

2.6.1. Programme and course outcomes for all Programmes offered by the institution are stated and displayed on website and communicated to teachers and students.

Describe Course Outcomes (COs) for all Programmes and mechanism of communication within a minimum of 200 characters and maximum of 200 words.

GJIMT maintains transparency by clearly stating and displaying Programme Outcomes (POs) and Course Outcomes (COs) for all programs on its official website. These outcomes, aligned with the affiliating university IKGPTU, emphasize holistic student development, including critical thinking, problem-solving, communication, ethical reasoning, and technical skills.

The POs and COs reflect the university's vision and are regularly updated to stay relevant with changing educational standards and evolving industry demands. They are accessible via the IKGPTU website, GJIMT's website, and on campus, ensuring students have clear guidance on the competencies they are expected to achieve. This availability supports students in understanding the learning objectives and expected skills from the very beginning of their academic journey.

At the start of each course, instructors explain COs to ensure students are aware of the course goals and expectations. Faculty members develop detailed CO-PO mapping matrices that clearly connect course assessments to the intended outcomes. These matrices facilitate an accurate and systematic measurement of student progress, ensuring that evaluation methods effectively assess whether students are meeting the defined educational objectives.

Through this transparent and well-structured approach, GJIMT upholds academic clarity and quality, helping students align their efforts with program goals and prepare for their future professional careers.

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CO–PO Mapping

AY 2024–25

Master of Business Administration

CO–PO Mapping for All Courses

Program Outcomes (POs): Master of Business Administration

PO Number	Program Outcome Statement
PO1	<i>Business Environment and Domain Knowledge: Economic, legal and social environment of Indian business:</i> Graduates are able to improve their awareness and knowledge about functioning of local and global business environment and society. This helps in recognizing the functioning of businesses, identifying potential business opportunities, involvement of business enterprises and exploring the entrepreneurial opportunities.
PO2	<i>Critical thinking, Business Analysis, Problem Solving and Innovative Solutions:</i> Competencies in quantitative and qualitative techniques. Graduates are expected to develop skills on analysing the business data, application of relevant analysis, and problem solving in other functional areas such as marketing, business strategy and human resources.
PO3	<i>Global Exposure and Cross-Cultural Understanding:</i> Demonstrate a global outlook with the ability to identify aspects of the global business and Cross Cultural Understanding.
PO4	<i>Social Responsiveness and Ethics:</i> Developing responsiveness to contextual social issues / problems and exploring solutions, understanding business ethics and resolving ethical dilemmas. Graduates are expected to identify the contemporary social problems, exploring the opportunities for social entrepreneurship, designing business solutions and demonstrate ethical standards in organizational decision making. Demonstrate awareness of ethical issues and can distinguish ethical and unethical behaviors.
PO5	<i>Effective Communication:</i> Usage of various forms of business communication, supported by effective use of appropriate technology, logical reasoning, articulation of ideas. Graduates are expected to develop effective oral and written communication especially in business applications, with the use of appropriate technology (business presentations, digital communication, social network platforms and so on).
PO6	<i>Leadership and Teamwork:</i> Understanding leadership roles at various levels of the organization and leading teams. Graduates are expected to collaborate and lead teams across organizational boundaries and demonstrate leadership qualities, maximize the usage of Diverse skills of team members in the related context.

Programme: MBA
Course Title: Foundations of Management
Semester: I
Course Code: MBA101-18
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Describe fundamental concepts and principles and conventions of accounting.
CO2	Explain the role and responsibilities of managers and adapt to the various styles of management across organizations.
CO3	Develop analytical abilities to face the business situations.
CO4	Apply various tools that would facilitate the decision making process in the business.
CO5	Develop peer based learning and working in groups and teams.
CO6	To comprehend the application of various controlling techniques in management.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	2	2	0	1	1	0
CO2	2	2	1	2	2	2
CO3	2	3	1	2	1	2
CO4	2	3	1	1	1	1
CO5	1	2	1	1	3	3
CO6	1	2	0	1	1	2

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = Not applicable / No correlation

Programme: MBA
Course Title: Managerial Economics
Semester: I
Course Code: MBA102-18
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Understand the basic concepts of economics and relate it with other disciplines and identify the importance of economics in managerial decision making.
CO2	Measure price elasticity of demand, understand the determinants of elasticity and apply the concepts of price, cross and income elasticity of demand.
CO3	Analyze the demand and supply conditions and assess the position of a company and explain the concepts of factors of production, collective bargaining and the underlying theories of factors of production.
CO4	Recognize the relationship between short-run and long-run costs and will also be able to establish the linkage between production function and cost function.
CO5	Compare and contrast four basic types of market i.e. perfect, monopoly, monopolistic and oligopoly and can determine price and output under different market types.
CO6	Understand basic concepts of macroeconomics and shall be able to measure national income using different approaches.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	2	1	2	1	1
CO2	2	3	1	1	1	1
CO3	3	3	1	2	1	2
CO4	2	3	1	1	1	1
CO5	3	3	2	1	1	2
CO6	2	2	1	2	1	1

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = Not applicable / No correlation

Programme: MBA

Course Title: Quantitative Techniques

Semester: I

Course Code: MBA103-18

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	To have a deeper and rigorous understanding of fundamental concepts in business decision making under subjective conditions.
CO2	To apply the concepts of central tendency and variation in managerial decision making.
CO3	To enhance knowledge in probability theory and normality and its distribution concepts.
CO4	To understand the concept of correlation regression analysis and their applications.
CO5	To apply the learnt techniques to build the best fit route of transportation for carrying schedule of activities. To apply the operations techniques in reality to market scenario.
CO6	To apply the operations techniques in reality to market scenario.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	2	3	1	1	1	1
CO2	2	3	0	1	1	1
CO3	2	3	0	1	1	1
CO4	2	3	0	1	1	1
CO5	2	3	1	2	1	2
CO6	2	3	1	2	1	2

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: MBA

Course Title: Accounting For Management and Reporting

Semester: I

Course Code: MBA104-18

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	To familiarize the students about the basic concepts, principles and process of accounting and to make them aware about the formats of financial statements of public limited, banking and insurance companies.
CO2	To explain the students about the concepts of cost and various intricacies for preparing the cost sheet.
CO3	To acquaint students about the decision making techniques using the concepts of marginal costing, standard costing and budgetary control.
CO4	To enable the students to analyse financial statements using various tools for financial analyse and interpret the financial position of a business organization.
CO5	To familiarize the students about the contemporary developments in the accounting.
CO6	To make students aware about the recent developments in financial reporting and regulations so that they may understand and appreciate the concept and process of harmonization of financial reporting practices.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	2	1	1	1	1
CO2	2	3	0	1	1	1
CO3	2	3	0	2	1	1
CO4	2	3	0	2	1	2
CO5	3	2	1	2	2	1
CO6	3	2	1	2	2	1

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: MBA

Course Title: Business Environment and Indian Economy

Semester: I

Course Code: MBA105-18

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Outline how an entity operates in a complex business environment.
CO2	To systematically learn impact of legal & regulatory, macroeconomic, cultural, political, technological, global and natural environment on Business enterprise.
CO3	To examine the critical opportunities and threats that arise from an analysis of external business conditions by applying scenario planning to synthesize trends prevailing in the external environment.
CO4	To describe how various types of economic systems play a significant role in the success of a business.
CO5	To understand the nature of Indian Economy and various issues relating to Indian Economy having a direct or indirect impact on business environment.
CO6	To discuss various development strategies in India.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	2	2	2	1	1
CO2	3	2	2	3	1	1
CO3	3	3	3	3	2	2
CO4	3	2	1	2	1	1
CO5	3	2	2	2	1	1
CO6	2	2	1	2	1	1

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: MBA

Course Title: Business Ethics and Corporate Social Responsibility

Semester: I

Course Code: MBA106-18

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	To integrate and apply contemporary Ethics & Governance issues in a business context.
CO2	To analyse and apply ethics to contemporary business practices.
CO3	To analyse key perspectives on corporate social responsibility and their application.
CO4	To evaluate different corporate ownership structures and their key governance features.
CO5	To understand the ethical decision making, ethical reasoning, the dilemma resolution process.
CO6	To analyse and apply corporate governance perspectives to contemporary business practices.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	2	2	2	3	2	2
CO2	2	2	2	3	2	2
CO3	2	2	2	3	2	2
CO4	2	2	1	3	2	2
CO5	2	2	1	3	2	2
CO6	2	2	2	3	2	2

