# FIRST YEAR SYLLABUS

# FIRST SEMESTER SYLLABUS

# VISON MISSION & PROGRAM EDUCATIONAL OBJECTIVE

# **Vision of Department**

To be a role model in management education and research responsive to global challenges.

# **Mission of Department**

- M-1: To impart quality management education.
- M-2: To develop innovative professionals, entrepreneurs, and researchers.
- M-3: To generate prime knowledge resources for the growth of industry, society and

futuristic knowledge focusing on the socio-economic needs.

# **PEOs Statements (5)**

- PEO 1: To attain managerial position in organizations.
- PEO 2: To inculcate innovative and sustainable solution to accomplish the dynamic socio-economic needs.
- PEO 3: To enhance research acumen for the growth of industry and society.
- PEO 4: To develop entrepreneurial spirit.

# PRINCIPLES AND PRACTICES OF MANAGEMENT (MBA-101)

Total: 100
L-T Theory: 50
3-1 Sessional: 50
(Credit-3.5) Time: 3 hrs

# **Course Objective:**

The course will appraise and see the sights for management basics and various management proportions. It will assist in categorizing the key competencies needed to be an efficient manager. It will also analyze communication situations, extend useful communication strategies, and communicate influentially. It will make available to students with the potential to apply theoretical knowledge in simulated and real-life settings. It will also facilitate the student's widened ability to work in teams.

# Pedagogy

Application-based exercises, individual and group assignments, Case-studies will supplement classroom discussion.

Note for the Paper Setter: The number of questions to be set will be six, at least one from each unit. Out of these, one question will be compulsory. The examinee will be required to attempt the compulsory one and any other four questions. All questions shall carry equal marks.

### Unit-I

Introduction to the Concept of Goals, Resources, Efficiency & Effectiveness; Henry Mintzberg's Roles and Skills of a Manager; Evolution of Management Thoughts/Approaches: Scientific Management (F.W. Taylor); Classical Organization Theory (Henry Fayol, Max Weber); Neo-Classical Theory (Human Relations Movement & Hawthorne Experiments, Behavioural Theory, Social Systems Theory- Niklas Luhmann).

### Unit-II

Functions of Management: Operative functions – Production, Marketing, Finance, and Human Resources; Managerial functions – Planning, Organizing, Staffing, Directing, and Controlling. Planning: Concepts, Objectives and Steps in Planning, Types of Plans, Long Range Planning, Determinants of Effective Planning.

### **Unit-III**

Decision Making: Steps of Decision Making, Nature, Types, Models/Approaches Conditions of Risk, Certainty, Uncertainty; Barriers to effective decision making. Organizing: organization design and structure, Centralization and Decentralization Delegation, Division of Work, Span of Management, Authority Responsibility and Accountability;

### **Unit-IV**

Directing: Nature and Significance, Issues in directing human resource, Motivation, Leadership, Communication; Management by Objectives and Management by Exception.

### Unit-V

Controlling: Definition and Elements, Control Techniques, Determinants of an Effective Control System. Issues of Relevance in Management Practices: Globalization, Human Values in Management, Self-Management, Lessons from Ancient Indian Traditions, Japanese Management, and Search for Excellence. Modern Concepts in Management.

### **Course Outcome:**

Upon successfully completing this course, students will reliably demonstrate an extended understanding of basic management concepts and principles. They will acquire valuable information related to management theories within realistic business settings. Moreover, students will enhance their practical skills in decision-making and leadership within present-day business setups. Additionally, they will develop essential business presentation skills and improve their overall communication abilities.

### **References:**

### **Text Books**

- 1. Prasad, L. M. (2021). Principles and Practice of Management (10th ed.). S Chand Publication.
- 2. Koontz, H., Weihrich, H., & Cannice, M. V. (2020). Essentials of Management An International, Innovation and Leadership Perspective (11th ed.). McGraw-Hill.
- 3. Koontz, H., & Weihrich, H. (2012). Essentials of Management: An International and Leadership Perspective (9th ed.). McGraw-Hill.

# Reference Books

- 1. Bhat, A., & Kumar, A. (2016). Principles of Management: Competencies, Processes, and Practices (2nd ed.). Oxford University Press.
- 2. Gulati, R., Mayo, A. J., & Nohria, N. (2014). Management. Cengage India.
- 3. Daft, R. L. (2012). The New Era of Management. Cengage India.

# **ORGANISATIONAL BEHAVIOUR (MBA-103)**

Total: 100
L-T Theory: 50
3-1 Sessional: 50
(Credit-3.5) Time: 3 hrs

# **Course Objective:**

This core course aids students to understand, predict and influence individual and group behaviour. The course is designed to give special attention to the major challenges and the paradigm shift faced by individuals and groups in today's organizations. It covers individual understanding of personality, perception, learning, attitudes and values and their influence in an organizational context; it provides students with an understanding of group processes and dynamics, motivation and job satisfaction; It will make students aware of one's own behaviour and understand others' behaviour.

# Pedagogy

Application-based exercises, individual and group assignments, Case-studies will supplement classroom discussion.

Note for the Paper Setter: The number of questions to be set will be six, at least one from each unit. Out of these, one question will be compulsory. The examinee will be required to attempt the compulsory one and any other four questions. All questions shall carry equal marks.

### Unit-I

Introduction and meaning of OB, Field of OB: Individual, Groups & Systems as building blocks, Effective Vs Successful Managerial activities, contributing disciplines to OB, Trends of OB, Research in OB, Ethical issues in OB.

### **Unit-II**

Individual behaviour- Foundations of individual behaviour, Personality: Meaning, "Big –Five" Personality Traits, MBTI. Attitude and Personality, Values and attitude, Job attitudes. Perception: Meaning, Role of Object, Environment and Observer; Judging Others.

### **Unit-III**

Individual Behaviour in Organization- Attitudes: Components, functions, changing attitudes, work attitudes (Job satisfaction, Organizational Commitment & Employee Engagement) Motivation: Concept, Content Theories (Maslow, Herzberg, McClelland); Process Theories (Vroom's Model); Contemporary Theories: (Equity Theory). Emotions and Emotional Intelligence.

### **Unit-IV**

Groups in Organization-Groups-Types, their development stages, the concept of role, status, norms size and cohesiveness. Group decision-making techniques, Group Think & Group Shift; Power & Politics: Concept of influence, bases of power, Political Behaviour: Concept & contributing factors.

### Unit-V

Meaning & causes of stress; types of stress; coping strategies for stress. Leadership – Concept, Trait, Behavioral and Contingency (Fiedler, Hersey & Blanchard) theories; leadership styles, successful & effective leadership.

