul Isson and Jesse Harriott, Publisher: Wiley
5. Digital HR Strategy: Achieving Sustainable Transformation in the Digital Age by Soumyasanto Sen, Publisher: Kogan Page

Online Tools & Resources:

1. Harvard Business Review articles on AI and HR
2. SHRM (Society for Human Resource Management) Reports
3. MIT Sloan Management Review – AI & Workforce
4. Tool demos: HireVue, Eightfold AI, Pymetrics, Darwinbox

Specialization Group: Operations Management

SUPPLY CHAIN ANALYTICS

Code: BMBA OM01

Course Credit: 3

Teaching Hours: 40

Course Objectives:

1. Understand and explain the concepts of global supply chain design and analyze the causes and consequences of the bullwhip effect.
2. Describe the drivers of supply chain profitability and evaluate the impact of risk pooling in supply chain operations.
3. Interpret and analyze forecasting methods and analyze the implications of forecasting errors on supply chain performance.
4. Explain the importance of supply chain coordination and apply knowledge of supply contracts to improve operational efficiency.
5. Discuss and evaluate the principles of supply chain relationship management and evaluate strategies to enhance collaboration among partners.

Unit 1: (8 hrs)

Linking supply chain strategy with corporate strategy, Global Supply Chain Design, Supply Chain Restructuring, Supply Chain Metrics. Bullwhip Effect: Demand-Supply mismatch, causes of bullwhip effect – order, synchronization, order batching, trade promotions and forward buying, and shortage gaming.

Unit 2: (8 hrs)

Supply Chain Profitability: Factors affecting supply chain profit, Demand-supply, mismatch and role of inventory, Price discounts, News vendor model and optimal order quantity, Risk Pooling.

Unit 3: (8 hrs)

Forecasting and effect of forecast errors, Collaborative forecasting, Postponement and, Quick response system, Vendor managed Inventory, Pricing and revenue management.

Unit 4: (8 hrs)

Supply Chain Coordination: Concept of double marginalization, Supply Contracts – buy, back contract, revenue sharing contract, quantity flexibility contract.

Unit 5: (8 hrs)

Supply Chain Relationship Management: Importance of relationship management in SC, Supplier relationship management, Purchasing portfolio models, Customer relationship management, Relationship management frameworks

COURSE OUTCOMES:

CO Codes	Course Outcome Statements	Bloom's K Levels
CO1	Understanding of global supply chain design and bullwhip effect	K1, K2
CO2	Analyse supply chain profitability and risk pooling	K2, K4
CO3	Understand forecasting and effect of forecasting errors	K2
CO4	Apply supply chain coordination concepts and supply contracts	K2, K3
CO5	Apply supply chain relationship management practices	K2 , K3

Suggested Readings:

1. Chopra, S., P. Meindl, D.V. Kalra, Supply Chain Management: Strategy, Planning, Operations, Pearson India, New Delhi.
2. Cachon, G.P., C. Terwiesch, Matching Supply with Demand: An Introduction to Operations Management, Tata McGraw Hill, New Delhi.

OPERATION MANAGEMENT FOR BUSINESS ANALYTICS

Code: BMBA OM02

Course Credit: 3

Teaching Hours: 40

Course Objectives:

1. Introduce the fundamental concepts, processes, and strategies of operations management.
2. Develop an analytical approach toward solving real-world operational problems.
3. Apply quantitative techniques and tools for improving operational efficiency.
4. Integrate business analytics tools with operations decision-making in areas like supply chain, forecasting, and quality management.
5. Prepare students to use data and dashboards to support operations strategy and decision-making.