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: MBA

Course Title: Business Communication For Managerial Effectiveness

Semester: I

Course Code: MBA107-18

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	To understand the basics of communication and its process, and the various barriers in the communication.
CO2	To learn the listening skills and comprehend the value of business etiquettes.
CO3	To comprehend Non – Verbal communication skills and its application for effective Communication.
CO4	To learn the skills of writing effective business messages, letters and reports.
CO5	To develop the presentation skills and learning to organize and structure a Presentation using visual aids.
CO6	To prepare the students for interview , employment messages and resume writing skills.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	2	2	1	1	3	2
CO2	1	2	1	1	3	2
CO3	1	2	2	1	3	2
CO4	1	2	1	1	3	2
CO5	1	2	2	1	3	3
CO6	1	2	1	1	3	3

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: MBA

Course Title: Business Analytics for Decision Making

Semester: II

Course Code: MBA201-18

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	To have a deeper and rigorous understanding of fundamental concepts in business decision making under subjective conditions.
CO2	To enhance knowledge in probability theory and normality and its distribution concepts.
CO3	To conduct research surveys through multiple regression and multiple correlation.
CO4	To design a good quantitative purpose statement and good quantitative research questions and hypotheses.
CO5	To know the various types of quantitative sampling techniques and conditions to use.
CO6	To utilize the time series method to predict the future of sales in a concern.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	2	3	1	2	1	2
CO2	2	3	1	2	1	2
CO3	1	3	2	2	2	2
CO4	1	3	2	2	2	2
CO5	1	3	2	2	2	2
CO6	2	3	2	2	1	2

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: MBA

Course Title: Legal Environment for Business

Semester: II

Course Code: MBA202-18

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Students shall be able to understand the legal and regulatory framework of business environment.
CO2	Students shall be able to identify the fundamental legal principles behind contractual agreements.
CO3	Students shall be able to understand the legal provisions of sales of goods.
CO4	Students shall be able to understand the concept of negotiable instruments as well as rules pertaining to crossing, transferring and dishonouring of negotiable instruments.
CO5	Students shall have understanding of legal rules governing admission, retirement and death of partner and dissolution of partnership firm.
CO6	Students shall be able to understand the legal framework relating to the process of incorporation of Joint Stock Company.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	2	1	3	1	1
CO2	3	2	1	3	1	1
CO3	3	2	1	3	1	1
CO4	3	2	1	3	1	1
CO5	3	2	1	3	1	1
CO6	3	2	1	3	1	1

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: MBA

Course Title: Marketing Management

Semester: II

Course Code: MBA203-21

Academic Year: 2024-25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	To learn the basics of marketing, selling, marketing mix and its core concepts.
CO2	To understand the intricacies of the marketing environment and marketing information systems for effective marketing planning and strategies.
CO3	To equip the students with necessary skills for effective market segmentation, targeting and positioning.
CO4	To prepare the students for understanding the various components of product mix, product life cycle and comprehend the new product development process.
CO5	To develop an understanding of promotion mix and strategies for successful Promotion.
CO6	To gain knowledge about the emerging trends in marketing and pyramid Marketing.

CO-PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	2	2	1	2	1
CO2	3	3	2	2	2	1
CO3	2	3	2	2	2	2
CO4	2	3	2	2	2	2
CO5	2	2	2	2	3	2
CO6	3	2	3	2	2	2

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: MBA

Course Title: Human Resource Management

Semester: II

Course Code: MBA204-18

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	To explain the basics of Human Resource Management and analyse the evolution of HRM.
CO2	To comprehend the environment of HRM.
CO3	To appraise various functions of HRM that facilitate employee hiring viz. human resource planning, job analysis recruitment and selection.
CO4	To understand the role of training, development, career planning and performance appraisal functions in human resource development.
CO5	To examine the provisions of employee health, safety and welfare.
CO6	To analyse the concerns of government, employees and employers in establishing Industrial relations.
CO7	To illustrate mechanisms adopted by the organizations for settlement of disputes and grievances.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	2	1	2	2	2
CO2	3	2	1	2	2	2
CO3	2	3	1	2	2	3
CO4	2	3	1	2	2	3
CO5	2	2	1	3	2	3
CO6	2	2	1	3	2	3
CO7	2	2	1	3	2	3

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: MBA

Course Title: Production and Operations Management

Semester: II

Course Code: MBA205-18

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Understand ever growing importance of Production and Operations management in uncertain business environment.
CO2	Gain an in-depth understanding of resource utilization of an organization.
CO3	Appreciate the unique challenges faced by firms in services and manufacturing.
CO4	Understand the subject as a crucial part of functional management.
CO5	Develop skills to operate competitively in the current business scenario.
CO6	Understand the concepts of inventory and purchasing management.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	3	2	2	2	2
CO2	3	3	2	2	2	2
CO3	3	2	2	2	2	2
CO4	3	2	2	2	2	2
CO5	2	3	2	2	3	3
CO6	3	3	2	2	2	2

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: MBA

Course Title: Corporate Finance and Policy

Semester: II

Course Code: MBA206-21

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	To explain the evolution, objectives and functions of corporate finance and interface of corporate finance with other functional areas.
CO2	To illustrate the concept of time values of money and valuation of securities.
CO3	To comprehend the significance of capital structure theories in capital structure decisions.
CO4	To facilitate sound investment decisions based on capital budgeting techniques.
CO5	To understand the applications of approaches of working capital management.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	2	1	2	2	1
CO2	2	3	1	2	1	1
CO3	2	3	1	2	1	1
CO4	2	3	1	2	2	2
CO5	2	3	1	2	2	2

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: MBA

Course Title: Entrepreneurship Development and Project Management

Semester: II

Course Code: MBA207-18

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	To explain the characteristics, functions and traits of an entrepreneur.
CO2	To illustrate the concept of corporate entrepreneurship and development of the same in the organizations.
CO3	To comprehend the significance of women entrepreneurs, rural entrepreneurship and social entrepreneurship.
CO4	To examine entrepreneurial strategies to explore new entry opportunities, methods of enhancing creativity and generation of ideas.
CO5	To be able to develop an effective business plan.
CO6	To explain the basic concepts of project management and analyse different phases of project management viz. generation and screening of project ideas, project analysis, selection, financing, implantation and review.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	2	2	2	2	2
CO2	2	3	2	2	2	3
CO3	3	2	2	3	2	2
CO4	2	3	2	2	2	3
CO5	3	3	2	2	3	3
CO6	3	3	2	2	2	3

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: MBA

Course Title: Computer Applications for Business

Semester: II

Course Code: MBAGE 201-18

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Develop understanding of computer fundamentals, functions and their classifications.
CO2	Develop a clear understanding and knowledge about the functioning of a Computer software and window operating system.
CO3	Demonstrate proficiency in Microsoft word & Excel.
CO4	Apply formatting and editing features to enhance worksheets.
CO5	Use styles, themes, and conditional formats to customize worksheets.
CO6	Apply the concepts of data base and Access for editing Data; managing reports and labels, Managing Multiple Tables.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	2	2	1	1	2	1
CO2	2	2	1	1	2	1
CO3	1	3	1	1	3	2
CO4	1	3	1	1	3	2
CO5	1	3	1	1	3	2
CO6	2	3	1	2	3	2

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: MBA

Course Title: Organizational Behaviour & Design

Semester: III

Course Code: MBA 301-18

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	To explain the basics of Organizational behaviour and various challenges for OB in national and global environment.
CO2	To illustrate the foundations of Individual Behaviour and analyse the influence of individual level factors viz. learning, personality, perception, attitude and motivation on behaviour in organizations.
CO3	To assess the significance of leadership and role of leadership styles in effectiveness of the team.
CO4	To examine the dynamics of group development, group properties and formation of organizational culture.
CO5	To demonstrate dimensions of organisational design and types of organisational structure and to analyse the influence of environment on organisational design.
CO6	To interpret the effect of political climate (conflict, power and politics) on human behaviour.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	2	2	2	2	2
CO2	2	3	2	2	2	2
CO3	1	2	2	2	2	3
CO4	2	2	2	2	2	3
CO5	3	2	2	2	2	2
CO6	2	2	2	3	1	2

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: MBA

Course Title: Marketing Research

Semester: III

Course Code: MBA 302-18

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Understand the process of marketing research and its application in managerial decision making.
CO2	Identify various sources of data for marketing research.
CO3	Examine different research methods and be able to apply them.
CO4	Identify different research designs and develop a research proposal.
CO5	Design an effective questionnaire and test reliability and validity of the scales.
CO6	Apply different methods of data preparation and data analysis.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	2	3	2	2	2
CO2	2	2	3	2	2	2
CO3	2	3	3	3	2	2
CO4	2	3	3	3	2	2
CO5	2	2	3	3	2	2
CO6	2	3	3	3	2	2