### **Course Outcome:**

Upon completion of the course, students will have a foundational knowledge of individual and group behavior as a distinct field in management, with a strong emphasis on practical application. This knowledge will contribute to the enhancement of their personal and interpersonal skills. Furthermore, students will gain a deeper understanding of how individuals and groups influence organizations in achieving their goals. Ultimately, they will develop meaningful insight and the ability to diagnose and effectively address human behavior within the workplace.

### References

# **Text Books**

- 1. Robbins, S. P., Judge, T. A., & Vohra, N. (2022). Organizational Behavior (Updated 18th ed.). Pearson Education India.
- 2. Pareek, U., & Khanna, S. (2018). Understanding Organisational Behaviour (4th ed.). Oxford University Press.
- 3. Luthans, F. (2013). Organisational Behavior: An Evidence-Based Approach (12th ed.). McGraw Hill education.

# Reference Books

- 4. McShane, S. L., Von Glinow, M. A., & Rai, H. (2022). Organizational Behavior (9th ed.). McGraw Hill Education.
- 5. Baron, R. A., & Greenberg, J. (2011). Behavior in Organizations (10th ed.). PHI.
- 6. Kandelwal, P., & Nelson, D. L. (2013). Organizational Behaviour (7th ed.). Cengage India.

# MANAGERIAL ECONOMICS (MBA 105)

Total: 100
L-T Theory: 50
3-1 Sessionals: 50
(Credit-3.5) Time: 3 hrs

# **Course Objective:**

The purpose of this course is to provide students with a foundation of economic concepts and tools that have direct managerial applications. The course will sharpen analytical skills of students through integrating knowledge of economic theory with decision-making techniques. The course will help the students to adept at designing and developing business strategy at firm level. Students will gain a rigorous understanding of competitive markets as well alternative market structures.

**Note for the Paper Setter:** The number of questions to be set will be six, at least one from each unit. Out of these, one question will be compulsory. The examinee will be required to attempt the compulsory one and any other four questions. All questions shall carry equal marks.

### Unit-I

Introduction to Managerial Economics: - nature, scopeand significance. The circular flow of economic activity, Concepts of National Income.

# **Unit-II**

Demand and Supply Analysis:-Demand, Law of demand; Supply, Law of Supply, Market Equilibrium, Elasticity of demand: price, income and cross elasticity. Measurement of Price Elasticity of demand. Demand Forecasting Methods, Uses of elasticity of demand for managerial decision-making.

### **Unit-III**

Production Analysis: Production, Factors of Production, Production function, Laws of Production, Law of variable proportions, Least cost combination.

### Unit- IV

Costs and Revenue functions: Nature of Costs and Revenue curves, Short run and long run cost curves, Economies and diseconomies of scale.

### **Unit-V**

Market Structure:Perfect Competition: features, determination of pricing under perfect competition; Monopoly: features, types of monopoly, monopoly power, pricing under monopoly. Price discrimination.

Oligopoly: Features, kinked demand curve, cartels, price leadership. Monopolistic Competition: features, pricing under monopolistic competition.

### **Course Outcome:**

After the completion of the course, students will be able to understand the roles of managers in firms. They will also analyze the demand and supply conditions and assess the position of a company. The students will also able to design competition strategies, including costing, pricing, product differentiation, and market environment. Finally, they will analyze real-world business problems with a systematic theoretical framework.

### **References:**

# (Text Books)

- **1.**Atmanand. (2002). Managerial Economics. 1<sup>st</sup> Edition. Excel Books.
- **2.**H. Craig Petersen, W.Chris Lewis, Sudhir K. Jain. (2006). Managerial Economics. 1<sup>st</sup> Edition. Person Education.
- **3.**D N Dwivedi. (2009). Managerial Economics. 8<sup>th</sup>Edition. Vikas Publishing House.
- **4.**Suma, Damodaran. (2010). Managerial Economics. 2<sup>nd</sup> Edition. Oxford Higher Education.
- **5.** Yogesh, Maheswari. (2012). Managerial Economics. 3<sup>rd</sup> Edition. Prentice Hall of India.
- 6. Marshall, Alfred. (2013). Principles of Economics. Macmillan India Ltd.
- **7.**Paul G Keat. (2013). Managerial Economics: Economic Tools for Today's Decision Makers. 7<sup>th</sup> Edition. Publisher: Pearson.
- **8.**H.L.Ahuja. (2015). Managerial Economics: Analysis of Managerial Decision Making. 9<sup>th</sup> Edition. S. Chand and Company PVT. Ltd.

### (Reference Books)

- **9.**Paul G Keat, Philip K.Y. Young, Stephen E. Erfle. (2013). Managerial Economics tools for Today's Decision making. 7<sup>th</sup> Edition. Prentice Hall Publication.
- **10.** Craig Petersen H., W. Cris Lewis. (2003). Managerial Economics. 4<sup>th</sup> Edition. Prentice-Hall of India. New Delhi.
- **11.** Christopher R. Thomas, S. Charles Maurice. (2015). Managerial Economics. 12<sup>th</sup> Edition. Mc Graw Hill Education.
- **12.** Dominick Salvotore. (2015). Managerial Economics in Global Economy. 8<sup>th</sup> Edition. Oxford University Press. USA.
- **13.** Michael R. Baye. (2017). Managerial Economics and Business Strategy. 7<sup>th</sup> Edition. McGraw Hill Higher Education.

# **ACCOUNTING FOR MANAGERS (MBA 107)**

Total: 100
L -T
Theory: 50
3-1
(Credit-3.5)
Time: 3 hrs

# **Course Objective:**

To enable students to critically analyze corporate financial statements, importance of cost in the business decisions and to impart the knowledge on Costing methods and techniques including budgetary control.

**Note for the Paper Setter:** The number of questions to be set will be six, at least one from each unit. Out of these one question will be compulsory. The examinee will be required to attempt the compulsory one and any other four questions. All questions shall carry equal marks.

### UNIT - I

Meaning, nature and role of accounting; accounting equation; accounting concepts and conventions; Management Accounting - Meaning, Functions, Scope and Limitations of Management Accounting, Financial Accounting vs. Management Accounting Analysis of Financial Statement - Ratio Analysis, Preparation of fund flow and cash flow statements.

# UNIT - II

Cost: Concept, nature, elements and classification, methods for cost variability; cost control decision accounting. Marginal costing and Break Even Analysis; Meaning, cost – volume – profit analysis. Management Application for Marginal Income Accounting. Activity Based Costing - Concept, main activities and their cost drivers, developing ABC System.