Unit 1: Fundamentals of Operations Management & Process Analysis (8Hours)

Introduction to operations management, Role of operations in business functions, Product vs. service operations, Process design and analysis, Process flowcharting, Capacity planning and utilization, Bottleneck analysis and throughput time, Productivity measurement and improvement, Operations strategy alignment with business goals

Unit 2: Operations Forecasting and Decision Models (8 Hours)

Importance of forecasting in operations, Qualitative vs. quantitative forecasting techniques, Time series forecasting: moving averages, exponential smoothing, trend analysis, Regression-based forecasting models, Forecast error measurement: MAD, MAPE, MSE, Decision trees and payoff matrices, Linear programming and optimization in operations, Case study: Forecasting demand using historical data in Excel / Power BI

Unit 3: Inventory Management and Supply Chain Analytics (8 Hours)

Types of inventory and inventory costs, EOQ and Reorder Point models, ABC and VED classification, Safety stock and service level, Supply chain network design and KPIs, Bullwhip effect and risk pooling, Data-driven supplier performance analysis, Inventory dashboards in Excel / Power BI, Case study: Inventory optimization using analytics

Unit 4: Quality Management and Lean Operations (8 Hours)

Total Quality Management (TQM) principles, Six Sigma methodology (DMAIC), Statistical Quality Control (SQC), Control charts and process capability, Lean thinking and waste elimination (7 types of waste), Kaizen and continuous improvement, Value stream mapping, Root cause analysis using Fishbone diagrams, Dashboards for quality analytics.

Unit 5: Project Management and Emerging Trends in Operations Analytics (8 Hours)

Introduction to project scheduling: Gantt chart, CPM, PERT, Resource allocation and crashing, Operational risk management and contingency planning, Integration of business analytics in operations, IoT and automation in operations, Operations KPIs and dashboards using Power BI/Tableau, Industry 4.0 and Smart operations, Capstone project: Analytics-based solution to an operational problem

COURSE OUTCOMES:

CO Code	Course Outcome Statements	Bloom's Levels	K
CO1	Understand the fundamental concepts and functions of operations management	K2	
CO2	Apply forecasting, optimization, and data-driven models in solving operational problems	K3, K4	
CO3	Analyze supply chain performance and inventory decisions using analytics tools	K4	
CO4	Evaluate and implement quality improvement techniques and lean operations strategies	K3, K5	
CO5	Create dashboards and data models for effective operations decision-making	K6	

Suggested Reading:**Textbooks:**

1. Operations Management by William J. Stevenson, *Publisher: McGraw-Hill Education*
2. Operations Management: Sustainability and Supply Chain Management by Jay Heizer, Barry Render, Chuck Munson, *Publisher: Pearson Education*
3. Operations Management for MBAs by Jack R. Meredith, Scott M. Shafer, *Publisher: Wiley*
4. Business Analytics: Data Analysis & Decision Making by S. Christian Albright & Wayne L. Winston, *Publisher: Cengage Learning*

Supplementary Tools and Resources

1. Excel Solver, Power BI, Tableau (for modeling and dashboards)
2. Kaggle Datasets (for case-based data application)
3. Harvard Business Review Articles on Operations Strategy
4. YouTube Channels: MIT OpenCourseWare – Operations Management

QUALITY MANAGEMENT

Code: BMBA OM03

Course Credits: 3

Teaching Hours: 40

Course Objective:

1. Introduce the fundamental concepts of Quality Management and Quality Control.
2. Describe the structure and functions of Quality Management Systems (QMS).
3. Recognise the significance and benefits of implementing Total Quality Management (TQM).
4. Enable learners to apply Quality Assurance and Control practices in operational settings.
5. Develop the ability to measure quality performance and implement continuous improvements.
6. Equip students with practical knowledge of Quality Management tools and techniques.

UNIT 1(8 Hours)

Quality Concepts (8 lectures) : Evolution of Quality Management, Concepts of Quality, Quality Control v/s Quality assurance , Dimensions of Quality, Principles of Quality, Deming's, Juran's & Crosby's Quality Philosophy, Quality Cost, Quality Leadership, Role of Top Management.