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: MBA

Course Title: Consumer Behaviour

Semester: III

Course Code: MBA 921-18

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Provide an understanding of how consumers make decisions.
CO2	Analyze personal and environmental factors that influence consumer decisions.
CO3	Understand the processes used when individuals, group or organizations make buying decisions.
CO4	Understand how and why marketers craft particular messages to appeal to consumers.
CO5	Understand the interrelationship with other functional areas of business as a part of the management process.
CO6	Assess the process of opinion leadership and its relationship with firm's promotional strategy.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	2	2	2	1	2
CO2	3	3	2	2	2	2
CO3	3	2	3	2	2	2
CO4	2	3	2	3	3	2
CO5	3	2	3	2	2	2
CO6	2	2	2	3	3	3

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: MBA
Course Title: Services Marketing
Semester: III
Course Code: MBA 922-18
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Understand the fundamental concepts of service marketing and its functions.
CO2	Identify the role and significance of various elements of service marketing mix.
CO3	Analyze customer requirement, measure service quality and design and deliver better service.
CO4	Analyze integrated services marketing communications and services marketing triangle.
CO5	Examine various pricing strategies and pricing approaches in service sectors.
CO6	Understand service marketing applications in different service sectors.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	2	2	1	2	2
CO2	3	3	2	2	2	2
CO3	2	3	3	3	2	2
CO4	2	2	2	3	3	2
CO5	2	3	3	2	2	1
CO6	2	2	3	2	2	3

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = Not applicable / No correlation

Programme: MBA

Course Title: Investment Analysis and Portfolio Management

Semester: III

Course Code: MBA 911-18

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	To familiarize the students about the basic concepts, various investment avenues, process of investment and market microstructure of financial markets.
CO2	To enable students to understand the operation of primary as well as secondary markets in India and to understand the concepts of risk and its measurement.
CO3	To familiarize the students with the concepts and process of fundamental analysis so that they may understand the impact of various environmental factors on investment valuation..
CO4	To explain the concepts and process of technical analysis and enable the students to understand the role of daily price movements in portfolio management.
CO5	To explain the concepts, process and techniques for portfolio construction, evaluation and revision.
CO6	To familiarize the students about the financial derivatives and computation of their expected payoffs.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	2	2	2	2	1
CO2	3	3	3	2	2	2
CO3	2	3	2	2	2	2
CO4	2	3	3	2	2	1
CO5	3	3	3	3	2	2
CO6	3	3	3	2	2	2

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: MBA

Course Title: Management of Financial Services

Semester: III

Course Code: MBA 912-18

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	To understand the concept of financial services and their importance.
CO2	To know the structure and schemes of mutual funds.
CO3	To understand the importance and process of Dematerialisation and rematerialisation.
CO4	To know the structure and system of credit rating ,leasing ,merchant banking and venture capital.
CO5	To know the process and importance of factoring and securitisation.
CO6	To understand the process of asset liability management and risk management in banks.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	2	2	1	2	2
CO2	2	3	2	2	2	1
CO3	2	3	2	2	1	1
CO4	3	3	3	2	2	2
CO5	2	2	3	2	2	2
CO6	3	2	3	3	2	3

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: MBA

Course Title: Organizational Change and Development

Semester: III

Course Code: MBA 931-18

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Develop understanding of organization change and Define, explain and illustrate theories of planned change, their relevant foundations, strengths and weaknesses.
CO2	Recognize and comment on issues and problems arising out of organizational change initiatives.
CO3	To Understand concepts related to system theory, Action Research and Models.
CO4	Understand the role of various intervention strategies in organizational development.
CO5	Facilitate organizational change; and apply diagnostic models and concepts to change issues at the organizational, group and individual levels.
CO6	Examine various issues in the relationship between client and consultant relationship.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	2	3	2	2	2
CO2	3	3	2	2	2	2
CO3	2	2	3	2	1	1
CO4	3	2	2	3	2	2
CO5	3	3	3	3	2	3
CO6	2	2	2	2	1	3

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: MBA
Course Title: Employee Relations
Semester: III
Course Code: MBA 932-18
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Understand establishing & maintaining a sound relationship between the worker & the employer.
CO2	Understand the significance & functioning of Trade Unions.
CO3	Identify the simmering issues which might take the form of a dispute in the workplace.
CO4	Examine various provisions laid down by laws to settle disputes in the organizations.
CO5	Assess the importance of various Acts in Industrial Relations.
CO6	Comprehend the concept and classification of labour welfare.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	2	2	3	1	2
CO2	3	2	2	2	1	2
CO3	2	3	3	3	2	2
CO4	3	3	2	3	2	3
CO5	3	2	2	2	2	3
CO6	2	2	2	1	2	2

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = Not applicable / No correlation

Programme: MBA

Course Title: Marketing Analytics

Semester: III

Course Code: MBA 961-18

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	To learn how to analyse market conditions in the era of social media.
CO2	To learn to apply statistical tools on marketing data metrics.
CO3	Understand how the “first principles” of marketing strategy helps firms organize the analytics opportunity and challenge in today’s data era.
CO4	Use and execute data analytic techniques, and case studies to understand how to solve marketing analytics problems in a scientific and process-driven manner.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	2	2	3	2	2
CO2	2	3	3	3	2	2
CO3	3	3	3	3	2	2
CO4	3	3	3	3	2	2

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: MBA

Course Title: Data Sciences Using R

Semester: III

Course Code: MBA 962-18

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Know advanced aspects of big data analytics, applying appropriate machine learning techniques to analyse big data sets
CO2	Assess the statistical significance of data mining results, basic statistical modelling and analysis using the open-source tool R
CO3	Describe what Data Science is and the skill sets needed to be a data scientist.
CO4	Understand concepts like Big Data, Data Mining, Data Analytics and Machine Learning
CO5	Understand various algorithm for data analysis (classification and Clustering)

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	2	3	3	3	2	2
CO2	2	3	3	3	3	2
CO3	3	2	2	2	2	1
CO4	2	3	2	3	3	2
CO5	2	3	3	3	2	2

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: MBA

Course Title: Corporate Strategy

Semester: IV

Course Code: MBA 401-18

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Understand the concepts of strategic management process and strategic decision making process.
CO2	Discuss various techniques of external as well as internal environmental analysis of business.
CO3	Explain various business level and corporate level strategies for the growth of the business along with their implications.
CO4	Illustrate the issues involved in strategy implementation and the role of leadership, communication and organizational structure in implementation of strategy.
CO5	Develop various functional plans for successful implementation of strategy.
CO6	Understand organisational systems and techniques of strategic evaluation and control.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	2	3	2	2	2
CO2	3	3	3	3	2	2
CO3	3	3	3	3	3	2
CO4	3	3	3	3	3	2
CO5	2	2	3	3	3	2
CO6	2	3	3	3	2	3

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: MBA

Course Title: Integrated Marketing Communication and Sales Management

Semester: IV

Course Code: MBA 923-18

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Apply the key terms, definitions, and concepts used in integrated marketing communications.
CO2	Conduct and evaluate marketing research and apply these findings to develop competitive IMC Programme.
CO3	Examine the role of various promotional strategies such as advertising, direct marketing, sales promotion and PR in effectiveness of marketing communication.
CO4	Understand and apply the concepts of sales management and organization.
CO5	Develop sales related marketing policies such as product policies, distribution policies & pricing policies.
CO6	Explain various sales operations such as sales budget, sales territories, sales Quota's, control of sales, sales meeting and sales contest, organizing display, showroom and exhibition.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	2	2	2	3	2
CO2	3	3	3	2	2	2
CO3	3	3	3	2	3	2
CO4	2	2	3	3	3	2
CO5	2	2	3	3	3	2
CO6	2	2	3	2	3	2

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: MBA

Course Title: Product and Brand Management

Semester: IV

Course Code: MBA 926-18

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Understand what a product is, the various levels which make it up, and different types of products.
CO2	Examine various challenges and issues involved in product planning and development.
CO3	Discuss and apply the concepts of test marketing and market entry of a product.
CO4	Recognize the features and importance of a brand and conduct branding research.
CO5	Understand the concept of brand loyalty and measuring brand performance.
CO6	Describe the role of various branding strategies in brand equity management.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	2	2	2	3	2
CO2	3	3	2	2	2	2
CO3	3	3	3	2	3	2
CO4	2	3	3	3	3	2
CO5	2	3	3	2	3	2
CO6	2	2	3	2	3	2

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: MBA

Course Title: Behavioural Finance

Semester: IV

Course Code: MBA 913-18

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Understand and differentiate between different theories of behavioural finance.
CO2	Examine the concepts of bounded rationality.
CO3	Discuss various anomalies in the market giving rise to behavioural bias.
CO4	Describe the basis of behavioural bias of professional investors trading in market.
CO5	Understand the concept of market efficiency and will be able to relate it with the concept of behavioural finance.
CO6	Describe the challenges to the efficient market hypothesis.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	2	3	2	2	1
CO2	3	3	2	2	2	1
CO3	3	3	3	2	2	2
CO4	3	2	3	2	3	2
CO5	3	2	3	2	3	2
CO6	3	3	2	2	3	2