### UNIT – III

Budgetary control: Definition of a budget, Kinds of budgets, Preparation of a Budget, Budgetary Control, Flexible Budgeting, Zero Base Budgeting, Performance Budgeting Concept.

# UNIT – IV

Standard Costing-Meaning, Types of Standard and their revision, Difference between budgeting and standard costing. Kinds of Variances, Their use in making appraisal and fixing responsibility, Procedure of setting standard cost - Material, Labour and Overhead. Responsibility Centres - Cost Centres, Profit Centres and Investment Centres, Inter divisional transfer pricing – concept and methods.

### UNIT - V

Current issues-Social Accounting, Human Resource Accounting, Balance Score Card Discussion of real life business Cases.

### **Course Outcome:**

After studying the course, the students would be familiar with various types of tools of financial statement analysis for critically evaluation and methods, techniques of cost accounting for decision making and budgetary control.

### **References:**

# (Text Books)

- 1. Garrison, Eric and Brewer (2012). Management Accounting, Irwin.
- 2. Hongren Charles T. (2001). Introduction to Management Accounting, Pearson Education.
- **3.** Bhattacharya S.K. & Dearden John (2011). Accounting for Management, Tata McGraw-Hill.

# (Reference Books)

- 4. Naryanswami (2014). Financial Accounting, Prentice Hall India.
- 5. Ramanathan (2014). Accounting for Management, Oxford University Press.
- **6.** M A Sahaf (2009). Management Accounting, Vikas Publishing.
- 7. Shah (2008). Management Accounting, Oxford University Press.

## **BUSINESS ENVIRONMENT (MBA - 109)**

Total : 100
L-T Theory : 50
3-1 Sessionals: 50
(3.5 Credits) Time : 3 hrs

# **Course Objectives:**

The course is designed to increase the notion of the business organisation functioning within the parameters of the internal and external environment. It will also assist students in realising the place of business within the financial system and presenting some significant economic principles pertinent to the behaviour of business in answer to changes in the environment. Further contents of the course will aid in communicating facts about and encourage consciousness of existing issues, facts and events in the local, nationwide and worldwide business world.

Note for the Paper Setter: The number of questions to be set will be six, at least one from each unit. Out of these, one question will be compulsory. The examinee will be required to attempt the compulsory one and any other four questions. All questions shall carry equal marks.

### Unit-I

Introduction - Concept, Features, Relevance for business, Types of the environment - internal and external- micro and macro, Economic Environment - Nature and Structure of Indian Economy, Goals of five-year plans, strategies and models of economic development in India since Independence. Economic planning, Industrial policy, Monetary and Fiscal policy and its impact on business. Union & State Budget on business, Macroeconomic scenario and its impact on business.

### **UNIT-II**

**Business and Society**-Social responsibility of business; Classical and contemporary views, the social orientation of business, factors affecting social orientation, responsibilities to different sections, the Indian situation, arguments for and against social involvement.

# UNIT-III

**Political and legal**- Basic tenets of the Indian constitution, Functions of state, the economic role of government, government and legal environment, economic roles of government in India, the constitutional environment.

### UNIT-IV

Economic Reforms Since 1991- Economic Reforms - Impact of Liberalisation, Globalisation and Privatisation on the Indian economy, Industrial policy, Monetary and Fiscal policy and its impact on business. Union & State Budget on business, Financial Market Structure; credit market, foreign exchange market, debt market, derivatives market, bancassurance, Industrial Financial Institutions; types and assistance.

Global and Technological environment- globalisation of world economy, business and Indian business, pros and cons, WTO and globalisation; objectives, an evaluation of GATT, WTO, the function of WTO, WTO agreement, impact and evaluation of WTO, WTO and India; Technological Environment; innovations, Technology & competitive Advantage, Impact of technology on globalization.

### **Course Outcomes**

Upon completion of the course, students will acquire the ability to understand the concept of business organizations and how they operate within the internal and external environment. They will also gain knowledge of current business practices, including promising prospects and prevalent issues. Furthermore, students will develop proficiency in conducting SWOT analyses for businesses and comprehending the functioning of the fiscal market. They will become aware of the factors that affect businesses and how economic systems have been developed in an economy. Additionally, students will gain an understanding of both the economic and non-economic aspects related to business.

### Reference Books

### **Text Books**

- 1. Shaikh Saleem (2020). Business Environment (4th ed.). Pearson.
- 2. Agna Fernandez (2021). Business Environment (2nd ed.). Pearson.

### **Reference Books**

- 1. Paul, J. (2010). Business Environment (3rd ed.). McGraw-Hill Publication.
- 2. Cherunillam, F. (2018). Business Environment Text and Cases (27th revised ed.). Himalaya Publication.

### **SOFT SKILLS DEVELOPMENT (MBA-111)**

Total: 100
L-T Theory: 50
3-1 Sessionals: 50
(Credit-3.5) Time: 3hrs

# **Course Objective:**

Introduce the students to the dynamics of Communication in the Business world and help them familiarize and practice the different kinds of communication tools. To give them practice in the nuances of spoken communication. To expose them to the different forms of Business communication and help them improve their competence in using English effectively.

Note for the Paper Setter: The number of questions to be set will be six, at least one from each unit. Out of these one question will be compulsory. The examinee will be required to attempt the compulsory one and any other four questions. All questions shall carry equal marks.

### Unit-I

Self-Development and Assessment, Self-Assessment, Self-Awareness, Perception and Attitudes, Values and Belief System, Personal Goal Setting, Career Planning, Self-Esteem, Building of Self-Confidence,

### **Unit-II**

Components of communication, Principles of communication barriers, listening skills Verbal Communication, Includes Planning, Preparation, Delivery, Feedback and Assessment of activities like Public speaking, Group Discussion, Oral Presentation skills, Perfect Interview, Listening and observation skills, Body language.

### **Unit-III**

Written Communication, Technical Writing—Technical Reports, Project Proposals, Brochures, Newsletters, Technical Articles, Technical Manuals, Official/Business Correspondence, Business letters, Memos, Progress report, Minutes of meeting, Event reporting, Use of style, Grammar and Vocabulary for effective technical writing, Use of: Tools, Guidelines for technical writing, Publishing,

### **Unit-IV**

Use of Presentation graphics, Use of Presentation aids, Study of communication. Etiquettes in social as well as Office settings, Email etiquettes, Telephone Etiquettes, Managerial ethics and ethics as a management professional, Civic Sense.