UNIT 2 (8 Hours)

Quality Management System (QMS) & Process Quality Improvement : Basics of QMS, 7 QC tools, Regression Control Charts, Process Capability and Analysis, Measurement system Analysis, Design and Analysis of Experiment (DOE), Acceptance sampling plan, Different Cost associated with Quality like Assurance cost, Failure cost , prevention cost, rectification cost, appraisal cost, Process failure mode and effect analysis (PFMEA), Understanding Service Quality, case studies.

UNIT 3(8 Hours)

Product Quality Improvement: Quality Function Deployment, Robust Design and Taguchi Method, Design Failure Mode & Effect Analysis, Product Reliability Analysis.

UNIT 4 (8 Hours)

Total Quality Management: Meaning of TQM, Elements of Total Quality Management, Quality Circles, Six Sigma, Six sigma for Process Improvement, Six Sigma in Product Development & Design. Benchmarking, Quality Function Deployment (QFD), Taguchi's Quality Engineering, Total Productive Maintenance (TPM)

UNIT 5 (8 Hours)

Quality Standards : ISO-9000 and its concept of Quality management, ISO 14001, ISO 22000, ISO 27001, OHSAS 18001 and QS 9000, Indian Quality standards, Quality Audit, Quality Awards.

COURSE OUTCOMES

CO Code	Course Outcome Statement	Bloom's K Levels
CO1	Knowledge about the quality dimensions and their importance	K1, K2
CO2	Knowledge about the techniques of quality control and their importance for competitiveness	K1 , K2
CO3	Competency to analyse the impact of Quality Control tools in the organisation	K4 , K5, K6
CO4	Understanding of International and Indian Quality Control Standards	K1, K2
CO5	Competency to use statistical methods for process quality control	K1, K2, K3, K4, K5

Suggested Readings

1. Mitra A., Fundamentals of Quality Control and Improvement, PHI
2. Lt. Gen. H. Lal, "Total Quality Management", Eastern Limited
3. Greg Bounds, "Beyond Total Quality Management", McGraw Hill
4. Menon, H.G, "TQM in New Product manufacturing", McGraw Hill
5. D. C. Montgomery, Introduction to Statistical Quality Control, John Wiley & Sons,
6. J Evans and W Linsay, The Management and Control of Quality, Thomson
7. Besterfield, D H et al., Total Quality Management, 3rd Edition, Pearson Education,
8. D. C. Montgomery and G C Runger, Applied Statistics and Probability for engineers, John Wiley & Sons.

AI IN SUPPLY CHAIN MANAGEMENT

Code: BMBA OM04

Course Credit: 3

Total Hours: 40

Course Objectives:

1. Understand the foundational role of AI in optimizing supply chain operations.
2. Explore AI technologies like machine learning, NLP, computer vision, and digital twins in SCM.
3. Apply AI in demand forecasting, inventory optimization, and supplier relationship management.
4. Develop skills for AI-enabled logistics, smart warehousing, and real-time decision-making.
5. Evaluate the ethical, technical, and strategic implications of deploying AI in SCM environments.

Unit 1: Introduction to AI in Supply Chain Management (6 Hours)

Overview of Supply Chain Management (SCM) and current challenges, Role of Artificial Intelligence in modern SCM, Types of AI technologies used: ML, NLP, Computer Vision, etc., AI vs traditional analytics in supply chain decision-making, Data sources and data quality in SCM, Role of IoT and sensor data in AI-driven SCM, Digital twins in the supply chain ecosystem, Case studies of AI adoption in global supply chains

Unit 2: AI for Demand Forecasting and Inventory Management (6 Hours)

Introduction to demand forecasting: challenges and objectives, Traditional vs AI-based forecasting methods, Machine learning algorithms for forecasting (e.g., ARIMA, LSTM, Prophet), Inventory classification and segmentation (ABC/XYZ with AI), Stockout and overstock prediction using ML models, Tools for AI forecasting (Python, R, Power BI), Case studies: Forecasting in retail/FMCG using AI

Unit 3: AI in Procurement and Supplier Relationship Management (8 Hours)