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: MBA

Course Title: Taxation and Personal Financial Planning

Semester: IV

Course Code: MBA 916-18

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	The students will be familiarised with the concepts of tax management, tax avoidance and tax evasion and the methods of ways of tax planning.
CO2	To acquaint students with the provision of the current finance act with regard to various head of income.
CO3	To enable students to compute the tax liability of individuals after considering their residential status, various exempted incomes, permissible deduction, clubbing of income and setting off of losses.
CO4	To familiarise students with the concept, objectives and importance of personal financial planning and enable the students to understand the implications of environmental factors and time value of money on the personal financial statements.
CO5	To enable students to identify various types of risks any individual is exposed to and how they can hedge diversifiable risk.
CO6	To familiarise students with various instruments available for investment by an individual for achieving their personal financial goals.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	2	2	2	3	2
CO2	3	3	2	2	2	2
CO3	3	3	3	2	3	2
CO4	3	2	2	3	2	2
CO5	3	2	2	3	3	2
CO6	3	2	3	3	3	2

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: MBA

Course Title: Leadership and Team Dynamics

Semester: IV

Course Code: MBA 935-18

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Understand the history of leadership and current leadership theories.
CO2	Explain how leadership models are put into practice personally, locally, and globally.
CO3	Discuss the knowledge of developing leadership abilities.
CO4	Describe the concept of Strategic Leadership and ethical leadership.
CO5	Explain composition, formation, and development of teams.
CO6	Illustrate the dynamics of team Performance and motivation and the role of leadership in dynamics of team management and decision making.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	2	2	2	2	2
CO2	3	3	2	2	2	3
CO3	3	2	3	2	3	2
CO4	3	3	3	2	2	2
CO5	2	2	3	3	2	3
CO6	3	3	3	3	3	3

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: MBA

Course Title: Performance and Compensation Management

Semester: IV

Course Code: MBA 936-18

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Increase the awareness of the process and principles of performance Management / appraisal.
CO2	Identify the negative aspects of appraisal systems and consider how these might be overcome.
CO3	Discuss performance with regard to pay awards, and whether these should, or should not be automatically related to each other.
CO4	Demonstrate a familiarity with the appeal process relating specifically to the performance review.
CO5	Illustrate different ways to strengthen the pay-for-performance link and also learn the concepts of Payment and employee benefits issues for contingent workers.
CO6	Develop appropriate reward and compensation policies.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	3	2	2	2	2
CO2	3	2	3	2	2	2
CO3	3	2	3	2	2	3
CO4	2	2	2	2	2	2
CO5	3	3	3	3	2	3
CO6	3	3	3	3	3	3

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: MBA

Course Title: Data Visualization for Managers

Semester: IV

Course Code: MBA 963-18

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Employ best practices in data visualization to develop charts, maps, tables, and other visual representations of data.
CO2	Use Tableau's visualization tools to conduct data analysis, especially exploration of an unfamiliar dataset.
CO3	Create compelling, interactive dashboards to combine several visualizations into a cohesive and functional whole.
CO4	Utilize advanced Tableau features including parameters, data blending, custom SQL, very large datasets, custom date hierarchies, and others.
CO5	Use data visualizations, dashboards and Tableau Stories to support relevant communication for diverse audiences.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	2	3	2	3	3	2
CO2	2	3	2	3	3	2
CO3	2	3	3	3	3	3
CO4	2	3	3	3	3	3
CO5	2	3	3	3	3	3

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: MBA

Course Title: Business Forecasting

Semester: IV

Course Code: MBA 964-18

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Understand the importance of forecasting in making accurate decisions in economic and business environments.
CO2	Understand the basics in regression analysis, time series analysis and their applications in forecasting.
CO3	Understand how to handle the trend, seasonal and cyclical issues in forecasting analysis.
CO4	Construct forecasting reports to higher level management for vital decision-making process.
CO5	Use the software packages for developing forecasting models.
CO6	Be prepared for more advanced study of economic and business forecasting.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	3	2	2	2	2
CO2	2	3	3	2	2	2
CO3	2	3	3	2	2	2
CO4	2	3	3	3	3	2
CO5	2	3	3	3	3	2
CO6	2	3	2	2	2	3

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: MBA

Course Title: Workshop on Indian Ethos

Semester: IV

Course Code: MBA 403-18

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Comprehend and practice Indian Ethos and values system.
CO2	Applying value based management and ethical practices in business.
CO3	To gain the knowledge of management principles from Vedas and other holy books and explain the application of Indian heritage in business.
CO4	To comprehend various stress management techniques and their applications in organizations.
CO5	To describe salient features and advantages of ancient Indian system of learning.
CO6	To describe various laws of Karma and explain the concept of corporate karma.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	2	2	2	3	3
CO2	3	3	2	3	2	3
CO3	3	3	2	2	2	3
CO4	2	2	2	2	2	3
CO5	3	2	1	1	2	2
CO6	2	3	2	2	2	3

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Master of Computer Applications

CO–PO Mapping for All Courses

Program Outcomes (POs): Master of Computer Applications

PO Number	Program Outcome Statement
PO1	<i>Computational Knowledge:</i> Apply knowledge of computing fundamentals, computing specialization, mathematics, and domain knowledge appropriate for the computing specialization to the abstraction and conceptualization of computing models from defined problems and requirements.
PO2	<i>Problem Analysis:</i> Identify, formulate, research literature, and solve complex computing problem searching substantiated conclusions using fundamental principles of mathematics, computing sciences, and relevant domain disciplines.
PO3	<i>Design /Development of Solutions:</i> Design and evaluate solutions for complex computing problems, and design and evaluate systems, components, or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.
PO4	<i>Conduct investigations of complex Computing problems:</i> User search-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
PO5	<i>Modern Tool Usage:</i> Create, select, adapt and apply appropriate techniques, resources, and modern computing tools to complex computing activities, with an understanding of the limitations.
PO6	<i>Professional Ethics:</i> Understand and commit to professional ethics and cyber regulations, responsibilities, and norms of professional computing practices.
PO7	<i>Life-long Learning:</i> Recognize the need, and have the ability, to engage in independent learning for continual development as a computing professional.
PO8	<i>Project management and finance:</i> Demonstrate knowledge and understanding of the computing and management principles and apply these to one's own work, as a member and leader in a team to manage projects and in multidisciplinary environments.
PO9	<i>Communication Efficacy:</i> Communicate effectively with the computing community, and with society at large, about complex computing activities by being able to comprehend and write effective reports, design documentation, make effective presentations, and give and understand clear instructions.
PO10	<i>Societal and Environmental Concern:</i> Understand and assess societal, environmental, health, safety, legal, and cultural issues within local and global contexts, and the consequential responsibilities relevant to professional computing practices.
PO11	<i>Individual and Team Work:</i> Function effectively as an individual and as a member or leader in diverse teams and in multidisciplinary environments.
PO12	<i>Innovation and Entrepreneurship:</i> Identify a timely opportunity and using innovation to pursue that opportunity to create value and wealth for the betterment of the individual and society at large.

Programme: MCA (Bridge Course)
Course Title: Computer Programming using C
Semester: I
Course Code: PGCA-B1
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Student should be able to understand the logic building used in Programming.
CO2	Students should be able to write algorithms for solving various real life problems.
CO3	To convert algorithms into programs using C.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	2	1	2	–	2	–	–	–	–	–
CO2	3	3	3	2	2	–	2	–	–	–	–	1
CO3	3	3	3	2	3	–	2	–	1	–	1	1

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = No correlation / Not applicable

Programme: MCA (Bridge Course)
Course Title: Computer Science Essentials
Semester: I
Course Code: PGCA-B2
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Understanding the concept of input and output devices of Computers
CO2	Learn the basic concepts of Operating Systems and Database Systems
CO3	Learn basic word processing, Spreadsheet and Presentation Graphics Software skills.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	2	1	2	–	2	–	–	–	–	–
CO2	3	3	2	2	2	–	2	–	–	–	–	1
CO3	3	2	2	1	3	–	2	1	2	–	1	1

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = Not applicable / No correlation

Programme: MCA

Course Title: Discrete Structures & Optimization

Semester: I

Course Code: PGCA1917

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Apply the operations of sets and use Venn diagrams to solve applied problems; solve problems using the principle of inclusion-exclusion.
CO2	Apply rules of inference, proof by contradiction, proof by cases, and write proofs using symbolic logic and Boolean Algebra.
CO3	Solve counting problems by applying elementary counting techniques using the product and sum rules, permutations, combinations, the pigeon-hole principle.
CO4	Determine if a given graph is simple or a multigraph, directed or undirected, cyclic or acyclic, and determine the connectivity of a graph