### Unit-V

Other Skills: Managingtime, Meditation, Exposure to work environment and culture in today's job Places, Improving Personal Memory, Study skills that include Rapid reading, Notes taking, Complex problem-solving creativity.

### **Course Outcome:**

Upon completing the course, students will develop an understanding of the significance of being a good communicator within a company and recognize the power of communication in shaping their careers. They will appreciate how effective communication skills can contribute to the development of their overall personality and personal branding.

### References

### **Text Books**

- 1. Mitra, B. (2018). Personality Development and Soft Skills (2nd ed.). Oxford Publishing House.
- 2. Sharma, P. (2021). Soft Skills (3rd ed.): Personality Development for Life Success. BPB Publishers.
- 3. Gupta, S. (2019). Soft Skills. Abridged Publications.
- 4. Sharma, M., Gupta, D. K., & Sahoo, S. (2018). Business Communication: For Management Books. Educreation Publishing.

### Reference Books

- 5. Raman, M., & Singh, P. (2012). Business Communication. Oxford Press.
- 6. Khera, S. (2000). You Can Win. Macmillan.
- 7. Covey, S. R. (2014). The 7 Habits of Highly Effective Families. St. Martin's Press.
- 8. Rogers, J. (2012). Coaching Skills: A Handbook. McGraw-Hill Education (UK).
- 9. Gerson, S. J., Gerson, S. M., & Gerson, S. M. (2014). Technical Communication: Process and Product (Vol. 83). Pearson.

### DATA DRIVEN DECISION SCIENCE (MBA-113)

Total: 100
L-T-P Theory: 50
3-1-0 Sessional: 50
(Credit-3.5) Time: 3hrs

# Course objective:

The objective of this paper is to acquaint the students with various statistical tools and techniques used to business decision making.

Note for the Paper Setter: The number of questions to be set will be six, at least one from each unit. Out of these one question will be compulsory. The examinee will be required to attempt the compulsory one and any other four questions. All questions shall carry equal marks

# Unit-I - Descriptive Statistics

Construction of frequency distributions and their analysis in the form of measures of Central Tendency (Mean, Median, Mode) and Dispersion; Types of measures, their relative merits, limitations and characteristics; Measures of Skewness, Applications in real life scenario.

### Unit-II – Predictive Statistics

Correlation analysis- meaning & types of correlation, Karl Pearson's coefficient of correlation and Spearman's rank correlation; Regression analysis-meaning and two lines of regression; Relationship between correlation and regression coefficients.

# Unit-III – Probability and Probability Distribution

Probability- basic concepts and approaches, addition, multiplication and Bayes' theorem. Probability distributions - meaning, types and applications, Binomial, Poisson and Normal distributions.

### Unit-IV – Inferential Statistics

Tests of significance- Hypothesis testing large samples, small samples: Chi-square test, Analysis of variance (1-way ANOVA).

### Unit-V – Decision Science

Decision theory- decision making under uncertainty and risk, Bayesian analysis, Decision trees.

# Course Outcome:

After this course, the students will have the understanding of various statistical tools and techniques which will help them for decision making in various scenarios.

# References:

# (Text Books)

- 1. Levin& Rubin. (1998). Statistics for Business. Prentice Hall of India, Delhi.
- 2. Gupta S.P. and Gupta M.P. (1986). Business Statistics. Sultan Chand and Sons. Delhi.
- 3. Anderson. (2012). Quantitative Methods in Business. Thomson Learning. Bombay. (Reference Books)
  - 4. Anderson. (2011). Statistics for Business and Economics. Thomson Learning. Bombay.
  - 5. Bhardwaj R.S. (2009). Business Statistics. Excel Books.
  - 6. Kothari C.R. (2009). Quantitative Techniques. Vikas Publishing House, New Delhi.
  - 7. Hooda R.P. (1994). Statistics for Business and Economics. McMillan India Ltd.

### **APPLIED BUSINESS COMPUTING (MBA 115)**

Total: 100
L-T-P Practical: 40
2-0-2 Internals: 60
(Credit-3.0) Time: 3 hrs

# Course Objective:

The objective of this paper is to acquaint the students with latest software packages and the add-ins as well as the Open Source software.

Note for the Paper Setter: The number of questions to be set will be six, at least one from each unit. Out of these, one question will be compulsory. The examinee will be required to attempt the compulsory one and any other four questions. All questions shall carry equal marks.

### Unit-I

Software Application in MS Office, Components of MS Office- Word-Processor. Spreadsheets, Presentations, Database; Application of MS Office in document preparation and making reports; preparation of questionnaires, presentations, Tables and Graphs, Online questionnaires, Mail Merge.

### Unit-II

Spreadsheet details, Addressing, Formula & Function, Various Functions-date functions, text functions, logical functions, If and Lookup family function, Filter, Conditional formatting, Array Functions, MS Excel Add-ins.

### Unit-III

Introduction to R & R-Studio- Concept of Variables/Vector/ Packages, R as Calculator, working on Directories, importing (Excel/SPSS/Stata/SAS) File and Exporting, Results, Univariate and Bivariate Analysis using R-Studio.

### Unit-IV

Fundamentals of Artificial Intelligence and Machine Learning in Business: Introduction to Artificial Intelligence (AI), Machine Learning (ML), and Deep Learning, historical evolution of AI and ML, differences between AI, ML, and Deep Learning, scope and real-life applications of AI and ML in business, AI in strategic business decision-making.

### Unit-V

Machine Learning Techniques and Ethical Implications in Management: Concept of supervised and unsupervised machine learning, Use of labeled and unlabeled data in ML, Predictive modeling in business, Pattern recognition for decision-making, business applications of ML, Ethical issues in AI and ML use, strategic implications of AI adoption, managerial responsibilities in AI governance.

### Course Outcome:

After this course, the students will have a better understanding of various statistical packages, their usage and the genesis of open source softwares.

### References:

### (Text Books)

- 1. June Jamrich Parsons. (2008). Computer Concepts. 7th Edition. Thomson Learning, Bombay.
- 2. Ann Shaffer, Patrick Carey, Kathy Finnegan, Joseph Adamski, Beverly Zimmerman. (2010). New Perspectives on Microsoft Office 2007. Brief; Cengage Learning.
- 3. Lamberr, Joan; Frye, Curtis. (2016). Microsoft Office 2016 Step by Step. Microsoft Press, Washington.
- 4. Cuja, A., Siwiak, M., & Siwiak, M. (2024). Starting Data Analytics with Generative AI and Python. Simon and Schuster.