Strategic sourcing with AI decision support, AI-based supplier selection and evaluation, Predictive risk analysis in procurement, NLP in contract analysis and compliance, Price prediction models for commodities and raw materials, AI for fraud detection in procurement processes, Automation in purchase order and invoice processing, Supplier sentiment analysis using NLP, Multi-criteria decision-making with AI, Case studies: AI in procurement optimization (e.g., GE, Unilever)

Unit 4: AI in Logistics and Transportation Management (8 Hours)

Role of AI in logistics planning and control, Route optimization using ML algorithms, Real-time tracking with AI and IoT integration, Predictive maintenance for transport vehicles, Vehicle scheduling using reinforcement learning, Traffic and weather prediction for logistics efficiency, AI for dynamic shipment consolidation, Cost reduction strategies with transport AI models, Green logistics and sustainability with AI support, Case studies: FedEx, DHL, and Amazon AI in transportation

Unit 5: Smart Warehousing with AI (8 Hours)

Concept of smart warehousing and Industry 4.0, Warehouse layout and space optimization using AI, Robotics and AI-based automated material handling, AI in barcode scanning and inventory tracking, Vision-based inspection and sorting using computer vision, Predictive analytics for warehouse demand planning, Workforce scheduling and optimization, Integration of AI with Warehouse Management Systems (WMS), Energy management and sustainability in smart warehouses, Case studies: Flipkart, Alibaba, and AI-enabled warehouses

COURSE OUTCOMES:

CO Codes	Course Outcome Statement	Bloom's K Levels
CO1	Understand AI fundamentals and their role in improving supply chain processes	K2
CO2	Apply AI techniques to demand forecasting, inventory control, and procurement decision-making	K3, K4
CO3	Analyze supplier data, logistics operations, and transportation with AI tools for operational efficiency	K4, K5
CO4	Design smart warehouse strategies using AI-enabled automation and analytics	K6
CO5	Evaluate real-world AI use cases in SCM and assess challenges related to ethics and implementation	K5

Suggested Readings**Textbooks:**

1. Artificial Intelligence for Supply Chain Planning by Nicolas Vandeput, Publisher: Independently published
2. Supply Chain Analytics by Peter W. Robertson, Publisher: McGraw Hill Education
3. Artificial Intelligence for Logistics by Wolfgang Kersten & Thorsten Blecker

Additional Resources:

1. IBM Supply Chain AI Toolkit (free online tools)
2. Python libraries: Prophet, Scikit-learn, Statsmodels
3. Power BI for SCM dashboards
4. Research papers from Journal of Business Logistics, International Journal of Physical Distribution & Logistics Management
5. MIT OpenCourseWare – Supply Chain Fundamentals with AI modules

PROJECT & SOURCING MANAGEMENT

Code: KMBA OM 05

Course Credits: 3

Teaching Hours: 40

Course Objectives:

1. Understand the basics of purchasing principles and sourcing strategies.
2. Learn the vendor selection and evaluation process.
3. Identify key processes and requirements of project management.
4. Acquire skills to initiate, execute, and close a project effectively.
5. Develop the ability to plan for project time, cost, risks, communication, and change control.

Unit 1 (8 Hours)

Sourcing Management: Introduction to Sourcing, Sourcing v/s Procurement, Purchasing: Purchasing Cycle, 8 R's of Purchasing, Role of a Purchasing Manager, Risks associated with purchasing process and its mitigation, Concept and applications of Make or Buy Decision:. Case Studies

Unit 2 (8 Hours)

Evaluating Suppliers' Efficiency: Vendor Rating, Selection and Development: Need for Measuring Supplier Performance, Categorization of Suppliers, Suppliers Evaluation Methods/ Vendor Rating Methods, Supplier Selection Process, Vendor Rating process, Factors Affecting the Selection of Optimal Suppliers or Vendor Rating, Advantages of Vendor/Supplier Rating, Identify and evaluating the international suppliers. Case Studies