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	2	2	2	–	2	–	–	–	–	–
CO2	3	3	2	2	2	–	2	–	–	–	–	–
CO3	3	3	3	2	2	–	2	–	–	–	–	–
CO4	3	3	3	2	2	–	2	–	–	–	–	–

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: MCA

Course Title: Programming in Python

Semester: I

Course Code: PGCA1951

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Familiar with Python environment, data types, operators used in Python.
CO2	Compare and contrast Python with other programming languages.
CO3	Learn the use of control structures and numerous native data types with their methods.
CO4	Design user defined functions, modules, and packages and exception handling methods.
CO5	Create and handle files in Python and learn Object Oriented Programming Concepts

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	2	1	3	–	2	–	–	–	–	–
CO2	3	3	2	1	2	–	2	–	–	–	–	1
CO3	3	3	3	2	3	–	2	–	–	–	–	1
CO4	3	3	3	2	3	–	2	–	1	–	1	1
CO5	3	3	3	2	3	–	2	–	–	–	1	1

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: MCA
Course Title: Advanced Data Structures
Semester: I
Course Code: PGCA1952
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Choose appropriate data structures and algorithms and use it to design solution for a specific problem.
CO2	Execute the operations of hashing to retrieve data from data structure.
CO3	Design and analyze programming problem statements.
CO4	Come up with analysis of efficiency and proofs of correctness.
CO5	Comprehend and select algorithm design approaches in a problem specific manner.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	3	2	3	–	2	–	–	–	1	1
CO2	3	3	2	2	3	–	2	–	–	–	–	–
CO3	3	3	3	3	2	–	2	–	–	–	1	1
CO4	3	3	3	3	2	–	2	–	–	–	–	–
CO5	3	3	3	2	2	–	2	–	–	–	–	1

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = Not applicable / No correlation

Programme: MCA

Course Title: Advanced Database Management System

Semester: I

Course Code: PGCA1953

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Express the basic concepts of DBMS and RDBMS.
CO2	Apply normalization theory to the normalization of a database.
CO3	Apply the concept of Transaction Management & Recovery techniques in RDBMS.
CO4	Analyze various advanced databases prevailing in market, Big Data, Temporal Databases, Parallel and Distributed Databases, XML Database and multidimensional Databases.
CO5	Demonstrate No SQL databases (Open Source).

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	2	1	2	–	2	–	–	–	–	–
CO2	3	3	3	2	2	–	2	–	–	–	–	–
CO3	3	3	3	2	3	–	2	–	–	–	1	–
CO4	3	3	3	3	3	–	2	–	–	–	–	1
CO5	3	2	2	2	3	–	2	–	–	–	–	1

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: MCA
Course Title: Technical Communication
Semester: I
Course Code: PGCA1905
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	The objective of the course is to help the students become the independent users of English language.
CO2	Students will acquire basic proficiency in reading & listening, comprehension, writing and speaking skills.
CO3	Students will be able to understand spoken and written English language, particularly the language of their chosen technical field.
CO4	They will be able to converse fluently.
CO5	They will be able to produce on their own clear and coherent texts.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	1	–	–	–	–	2	–	3	–	2	–
CO2	2	1	–	–	–	–	2	–	3	–	2	–
CO3	2	2	1	–	–	–	2	–	3	–	2	–
CO4	2	–	–	–	–	–	2	–	3	–	3	–
CO5	2	–	–	–	–	–	2	–	3	–	2	–

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = Not applicable / No correlation

Programme: MCA

Course Title: Data Structures using Python Laboratory

Semester: I

Course Code: PGCA1954

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Understand the concept of data structures, python and apply algorithm for solving problems like Sorting, searching, insertion and deletion of data.
CO2	Implement linear and non-linear data structures for processing of ordered or unordered data.
CO3	Analyze various algorithms based on their time and space complexity.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	3	2	3	–	2	–	–	–	–	1
CO2	3	3	3	2	3	–	2	–	–	–	1	1
CO3	3	3	3	3	2	–	2	–	–	–	1	–

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: MCA

Course Title: Advanced Database Management System Laboratory

Semester: I

Course Code: PGCA1955

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Implement query a database using SQL DML/DDI commands.
CO2	Analyze integrity constraints on a database.
CO3	Develop PL/SQL programs including stored procedures, stored functions, cursors.
CO4	Design new database and modify existing ones for new applications and reason about the efficiency of the result.
CO5	Implement various DBA roles/techniques.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	2	1	3	–	2	–	–	–	–	–
CO2	3	3	2	2	2	–	2	–	–	–	–	–
CO3	3	3	3	2	3	–	2	–	–	–	1	–
CO4	3	3	3	3	3	–	2	–	–	–	1	1
CO5	3	2	3	2	3	–	2	–	–	–	1	1

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: MCA
Course Title: Technical Communication Laboratory
Semester: I
Course Code: PGCA1908
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	The objective of the course is to help the students become the independent users of English language.
CO2	Students will acquire basic proficiency in listening and speaking skills.
CO3	Students will be able to understand spoken English language, particularly the language of their chosen technical field.
CO4	They will be able to converse fluently.
CO5	They will be able to produce on their own clear and coherent texts.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	1	–	–	–	–	2	–	3	–	2	–
CO2	2	1	–	–	–	–	2	–	3	–	2	–
CO3	2	2	–	–	–	–	2	–	3	–	2	–
CO4	2	–	–	–	–	–	2	–	3	–	3	–
CO5	2	–	–	–	–	–	2	–	3	–	2	–

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = Not applicable / No correlation

Programme: MCA
Course Title: Web Technologies
Semester: II
Course Code: PGCA1909
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Understand the basics of Internet and Web Services.
CO2	Describe and differentiate Programming Language and Markup Language.
CO3	Connect various web pages and web sites together.
CO4	Capture user input from the remote users.
CO5	Capture user input from the remote users. CO5 Learn connectivity concepts of Front End and Back End

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	2	1	3	–	2	–	–	–	–	–
CO2	3	2	2	–	3	–	2	–	–	–	–	–
CO3	3	2	2	–	3	–	2	–	1	–	2	1
CO4	3	2	3	2	3	–	2	–	1	–	2	1
CO5	3	2	3	2	3	–	2	–	1	–	2	2

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = Not applicable / No correlation

Programme: MCA

Course Title: Design & Analysis of Algorithms

Semester: II

Course Code: PGCA1920

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Categorize problems based on their characteristics and practical importance.
CO2	Develop Algorithms using iterative/recursive approach.
CO3	Design algorithm using an appropriate design paradigm for solving a given problem.
CO4	Classify problems as P, NP or NP Complete.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	2	2	2	–	2	–	–	–	–	–
CO2	3	3	3	2	3	–	2	–	–	–	1	–
CO3	3	3	3	3	3	–	2	–	–	–	1	1
CO4	3	3	2	2	2	–	2	–	–	–	–	–

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: MCA
Course Title: Advanced Java
Semester: II
Course Code: PGCA1918
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Learn the advanced features of Java and write the programs.
CO2	Work with API and implement Serialization concept of Java.
CO3	Learn Java Generics and develop Projects.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	3	2	3	–	2	–	–	–	1	1
CO2	3	2	2	2	3	–	2	–	–	–	1	1
CO3	3	2	3	2	3	–	2	–	1	–	1	2

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = Not applicable / No correlation

Programme: MCA
Course Title: Linux Administration
Semester: II
Course Code: PGCA1956
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Understand the technical details of Linux operating system.
CO2	Work with various Linux command and understand file hierarchical structuring.
CO3	Administrate user, manage and configure packages in Linux.
CO4	Know and configure the various internet services

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	2	2	3	–	2	–	–	–	–	–
CO2	3	2	2	2	3	–	2	–	–	–	1	–
CO3	3	2	3	2	3	–	2	–	–	–	1	1
CO4	3	2	3	2	3	–	2	–	–	–	1	1

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = Not applicable / No correlation

Programme: MCA

Course Title: Information Security and Cyber Law

Semester: II

Course Code: PGCA1932

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Acquire knowledge about various Information Systems.
CO2	Understand the key security requirements of Confidentiality, Integrity & Availability.
CO3	Demonstrate the concept of Intrusion Detection & Intrusion Prevention.
CO4	Apply Symmetric Encryption techniques.
CO5	Describe the concept of Security policies and Cyber Laws.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	2	1	2	2	2	–	–	–	–	–
CO2	3	3	2	2	2	3	2	–	–	2	–	–
CO3	3	3	3	2	3	2	2	–	–	2	1	–
CO4	3	3	3	2	3	–	2	–	–	–	1	–
CO5	3	2	2	1	2	3	2	–	–	3	–	–