### (Reference Books)

- 5. Jelen, Bill. (2016). Advance Excel 2016 in Depth. BPB Publication.
- 6. Walkenbach, John. (2015). Microsoft Excel 2016 Bible: The Comprehensive Tutorial Resource. Wiley Publication.
- 7. Alexander. Michael, Kusleika Dick. (2016). Excel 2016 Power Programming with VBA. Wiley Publication
- 8. Everitt, B., & Hothorn. T. (201 I ). An introduction to applied multivariate analysis with R. Springer Science and Business Media.
- 9. Lander, J. P. (2014). R for Everyone: Advanced analytics and graphics. Pearson Education.
- 10. Wilson, H. J., & Daugherty, P. R. (201 8). Human+ machine: Reimagining work in the age of AI. Il. Lansiti. M.. & Lakhani, K. R. (2020). Competing in the age of Al: Strategy and leadership when algorithms and networks run the world. Harvard Business Press.
- 12. Nielsen, M. A. (2015). Neural network sanddeep learning(Vo1.25, pp. 15-24). San Francisco, CA, USA: Determination press.
- 13. Agrawal, A., Gans, J., & Goldfarb, A. (2022). Prediction machines, updated and expanded: The simple economics of artificial intelligence. Harvard Business Press.
- 14. Bostrom, N., & Yudkowsky, E. (2018). The ethics of artificial intelligence. In Artificial intelligence safety and security (pp. 57-69). Chapman and Hall/CRC.
- 15. Russell, S. J., & Norvig, P. (2016). Artificial intelligence: a modern approach. pearson.

# SECOND SEMESTER SYLLABUS

# FINANCIAL MANAGEMENT (MBA 102)

Total: 100
Theory: 50
Sessionals: 50
Time: 3
hrs

**(Credits-3.5)** 

L-T

3-1

# **Course Objective:**

The purpose of this course is to acquaint the students with broad framework of financial decision making in a business unit.

Note for the Paper Setter: The number of questions to be set will be six, at least one from each unit. Out of these one question will be compulsory. The examinee will be required to attempt the compulsory one and any other four questions. All questions shall carry equal marks.

### **Unit-I**

Concept Of Finance: Meaning, Scope, and functions of Financial Management; Financial planning and strategies; Forms of Business Organization and Financial Considerations. Nature and Significance of Primary and Secondary Markets, objectives and functions, indices of BSE, NSE and OTCEI and its calculation.

# **Unit-II**

Financing Decisions: Long term Sources of Fund – equity share, preference shares, debentures, bonds, warrants, venture capital and ploughing back of profits. Short Term Sources of Funds – Commercial Paper, Certificate of Deposit, Treasury Bills. Concept and significance of Cost of Capital and its computation; Leverage; operating, financial and combined leverages and its implications, EBIT-EPS analysis; Capital structure: Theories and determinants of capital structure, Financial indifference point.

### **Unit-III**

Investment Decisions: Investment Decisions: nature, importance, Time Value of Money, Appraisal Techniques for risk free projects (Discounted and Non-Discounted Techniques), Estimation of Discount Rate (Cost of Capital).

Working Capital Management - Meaning, Significance & factors influencing the level of working capital management. Management of cash, receivables and inventory.

### **Unit-IV**

Dividend Decisions: Ploughing back of profits, forms of dividends, factors affecting dividend policy, dividend payout decisions.

### **Unit-V**

Relevant Issues: Corporate Restructuring: Acquisitions, change in ownership, Lease financing, Shareholders value and its calculation, EVA/VAR, Financial reengineering, Derivatives, Venture capital financing, stock Market Index calculation.

# **Course Outcome:**

Upon successful completion of Financial Management, the student will be able to: demonstrate an understanding of the overall role and importance of the finance function. The students will also able to exhibit basic finance management knowledge and communicate effectively using standard business terminology.

### **References:**

# (Text Books)

- 1. James Van Horne (1979): Essentials of Financial Management, Prentice Hall
- 2. Walker E. W. (1974): Essentials of Financial Management, Prentice Hall
- 3. Khan, M.Y. (2010): Financial Management, Tata McGraw Hill, Delhi.

# (Reference Books)

- 1. Pandey, I.M. (2009): Financial Management, Vikas Publishing
- 2. Prasanna Chandra (2011): Financial Management, Tata McGraw-Hill
- 3. Srivastava, Misra (2008): Financial Management, Oxford University Press
- 4. Alice, John & Cheng (2010): Financial Analysis, Planning and Forecasting, World Scientific

### **HUMAN RESOURCE MANAGEMENT (MBA 104)**

Total: 100
Theory: 50
Sessional: 50
Time: 3 hrs

3-1 (Credits-3.5)

L-T

# **Course Objective**

This paper appreciates the importance of human resource management as a field of study and as a central management function. This course introduces the students to human resource management's basic concepts, functions and processes. It will create awareness in the students regarding the role, functions and functioning of the human resource department of the organizations. The main objective of this course is to teach the students how an organization acquires, rewards, motivates, uses, and generally manages its people effectively by performing a wide range of people-related duties in today's increasingly complex workplace.

# **Pedagogy**

Application-based exercises, individual and group assignments, Case-studies will supplement classroom discussion.

**Note for the Paper Setter:** The number of questions to be set will be six, at least one from each unit. Out of these, one question will be compulsory. The examinee will be required to attempt the compulsory one and any other four questions. All questions shall carry equal marks.

### Unit-I

Introduction to HRM, Responsibilities and sub-functions of HRM, Competencies needed for HRM, Role of Supervisors in HRM, Ethical issues in HRM, Career in HRM (HR manager certifications; Recent Trends shaping HRM, Improving Performance: HR as a profit centre, HRM and the Gigeonomy.

### **Unit-II**

Analysing work and designing Job, Contemporary Factors in Job Design. Human resource acquisition- Recruitment; meaning, definition, importance, factors governing recruitment, Recruitment Process. Selection; Meaning, Definition, Selection Process. Selection testing and selection interview. Induction Vs Orientation (meaning and purpose); Recent trends in Recruitment, Selection, Placement and Induction Practices. Internal Mobility: Promotions, transfers (purpose, principles, types, reasons for promotions and transfers.

### **Unit-III**

Training & Development Introduction; Training Needs Identification; Training Process: Deriving Instructional Objectives, Designing, Methods of Training and Development Implementation and Evaluation of the Training Program. Recent advancement in the T&D field.