Unit 3 (8 Hours)

Price Determination and Negotiation: Objectives of Pricing, Factors Influencing Pricing, Types of Pricing Strategies, Negotiation in sourcing: Meaning of Negotiation, Examples of Negotiation, Types of Negotiations, The Process of Negotiation, Skills for Successful Negotiating, and Obstacles to Negotiation. Case Studies

Unit 4(8 Hours)

Introduction of Project: Characteristics of Project, Types of Projects, Project Life Cycle, Concepts of Deliverables, The Project Management Process, Roles of Project Team & Project Leader, Fundamental components of Project Cost, Types of Costs: Direct, Indirect, Recurring, Non-Recurring, Fixed, Variable, Project Financing and Budgeting: Sources of Finance, Top down Budgeting, Bottom up Budgeting, Activity Based Costing

Unit 5 (8 Hours)

Project Scheduling, Network Analysis & Control : Steps in Project Scheduling and Network design, Gantt Chart, Work Breakdown Structure (WBS) , Identifying and application of the Nodes and Activities, Activity on Arrow (AoA) and Activities on Node (AoN) methods, Application of PERT and CPM, Planning- Monitoring and Control Cycle, Tracking through Gantt chart. Earned Value Analysis (EVA): Planned Value (PV), Earned Value (EV), Cost Variance (CV), Schedule Variance (SV), Cost performance Index (CPI), Schedule performance Index (SPI). Project Termination: Types of Terminations, Project Termination Process. Case Studies

COURSE OUTCOMES

CO Codes	Course Outcome Statements	Bloom's K Levels
CO1	Conceptual knowledge about procurement and sourcing management	K1, K2
CO2	Understanding of the processes of sourcing management	K1, K2
CO3	Competency in vendor selection and rating	K4, K5
CO4	Assess the importance of effective sourcing	K4, K5
CO5	Understanding of laws related to procurement	K1, K2, k3

Suggested Readings

1. Dobler, D. W., jr, L. L., & Burt, D. N., Purchasing and Materials Management. New Delhi: Tata McGraw-Hill Publishing Company Limited
2. Gopalakrishnan P., Purchasing and Materials Management, Tata McGraw-Hill Publishing Company Ltd, New Delhi.
3. David N. Burt, Sheila Petcavage, Richard Pinkerton: Proactive Purchasing in the Supply Chain: The Key to World-Class Procurement, McGraw Hill

RESEARCH PROJECT REPORT & VIVA VOCE

Code: BMBA 406

Course Credits: 10

Research Project Report (RPR)

In fourth semester, the candidates will have to submit a Research Project Report on a problem/topic (from the specialization areas) to be assigned by the MBA department under the supervision of a core faculty member of the department. The Research Project Report will carry 300 marks. The evaluation of the project report will be done by two examiners (external & internal). The evaluation will consist of (1) Evaluation of Project Report (2) Presentation and Viva Voce.

The evaluation of Project Report will comprise of 100 marks and would be evaluated by the internal guide. The evaluation of Viva Voce of Project would comprise of 200 marks and would be evaluated by an external examiner appointed by University and one internal examiner appointed by institute. The average of the marks awarded by the 2 examiners will be taken into account for the results. In case the difference in the marks given by the examiners is 30 or more, the project report will be referred to a third examiner. In such cases the average of two closer awards (given by three examiners) will be taken into account for the results. The report will contain the objectives and scope of the study. Research Methodology, use and importance of the study, analysis of data collected, conclusions and recommendations. It will contain relevant charts, diagrams and bibliography. A certificate of the supervisor and the Head of the MBA program certifying the authenticity of the report shall be attached therewith. The student will submit two copies of the report to the Head of MBA program. The number of pages in the report will be minimum 75 or more. The report should be typed in A-4 size paper. The suggestive parameter on which evaluation would be carried

1. Understanding & relevance of the topic
2. Relevance & Analysis of the data
3. Ability to present
4. Ability to handle query