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: MCA
Course Title: Web Technologies Laboratory
Semester: II
Course Code: PGCA1914
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Understand Static and Dynamic concepts of web designing.
CO2	Develop ability to retrieve data from a database and present it online.
CO3	Design web pages that apply various dynamic effects on the web site.
CO4	Solve complex and large problems using Scripting Language & Markup Language.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	3	1	3	–	2	–	–	–	1	1
CO2	3	2	3	2	3	–	2	–	–	–	1	2
CO3	3	2	3	2	3	–	2	–	1	–	2	2
CO4	3	3	3	3	3	–	2	–	1	–	2	2

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = Not applicable / No correlation

Programme: MCA

Course Title: Advanced Java Laboratory

Semester: II

Course Code: PGCA1922

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Learn the advanced features of Java and write the programs.
CO2	Work with API and implement Serialization concept of Java.
CO3	Learn Java Generics and develop Projects.
CO4	Understand to use digital marketing for developing effective digital and social media strategies

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	3	2	3	–	2	–	–	–	1	1
CO2	3	2	3	2	3	–	2	–	–	–	1	1
CO3	3	2	3	2	3	–	2	–	1	–	2	2
CO4	2	2	2	1	2	2	2	–	3	3	2	3

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: MCA

Course Title: Linux Administration Laboratory

Semester: II

Course Code: PGCA1957

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Install Linux desktop and Linux server operating system.
CO2	Use various commands for performing different operations.
CO3	Work with various Linux administration commands.
CO4	Install and configure various servers in Linux environment

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	2	2	3	–	2	–	–	–	1	–
CO2	3	2	2	2	3	–	2	–	–	–	1	–
CO3	3	2	3	2	3	–	2	–	–	–	1	1
CO4	3	2	3	2	3	–	2	–	–	–	2	1

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: MCA

Course Title: Advanced Computer Networking

Semester: III

Course Code: PGCA1925

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Familiar with the different Network Models.
CO2	Understand different protocols working at Medium Access Sub layer.
CO3	Learn the concept of network routing through algorithms.
CO4	Learn and understand Internet protocols and network security.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	2	2	2	–	2	–	–	–	–	–
CO2	3	2	2	2	2	–	2	–	–	–	–	–
CO3	3	3	3	2	2	–	2	–	–	–	1	–
CO4	3	3	3	2	3	2	2	–	–	2	1	–

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: MCA

Course Title: Artificial Intelligence & Soft Computing

Semester: III

Course Code: PGCA1926

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Understand the significance and domains of Artificial Intelligence and knowledge representation.
CO2	Examine the useful search techniques; learn their advantages, disadvantages and comparison.
CO3	Develop the skills to gain a basic understanding of neural network theory and fuzzy logic theory.
CO4	Apply artificial neural networks and fuzzy logic theory for various problems.
CO5	Determine the use of Genetic algorithm to obtain optimized solutions to problems.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	2	1	2	–	2	–	–	–	–	–
CO2	3	3	2	2	2	–	2	–	–	–	–	–
CO3	3	3	3	2	3	–	2	–	–	–	1	–
CO4	3	3	3	3	3	–	2	–	–	–	1	1
CO5	3	3	3	3	3	–	2	–	–	–	1	2

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: MCA
Course Title: Theory of Computation
Semester: III
Course Code: PGCA1927
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Use basic concepts of formal languages of finite automata techniques.
CO2	Design Finite Automata's for different Regular Expressions and Languages.
CO3	Construct context free grammar for various languages.
CO4	Solve various problems of applying normal form techniques, push down automata and Turing Machines.
CO5	Solve computational problems regarding their computability and complexity and prove the basic results of the theory of computation.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	2	2	2	–	2	–	–	–	–	–
CO2	3	3	3	2	2	–	2	–	–	–	–	–
CO3	3	3	3	2	2	–	2	–	–	–	–	–
CO4	3	3	3	3	2	–	2	–	–	–	–	–
CO5	3	3	3	3	2	–	2	–	–	–	–	–

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = Not applicable / No correlation

Programme: MCA

Course Title: Advanced Computer Networking Laboratory

Semester: III

Course Code: PGCA1928

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Familiarize themselves with the different Network Models.
CO2	Understand working of different devices used to set up LAN.
CO3	Learn the concept of network routing.
CO4	Learn and understand Internet protocols and network security

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	2	2	2	–	2	–	–	–	–	–
CO2	3	2	2	2	3	–	2	–	–	–	1	–
CO3	3	3	3	2	2	–	2	–	–	–	1	–
CO4	3	3	3	2	3	2	2	–	–	2	1	–

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: MCA

Course Title: Artificial Intelligence & Soft Computing Laboratory

Semester: III

Course Code: PGCA1929

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Develop the skills to gain a basic understanding of neural network theory and fuzzy logic theory.
CO2	Apply artificial neural networks and fuzzy logic theory for various problems.
CO3	Determine the use of Genetic algorithm to obtain optimized solutions to problems.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	2	2	2	–	2	–	–	–	–	–
CO2	3	3	3	2	3	–	2	–	–	–	1	1
CO3	3	3	3	2	3	–	2	–	–	–	1	2

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: MCA
Course Title: Software Project Management
Semester: III
Course Code: PGCA1930
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Understand and practice the process of project management.
CO2	Develop the scope of work, provide accurate cost estimates and to plan the various activities.
CO3	Understand and use risk management analysis techniques that identify the factors that put a project at risk and to quantify the likely effect of risk on project timescales.
CO4	Identify the resources and people required for a project and to produce a work plan and resource schedule.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	2	2	1	2	2	2	3	2	–	2	2
CO2	2	2	3	2	3	–	2	3	2	–	2	3
CO3	2	3	3	2	3	2	2	3	2	1	2	3
CO4	2	3	3	2	3	–	2	3	2	–	3	3

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = Not applicable / No correlation

Programme: MCA
Course Title: Optimization Techniques
Semester: III
Course Code: PGCA1971
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Formulate and solve linear programming problems.
CO2	Frame and resolve the transportation and assignment problems.
CO3	Understand the Project Management problems using CPM.
CO4	Find solution to two person zero-sum games

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	3	2	2	–	2	–	–	–	–	–
CO2	3	3	3	2	2	–	2	–	–	–	–	1
CO3	3	3	3	2	2	–	2	2	–	–	1	2
CO4	3	3	3	2	2	–	2	–	–	–	–	1

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = Not applicable / No correlation

Programme: MCA

Course Title: Data Mining and Business Intelligence

Semester: III

Course Code: PGCA1972

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Understand basic concepts of data warehouse and business intelligence.
CO2	Perform various data warehouse-related problems.
CO3	Analyze data and relate to real-world scenario.
CO4	Deriving intrinsic facts from data.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	2	1	2	–	2	–	–	–	–	1
CO2	3	3	3	2	3	–	2	–	–	–	1	2
CO3	3	3	3	2	3	–	2	–	1	–	2	3
CO4	3	3	3	2	3	–	2	–	1	–	2	3

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: MCA

Course Title: Enterprise Resource Planning

Semester: III

Course Code: PGCA1973

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Analyse a business processes of different functional areas.
CO2	Understand ERP & Related Technologies.
CO3	ERP Implementation Strategies.
CO4	Use and apply this knowledge in E Commerce & E Governance related applications.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	2	2	2	–	2	2	–	–	1	2
CO2	3	2	2	1	3	–	2	–	–	–	–	2
CO3	3	3	3	2	3	–	2	3	–	–	2	3
CO4	3	2	2	2	3	–	2	3	–	2	2	3

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: MCA
Course Title: Mobile Application Development
Semester: III
Course Code: PGCA1933
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Know the components and structure of mobile application development frameworks for Android and iOS based mobiles.
CO2	Understand how to work with various mobile application development frameworks.
CO3	Design and implement the user interfaces of mobile applications.
CO4	Develop useful mobile applications using Google Android and Eclipse simulator.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	2	1	3	–	2	–	–	–	1	2
CO2	3	2	2	1	3	–	2	–	–	–	1	2
CO3	3	3	3	2	3	–	2	–	1	–	2	3
CO4	3	3	3	2	3	–	2	–	1	–	2	3

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = Not applicable / No correlation

Programme: MCA

Course Title: Mobile Application Development Laboratory

Semester: III

Course Code: PGCA1934

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Understand how to work with various mobile application development frameworks.
CO2	Develop mobile applications using GUI and Layouts.
CO3	Learn the basic and important design concepts and issues of development of mobile applications.
CO4	Analyze and discover own mobile app for simple needs.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	2	1	3	–	2	–	–	–	1	2
CO2	3	2	3	1	3	–	2	–	1	–	2	3
CO3	3	2	3	2	3	–	2	–	1	–	2	3
CO4	3	3	3	2	3	–	2	–	1	–	2	3