# **Unit-IV**

Performance Management, Performance Appraisal: Its Process, Methods and Its Relevance. Job Evaluation; Scope, Process and Methods of Job Evaluation; Compensating Human Resources, Components of remuneration, factors influencing pay rates or remuneration, Incentive plans and other employee benefits.

### Unit-V

Trends shaping the HRM: Digital and social media, Role of Technology in HRM (recruitment and selection), Health and safety of employees at the workplace, Managing Human Resources in SMEs, Managing Global Human Resources, Ethics and Code of Conduct in HRM.

# **Course Outcome:**

Upon completion of this course, students will demonstrate a comprehensive comprehension of the factors that impact the employer-employee relationship. They will also acquire familiarity with essential concepts and terminology pertaining to organizational HRM practices. Armed with this knowledge, students will be able to apply the principles and techniques of human resource management learned in the course to proficiently analyze and discuss significant personnel issues.

# References

# **Text Books**

- 1. Dessler, G., & Varkkey, B. (2022). Human Resource Management (16th ed.). Pearson.
- 2. Noe, R. A., & Hollenbeck, J. R. (2020). Fundamentals of Human Resource Management (8th ed.). McGraw-Hill.

# **Reference Books**

- 1. DeCenzo, D. A., Robbins, S. P., & Verhulst, S. L. (2023). Human Resource Management (12th ed.). Wiley.
- 2. Aswathappa, K., & Dash, S. (2021). Human Resource Management Text and Cases (9th ed.). McGraw-Hill.

### PRODUCTION AND OPERATIONS MANAGEMENT (MBA-106)

Total: 100
L-T Theory: 50
3-1 Sessional: 50
(Credit-3.5) Time: 3 hrs

# **Course Objective:**

The objective of the subject is to provide the various aspects of production management as well as various quantitative techniques which are of great importance for quantitative decision-making.

Note for the Paper Setter: The number of questions to be set will be six, at least one from each unit. Out of these one question will be compulsory. The examinee will be required to attempt the compulsory one and any other four questions. All questions shall carry equal marks.

### **Unit-I**

Objectives of Production/Operations Management- Nature and Types of Production/Operation, Production Capacity – Planning and Control, Plant Location.

### Unit-II

Plant Layout, Work Design and Measurement, Maintenance and Material Handling Methods, Forecasting.

# **Unit-III**

L P formulation- Formulation of problem and its solution by graphical and simplex methods; special cases in simplex method: infeasibility, degeneracy, unboundedness and multiple optimal solutions.

# **Unit-IV**

Transportation problems including transhipment problems- Special cases in transportation problems: unbalanced problems, degeneracy, maximization objective and multiple optimal solutions; assignment problems including traveling salesman's problem. Special cases in assignment problems: unbalanced problems, maximization objective and multiple optimal solutions.

### Unit-V

PERT/CPM- Difference between PERT and CPM, network construction, calculating floats & probability considerations in PERT, time -cost trade-off. Game theory, pure and mixed strategy games; principle of dominance; two persons zero sum game;

### **Course Outcome:**

At the end of the course, the students will have an understanding of the various concepts of production and operations management as well as the various techniques of decision making.

# **References:**

# (Text Books)

- 1. Panneerselvam. R. (2006). Operations Research. PHI, New Delhi.
- 2. Kapoor, V. K. (2010). Operations Research. Sultan Chand and Sons, New Delhi.
- 3. Taha, Hamdy A. (2008). Operations Research. Prentice Hall, New Delhi.

# (Reference Books)

- 1. Chary, S. N. (2009). Production and Operations Management. Tata McGraw Hill, New Delhi
- 2. Buffa, Sarin. (2007). Modern Production / Operations management.
- 3. Sharma J.K (2009), "Operations Research" Macmillan, New Delhi.

### **MARKETING MANAGEMENT (MBA - 108)**

Total: 100
Theory: 50
L-T-P
Sessionals: 50
3- 1- 0
Time: 3 hrs

**Note for the Paper Setter:** The number of questions to be set will be six, at least one from each unit. Out of these one question will be compulsory. The examinee will be required to attempt the compulsory one and any other four questions. All questions shall carry equal marks.

# **Course Objective:**

(Credit-3.5)

This course intends to provide an experienced-based approach to marketing theory and its practical application. Through a combination of interactive discussions, cases, practical examples, individual assignments, and a group project, the course applies marketing topics to consumer and business-to-business products and services.

### Unit-I

Defining markets for the new realities, Developing marketing strategies and plans, Conducting marketing research and demand, Gathering information and scanning the environment.

### **Unit-II**

Analyzing Consumer and Business Markets, Identifying market segments and targets, Developing Positioning strategy.

### **Unit-III**

Setting Product strategy, Designing and Managing services, Developing Pricing strategies and Programs.

# **Unit-IV**

Integrated Marketing Communications, Personal and Mass Communications.

### **Unit-V**

Designing and Developing Integrated marketing channels, Managing Retailing, Wholesaling and logistics. Introducing new market offerings, Developing a holistic organization - Case Studies in Marketing.

# **Course Outcome:**

Through this comprehensive and practical introduction to marketing management, students will develop their skills in making effective marketing decisions. They will learn to assess marketing opportunities, formulate marketing strategies, and create implementation plans. Additionally, students will gain valuable experience in analyzing and evaluating marketing recommendations, while also building upon the ideas of their peers. Furthermore, the course will focus on enhancing students' communication skills, enabling them to effectively communicate and defend their marketing recommendations.

### References

### **Text Books**

1. Kotler, P., Keller, K. L., Chervev, A., Sheth, J. N., & Shainesh, G. (2022). Marketing Management (16th ed.). Pearson.

# **Reference Books**

- 1. Ramaswamy, V. S., & Namakumari, S. (2018). Marketing Management (6th ed.). Sage Publication.
- 2. Saxena, R. (2019). Marketing Management (6th ed.). Tata McGraw Hill.
- 3. Czinkota, M. R., Kotabe, M., Vrontis, D., & Shams, S. M. R. (2021). Marketing Management: Past, Present and Future. Springer International Publishing.
- 4. Kotler, P., Keller, K. L., & Cherney, A. (2021). Marketing Management. Pearson Education.

# **TOTAL QUALITY MANAGEMENT (MBA-110)**

Total: 100
L – T
Theory: 50
3-1
(Credit-3.5)
Time: 3 hrs

# **Course Objective:**

The course will facilitate students to know the Total Quality Management concept and principles and a variety of tools accessible to accomplish Total Quality Management. It will create them to comprehend the statistical approach for quality control. Further it will also craft responsiveness about the ISO and QS certification process and its necessitate for the industries.

Note for the Paper Setter: The number of questions to be set will be six, at least one from each unit. Out of these one question will be compulsory. The examinee will be required to attempt the compulsory one and any other four questions. All questions shall carry equal marks

# Unit-I

Introduction to TQM: What is TQM? Understanding concepts of quality, scope of TQM, TQM: the guiding principle, customer orientation, productivity improvement through quality.

### **Unit-II**

Quality Philosophies: Deming, Juran, Philip, Genichi Taguchi, TQM Model.

### Unit-III

Basic Statistical Tools: Introduction, elements of risk, total process risk, step-by-step problem solving process, Pareto Analysis, concentration diagrams, activity sampling, data handling and displaying P-FMEA.

# **Unit-IV**

Problems Solving and Continuous Improvement: Introduction, implementation of six sigma, Kaizen kanban and JIT, 5-S, quality circles and Zero defects

# **Unit-V**

Relevant Issues: Cost of quality, bench-marking, Re-engineering and TQM, HRM and TQM, ISO-9000 series, Quality awards, Emerging Concepts.

### **Course Outcome:**

On successful completion of the course students will be able to understand the essential principles of Total Quality Management and select suitable statistical techniques for getting better processes. They will also be able to write reports to management telling processes and advocating ways to look up them. The course will also develop their research skills that will allocate them to maintain abreast of changes in the field of Total Quality Management.

### **References:**

# (Text Books)

1. Dale H. Besterfiled, et al. (2004). Total Quality Management. Pearson Education, Inc. ISBN 81-297-0260-6.

# (Reference Books)

- 1. James R.Evans & William M.Lidsay. (2002). The Management and Control of Quality. 5th edition. South-Western (Thomson Learning), ISBN 0-324-06680-5.
- 2. Feigenbaum. A.V. (1991). Total Quality Management. McGraw-Hill.
- 3. Oakland. J.S. (1989). Total Quality Management. Butterworth Heinemann Ltd., Oxford.
- 4. Narayana V. and Sreenivasan, N.S. (1996). Quality Management Concepts and Tasks. New Age International.
- 5. Zeiri. (1991). Total Quality Management for Engineers. Wood Head Publishers.
- 6. Lt. Gen. H. LaI. (1990). Total Quality management. Wiley Eastern Limited.
- 7. Greg Bounds. (1994). Beyond Total Quality Management. McGraw Hill.
- 8. Menon, H.G. (1992). TQM in New Product manufacturing. McGraw Hill.
- 9. Shailendra Nigam. (2005). Total Quality Management an integrated approach. Excel Books.
- 10. Bester field, Dole, H. Michel, Carol Bester field, Bester-field. (2011). Total Quality Management. Pearson Education.
- 11. Bharat Wakhlu. (1998). Total Quality Excellence through Organization Wide Transformation. Wheeler Publishing.
- 12. Samuel Kho. (1995). TQM Integrated Approach. Kogan Page Limited, London.
- 13. Evans James R. and Dean, James W. (2006). Total Quality Management, Organization and Strategy, Thomson Asian Pvt. Ltd.

### **BUSINESS ETHICS (MBA -112)**

Total: 100
L-T Theory: 50
3-1 Sessional: 50
(3.5 Credits) Time: 3 hrs

# **Course Objective**

The course will help provide an overview of current thinking and developments in corporate governance. It will also enable students to critically examine ethical dilemmas and understand the importance of ethical principles and governance in a globalized economy. Further, it will try to develop an understanding of ethics and values in the business community and their relationship to corporate governance.

# **Pedagogy**

Application-based exercises, individual and group assignments, Case-studies will supplement classroom discussion.

**Note for the Paper Setter:** The number of questions to be set will be six, at least one from each unit. Out of these, one question will be compulsory. The examinee will be required to attempt the compulsory one and any other four questions. All questions shall carry equal marks.

# **Unit-I**

Introduction: Concept and principles of ethics - need and importance, personal vs business ethics, code of conduct and ethics for managers, ethics and profitability; Emerging business ethics issues and related selective case.

### **Unit-II**

Conflicts and Ethical Dilemmas: Concept of ethical dilemmas- Corporate dilemmas over ethical behaviour, Sources of ethical problems, Strategies to resolve ethical dilemmas, Walton's six models of Business Conduct, Traditional and Contemporary Moral Philosophies.

### **Unit-III**

Ethical Decision Making: A Decision-Making Model: Ethics as Making decisions and choices, Kohlberg's Model of Cognitive moral development, factors influencing ethical decision making, Personal values vs ethical decision making, the process of making good ethical decision making

### **Unit-IV**

Ethical Issues in Business Functional Areas: Ethical issues in marketing, finance, HR, Environmental ethics, Ethics in the IT Industry, Consumer protection and ethics, Concept of Whistle Blowing and guidelines, legal provisions and some cases.

### Unit-V

Corporate Social Responsibility: Concept, relevance and need of CSR, views about CSR, modelsof implementing CSR, benefits of CSR, Ethics and CSR, Concept of Corporate governance, Significance, issues in corporate governance, areas of corporate governance, benefits to corporations and communities, the Indian model of corporate governance, legal provisions, and selective good governance cases.

### **Course Outcome:**

Upon completing the requirements for this course, students will demonstrate the following abilities: a thorough understanding of the theoretical foundations of business ethics through definition, explanation, and illustration; the capability to reassess their existing knowledge of business and economic concepts from an ethical standpoint; and the capacity to articulate and exemplify the significance of business ethics for both businesses and the broader community.

### References

### **Text Books**

- 1. Fernando, A. C., Satheesh, E. K., & Muraleedharan, K. P. (2018). Corporate Governance: Principles, Policies & Practices. Pearson Education.
- 2. Mukherjee, A. K., & Roy, S. (2019). Entrepreneurship Development and Business Ethics. Oxford University Press.

### **Reference Books**

- 1. Velasquez, M. G. (2017). Business Ethics. Pearson Education.
- 2. Velasquez, M. G. (2012). Business Ethics: Concepts and Cases. PHI Learning.

# **RESEARCH METHODOLOGY (MBA-114)**

Total: 100
L-T Theory: 50
3-1 Sessionals: 50
(Credit-3.5) Time: 3 hrs

# **Course Objective:**

The objective of this paper is to impart knowledge about various stages of the research processes and their application in decision making.