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: MCA
Course Title: Simulation & Modelling
Semester: III
Course Code: PGCA1935
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Identify the paradigms and approaches used to design the simulation.
CO2	Understand the various types of simulation, techniques and methods.
CO3	Apply concepts of computer simulation for types of inputs, system models, output behavior and performance estimation.
CO4	Test the goodness of a simulation by analyzing the simulated data.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	2	2	2	–	2	–	–	–	–	–
CO2	3	2	2	2	2	–	2	–	–	–	–	–
CO3	3	3	3	3	3	–	2	–	–	–	1	2
CO4	3	3	3	3	3	–	2	–	–	–	1	2

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = Not applicable / No correlation

Programme: MCA
Course Title: Simulation & Modelling Laboratory
Semester: III
Course Code: PGCA1936
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Understand the use of software tools for modelling and analysis of mathematical concepts for engineering application.
CO2	Know how to simulate any discrete system using queuing systems.
CO3	Model and analyze simple engineering concepts and its importance in engineering applications.
CO4	Develop skills to apply simulation software to construct and execute goal-driven system models.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	2	2	3	–	2	–	–	–	1	1
CO2	3	2	3	2	3	–	2	–	–	–	1	2
CO3	3	3	3	3	3	–	2	–	–	–	1	2
CO4	3	3	3	3	3	–	2	–	–	–	2	3

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = Not applicable / No correlation

Programme: MCA
Course Title: e-Commerce & Digital Marketing
Semester: III
Course Code: PGCA1921
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Understand various applications and scope of ecommerce
CO2	Acquire knowledge of various payment modes used in ecommerce today.
CO3	Learn to develop, evaluate, and execute a comprehensive digital marketing strategy and plan.
CO4	Describe how and why to use digital marketing for multiple goals within a larger marketing and/or media strategy, Developing effective digital and social media strategies.
CO5	Understand the major digital marketing channels - online advertising: Digital display, video, mobile, search engine, and social media

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	2	1	2	–	2	–	–	–	–	2
CO2	3	2	2	1	2	2	2	–	–	2	–	2
CO3	3	3	3	2	3	–	2	–	2	–	2	3
CO4	3	3	3	2	3	–	2	–	3	–	2	3
CO5	3	3	3	2	3	–	2	–	3	–	2	3

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = Not applicable / No correlation

Programme: MCA

Course Title: e-Commerce & Digital Marketing Laboratory

Semester: III

Course Code: PGCA1974

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Understand of implementation of ecommerce applications.
CO2	Learn to develop and implement digital marketing strategy and plan.
CO3	Implement and developing effective digital and social media strategies.
CO4	Implementation and working on the social, and security issues concerning the digital marketing and e-commerce.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	2	1	3	–	2	–	–	–	1	2
CO2	3	3	3	2	3	–	2	–	2	–	2	3
CO3	3	3	3	2	3	–	2	–	3	–	2	3
CO4	3	3	3	2	3	3	2	–	2	2	2	3

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: MCA

Course Title: Software Testing & Quality Assurance

Semester: III

Course Code: PGCA1931

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Understand various approaches of software testing and quality assurance for software development.
CO2	Create test strategies, design test cases, prioritize and execute them.
CO3	Identify various risks involved with software projects and build risk management.
CO4	Plan and execute software management and configuration activities.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	3	2	3	2	2	–	–	–	1	2
CO2	3	3	3	3	3	–	2	–	–	–	2	2
CO3	3	3	3	2	3	2	2	2	–	1	2	2
CO4	3	3	3	2	3	–	2	3	–	–	2	2

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: MCA

Course Title: Software Testing & Quality Assurance Laboratory

Semester: III

Course Code: PGCA1975

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Understand various approaches of software testing and quality assurance for software development.
CO2	Create test strategies, design test cases, prioritize and execute them.
CO3	Identify various risks involved with software projects and build risk management.
CO4	Plan and execute software management and configuration activities.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	3	2	3	2	2	–	–	–	1	2
CO2	3	3	3	3	3	–	2	–	–	–	2	2
CO3	3	3	3	2	3	2	2	2	–	1	2	2
CO4	3	3	3	2	3	–	2	3	–	–	2	2

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: MCA

Course Title: Machine Learning and Data Analysis using Python

Semester: IV

Course Code: PGCA1976

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Learn Machine Learning concepts.
CO2	Understand the difference between supervised and unsupervised learning.
CO3	Learn clustering and classification algorithms.
CO4	Analyse data using Python Numpy, Panda Libraries.
CO5	Visualize data using matplotlib library of Python

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	2	2	2	–	2	–	–	–	–	–
CO2	3	3	2	2	2	–	2	–	–	–	–	–
CO3	3	3	3	2	3	–	2	–	–	–	1	1
CO4	3	3	3	2	3	–	2	–	–	–	1	2
CO5	3	3	2	1	3	–	2	–	1	–	1	2

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: MCA
Course Title: Advanced Web Technologies
Semester: IV
Course Code: PGCA1958
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Understand client-side and server-side programming.
CO2	Learn to represent web data and XML document handling.
CO3	Understand AJAX and relevance.
CO4	Develop a dynamic webpage by the use of java PHP and MySQL.
CO5	Able to learn how to perform basic CRUD database operations in a Dynamic Website.
CO6	Learn about web services and their development

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	3	2	3	–	2	–	–	–	1	1
CO2	3	2	2	2	3	–	2	–	–	–	1	1
CO3	3	2	2	1	3	–	2	–	–	–	1	1
CO4	3	3	3	2	3	–	2	–	1	–	2	2
CO5	3	3	3	2	3	–	2	–	1	–	2	2
CO6	3	3	3	2	3	–	2	–	–	–	2	2

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = Not applicable / No correlation

Programme: MCA

Course Title: Machine Learning and Data Analytics using Python Laboratory

Semester: IV

Course Code: PGCA1977

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Develop knowledge of various learning models of data.
CO2	Implement a wide variety of learning algorithms.
CO3	Understand how to evaluate models generated from data.
CO4	Apply the algorithms to a real-world problems.
CO5	Optimize the models learned and report on the expected accuracy that can be achieved by applying the models

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	3	2	3	–	2	–	–	–	1	2
CO2	3	3	3	2	3	–	2	–	–	–	1	2
CO3	3	3	3	3	3	–	2	–	–	–	1	2
CO4	3	3	3	3	3	–	2	–	1	–	2	3
CO5	3	3	3	3	3	–	2	–	1	–	2	3

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: MCA
Course Title: Advanced Web Technologies Laboratory
Semester: IV
Course Code: PGCA1960
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Understand the advance concepts of website development.
CO2	Provide skills to design and develop dynamic web sites.
CO3	Work independently for database programming for web applications.
CO4	Understand concepts of jQuery methods, AJAX, Bootstrap and REACT.
CO5	Connect Website with an Database Server and perform basic CRUD operations.
CO6	Develop market ready website, to be used by clients.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	2	1	3	–	2	–	–	–	1	2
CO2	3	2	3	2	3	–	2	–	1	–	2	3
CO3	3	2	3	2	3	–	2	–	1	–	2	3
CO4	3	2	3	2	3	–	2	–	1	–	2	3
CO5	3	3	3	2	3	–	2	–	1	–	2	3
CO6	3	3	3	2	3	–	2	3	2	–	3	3

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = Not applicable / No correlation

Programme: MCA
Course Title: Cloud Computing
Semester: IV
Course Code: PGCA1937
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Understand the basic concept and importance of cloud computing.
CO2	Access the suitability of migrating to a cloud solution for different applications.
CO3	Compare and evaluate the virtualization technologies.
CO4	Monitor and manage the cloud resources, applications and data while addressing the security concerns.
CO5	Use cloud solutions offered by industry leaders for various applications

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	2	1	3	–	2	–	–	–	1	2
CO2	3	3	3	2	3	–	2	2	–	–	2	2
CO3	3	3	3	2	3	–	2	–	–	–	2	2
CO4	3	3	3	2	3	2	2	2	–	2	2	2
CO5	3	3	3	2	3	–	2	–	–	–	2	3

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = Not applicable / No correlation

Programme: MCA
Course Title: Cloud Computing Laboratory
Semester: IV
Course Code: PGCA1938
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Learn the use of cloud computing tools offered by industry leaders.
CO2	Develop and deploy cloud applications using popular cloud platforms.
CO3	Configuration of the virtual machines on the cloud and building of a private cloud.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	3	1	3	–	2	–	–	–	1	2
CO2	3	3	3	2	3	–	2	2	1	–	2	3
CO3	3	3	3	2	3	–	2	2	–	2	2	3