Note for the Paper Setter: The number of questions to be set will be six, at least one from each unit. Out of these one question will be compulsory. The examinee will be required to attempt the compulsory one and any other four questions. All questions shall carry equal marks.

### **Unit-I**

Nature, scope and need of business research- managerial value of business research: components of theory-concepts, constructs, variables, definitions and hypothesis; the process of research: structure of research proposal.

### **Unit-II**

Research design concept and types- validity and reliability aspects; sampling design and techniques; factors influencing sample size; nature of measurement.

# **Unit-III**

Characteristics of sound measurement-nature of measurement scales; scale construction techniques: sources and methods of data collection; questionnaire designing.

# **Unit-IV**

Data preparation and descriptive analysis- hypothesis testing; parametric and non-parametric tests (analysis of variance, x2 test, sign test, the Mann-Whitney U-test, Kruskal – Wallis Htest); computer program for analysis.

### **Unit-V**

Nature of Multivariate-analysis- Introduction to Multivariate techniques, Ingredients of formal reports; construction of formal reports; nature of oral reports; mechanism of documentation and bibliography construction, Online citation builder

### **Course Outcome:**

After completing this course the students will have an understanding of the various aspects of research and this shall help them in their summer internship as well as dissertation reports.

### **References:**

# (Text Books)

- 1. C.R. Kothari. (2004). Research Methodology Methods and Techniques. New Age International Publisher.
- 2. R. Panneerselvam. (2014). Research Methodology. PHI Learning Pvt. Ltd.

# (Reference Books)

- 1. William Zikmund, Barry Babinjon Carr (2012). Business Research Methods. Cengage Learning.
- 2. Alan Bryman, Emma Bell (2011). Business Research Methods. 3<sup>rd</sup> edition. Oxford University Press.
- 3. Naval Bajpai (2011). Business Research Methods. Pearson Publishers.
- 4. Levin and Rubin (1997). Statistics for Business. Prentice Hall of India, Delhi.
- 5. Malhotra, N., Hall, J., Shaw, M., and Oppenheim, P. (2006). Marketing research: An applied orientation. Pearson Education Australia.

# **VISUAL ANALYTICS FOR BUSINESS (MBA-118)**

Total: 100 Theory: 50 Sessional: 50 Time: 3 hrs

(Credits-3.5)

L-T-P 2-0-3

# **Course Objective:**

The course aims to develop proficiency in using visualization tools and techniques to uncover insights, support decision-making, and present data-driven narratives in a clear and impactful manner.

# **Note for the Paper setter:**

The number of questions to be set will be six, at least one from each unit. Out of these, one question will be compulsory. The examinee will be required to attempt the compulsory one and any four questions. All questions shall carry equal marks.

### **Unit 1: Microsoft Excel**

Basic and Advanced Charts; Data Analysis ToolPak; Slicers and Timelines; Working with Power Query; Creating Interactive Dashboards in Excel; Business Applications and Case Examples.

### **Unit 2: Power BI**

Overview of the Power BI Ecosystem; Connecting to and Transforming Data; Data Modeling using DAX; Visualization Types and Custom Visuals; Creating Interactive Reports and Applying Filters; Designing and Publishing Dashboards; Collaboration Features in Power BI; Business Applications and Use Cases.

# **Unit 3: Google Looker**

Overview of Google Looker Studio Interface; Connecting to Data Sources (Google Sheets, BigQuery, CSV, etc.); Data Preparation and Transformation; Creating and Customizing Charts and Tables; Applying Filters, Parameters, and Controls; Designing Interactive Reports and Dashboards; Sharing and Collaboration Features; Business Applications and Case Studies

# Unit 4: R using ggplot2

Overview of ggplot2 and the Tidyverse Ecosystem; Understanding Aesthetic Mappings and Data Layers; Creating Common Chart Types (bar, line, scatter, etc.); Applying the Layered Grammar of Graphics; Customising Themes, Scales, and Labels; Using Facets for Subplots and Comparative Analysis; Combining Multiple Plots with Patchwork or Grid; Exporting and Sharing Visuals; Business Applications and Visualization Use Cases.

# **Unit 5: Python for Data Visualisation**

Overview of Python Visualization Libraries; Plotting Fundamentals with Matplotlib; Creating Statistical Visualizations using Seaborn; Building Interactive Graphs with Plotly; Designing Dashboards using Streamlit or Dash; Data Wrangling and Preparation with Pandas; Integrating Visualizations within Jupyter Notebooks; Exporting and Sharing Visual Outputs; Business Applications and Analytical Use Cases.

### **Course Outcome:**

Upon successful completion of Data Visualization for Business Analytics, the student will be able to: design and develop interactive dashboards and reports using tools such as Excel, Power BI, Google Looker Studio, R (ggplot2), and Python libraries; apply data transformation and modeling techniques to create meaningful visualizations; and communicate business insights effectively to support data-driven decision-making across various business functions.

# **Suggested Books:**

- 1. Knaflic, C. N. (2015). Storytelling with data: A data visualization guide for business professionals. John Wiley & Sons.
- 2. Powell, B. (2018). *Mastering Microsoft Power BI: Expert techniques for effective data analytics and business intelligence*. Packt Publishing Ltd.
- 3. Hopkins, W. (2022). *Power BI for the Excel Analyst: Your Essential Guide to Power BI*. Tickling Keys, Inc.
- 4. Rojas, D. (2015). *Data Analysis and Business Modeling with Excel 2013*. Packt Publishing Ltd.
- 5. Winston, W. (2019). *Microsoft Excel 2019 Data analysis and business modeling*. Microsoft Press.
- 6. Wickham, H., & Grolemund, G. (2017). *R for data science* (Vol. 2). Sebastopol, CA: O'Reilly.
- 7. Bruce, P., Bruce, A., & Gedeck, P. (2020). *Practical statistics for data scientists:* 50+ essential concepts using R and Python. O'Reilly Media.
- 8. Etheridge, D. (2011). *Microsoft Office Excel 2007 Data Analysis: Your visual blueprint for creating and analyzing data, Charts, and PivotTables* (Vol. 54). John Wiley & Sons.
- 9. Jelen, B., & Alexander, M. (2010). *Pivot Table Data Crunching: Microsoft Excel* 2010. Pearson Education.
- 10. Wickham, H., & Sievert, C. (2009). *ggplot2: elegant graphics for data analysis* (Vol. 10, pp. 978-0). New York: springer.
- 11. Pulipati, S. (2022). Data Storytelling with Google Looker Studio: A hands-on guide to using Looker Studio for building compelling and effective dashboards. Packt Publishing Ltd.