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = Not applicable / No correlation

Programme: MCA
Course Title: Digital Image Processing
Semester: IV
Course Code: PGCA1963
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Understand the need for various image transforms along with properties.
CO2	Learn different techniques employed for the enhancement of images.
CO3	Understand the rapid advances in Machine vision.
CO4	Analyze images in multiresolution environment.
CO5	Learn image compression techniques.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	2	2	3	–	2	–	–	–	1	2
CO2	3	2	3	2	3	–	2	–	–	–	1	2
CO3	3	3	3	2	3	–	2	–	–	–	2	3
CO4	3	3	3	2	3	–	2	–	–	–	2	3

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = Not applicable / No correlation

Programme: MCA
Course Title: Digital Image Processing Laboratory
Semester: IV
Course Code: PGCA1964
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Implement the various operations which can be performed on images.
CO2	Apply filters on images as per the requirement.
CO3	Implement different techniques employed for the enhancement of images.
CO4	Develop an Image Processing Application.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	3	2	3	–	2	–	–	–	1	2
CO2	3	2	3	2	3	–	2	–	–	–	1	2
CO3	3	2	3	2	3	–	2	–	–	–	2	3
CO4	3	3	3	2	3	–	2	2	1	–	2	3

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = Not applicable / No correlation

Programme: MCA
Course Title: NLP and Speech Recognition
Semester: IV
Course Code: PGCA1965
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Learn basics of natural language processing.
CO2	Understand the text normalization, use of edit distance, and regular expressions.
CO3	Learn Naive bayes and sentiment classification algorithms.
CO4	Familiarize with chatbots and phonetics.
CO5	Learn the concept of speech recognition and text to speech conversion.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	2	1	2	–	2	–	–	–	–	1
CO2	3	3	3	2	3	–	2	–	–	–	1	2
CO3	3	3	3	2	3	–	2	–	–	–	1	2
CO4	3	2	2	1	2	–	2	–	1	–	2	2
CO5	3	3	3	2	3	–	2	–	1	–	2	3

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = Not applicable / No correlation

Programme: MCA
Course Title: NLP and Speech Recognition Laboratory
Semester: IV
Course Code: PGCA1966
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Develop knowledge of various learning models of data.
CO2	Understand a wide variety of learning algorithms.
CO3	Understand how to evaluate models generated from data.
CO4	Apply the algorithms to a real-world problems
CO5	Optimize the models learned and report on the expected accuracy that can be achieved by applying the models.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	3	2	3	–	2	–	–	–	1	2
CO2	3	3	3	2	3	–	2	–	–	–	1	2
CO3	3	3	3	3	3	–	2	–	–	–	1	2
CO4	3	3	3	3	3	–	2	–	1	–	2	3
CO5	3	3	3	3	3	–	2	–	1	–	2	3

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = Not applicable / No correlation

Programme: MCA
Course Title: IOT & Blockchain Technology
Semester: IV
Course Code: PGCA1967
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Understand the terminology and enabling technologies of IoT and Blockchain.
CO2	Enumerate the steps involved in IoT system design methodology.
CO3	Gain Knowledge about the working of bit coin crypto currency.
CO4	Describe domain specific applications of IoT and Blockchain.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	2	1	3	2	2	–	–	2	1	2
CO2	3	3	3	2	3	–	2	–	–	–	2	3
CO3	3	3	2	2	3	2	2	–	–	2	2	3
CO4	3	3	3	2	3	–	2	2	–	2	2	3

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = Not applicable / No correlation

Programme: MCA

Course Title: IOT & Blockchain Technology Laboratory

Semester: IV

Course Code: PGCA1968

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Learn and Use IoT sensors and remotely monitor data and control devices.
CO2	Develop real life IoT based projects.
CO3	Understand blockchain technology and develop blockchain based solutions.
CO4	Build and deploy IoT based blockchain applications for on-premise and cloud based architecture.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	3	2	3	–	2	–	–	–	1	2
CO2	3	3	3	2	3	–	2	2	1	–	2	3
CO3	3	3	3	2	3	2	2	–	–	2	2	3
CO4	3	3	3	3	3	2	2	2	1	2	2	3

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Bachelor of Business Administration

CO–PO Mapping for All Courses

Program Outcomes (POs): Bachelor of Business Administration

PO Number	Program Outcome Statement
PO1	Evaluate and describe contextual forces (macro and micro both) in business environment and identify their impact on business operations.
PO2	Recognise and apply various qualitative, technical and analytical methods in solving business problems.
PO3	Communicate effectively in various business settings both in written and oral formats.
PO4	Explain the responsibility of business towards development of society. Students will also be able to distinguish between ethical and unethical behaviours.
PO5	Develop strategies for effective functioning of functional areas such as marketing, strategy, finance and operations.
PO6	Apply the entrepreneurial and managerial skills for effective business management.

Programme: BBA

Course Title: Principles and Practices of Management

Semester: I

Course Code: BBA 101-18

Academic Year: 2024-25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Describe fundamental concepts, nature and principles of Management.
CO2	Explain the role and responsibilities of managers and adapt to the various styles of management across organizations.
CO3	Develop analytical abilities to face the business situations.
CO4	Apply various tools that would facilitate the decision making process in the business.
CO5	Develop peer based learning and working in groups and teams.

CO-PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	2	–	–	2	–
CO2	3	2	–	2	2	2
CO3	2	3	–	2	2	2
CO4	2	3	–	–	3	2
CO5	–	2	3	2	2	3

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = No correlation / Not applicable

Programme: BBA
Course Title: Basic Accounting
Semester: I
Course Code: BBA 102-18
Academic Year: 2024-25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	To understand the basic underlying concepts, principles and conventions of accounting.
CO2	To identify the rules of debit and credit in accounting.
CO3	To get an overview of the regulatory framework of accounting in India.
CO4	To prepare trading, profit & loss and balance sheet of a firm.
CO5	To comprehend the concept of depreciation and different methods to treat depreciation in accounting.

CO-PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	2	3	—	—	2	—
CO2	—	3	—	—	2	—
CO3	2	2	—	2	2	—
CO4	—	3	—	—	3	—
CO5	—	3	—	—	2	—

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
— = No correlation / Not applicable

Programme: BBA

Course Title: Managerial Economics- I

Semester: I

Course Code: BBA-GE 101-18

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Understand the basic concepts of managerial economics and apply the economic way of thinking to individual decisions and business decisions.
CO2	Measure price elasticity of demand, understand the determinants of elasticity and apply the concepts of price, cross and income elasticity of demand.
CO3	Understand and estimate production function and Law of Diminishing Marginal Utility.
CO4	Understand and explain four basic market models of perfect competition, monopoly, monopolistic competition, and oligopoly, and how price and quantity are determined in each model.
CO5	Understand the different costs of production and how they affect short and long run decisions.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	2	–	–	2	–
CO2	3	3	–	–	2	–
CO3	2	3	–	–	2	–
CO4	3	3	–	–	2	–
CO5	2	3	–	–	3	–

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = No correlation / Not applicable

Programme: BBA
Course Title: English
Semester: I
Course Code: BTHU103/18
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	To introduce students to the theory, fundamentals and tools of communication.
CO2	To help the students become the independent users of English language.
CO3	To develop in them vital communication skills which are integral to their personal, social and professional interactions.
CO4	The syllabus shall address the issues relating to the Language of communication.
CO5	Students will become proficient in professional communication such as interviews, group discussions, office environments, important reading skills as well as writing skills such as report writing, note taking etc.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	–	2	3	–	–	–
CO2	–	2	3	–	–	–
CO3	–	2	3	–	–	–
CO4	–	2	3	–	–	–
CO5	–	2	3	–	–	–

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = No correlation / Not applicable

Programme: BBA
Course Title: English Practical/Laboratory
Semester: I
Course Code: BTHU104/18
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	To introduce students to the theory, fundamentals and tools of communication.
CO2	To help the students become the independent users of English language.
CO3	To develop in them vital communication skills which are integral to their personal, social and professional interactions.
CO4	The syllabus shall address the issues relating to the Language of communication.
CO5	Students will become proficient in professional communication such as interviews, group discussions, office environments, important reading skills as well as writing skills such as report writing, note taking etc.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	–	2	3	–	–	–
CO2	–	2	3	–	–	–
CO3	–	2	3	–	–	–
CO4	–	2	3	–	–	–
CO5	–	2	3	–	–	–

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = No correlation / Not applicable

Programme: BBA
Course Title: Business Statistics
Semester: II
Course Code: BBA 201-18
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	To learn the basic concepts like statistics and calculation of arithmetic mean, median and mode and partition values.
CO2	To understand the calculation of moments, skewness and kurtosis and determining whether the given distribution is normal or not.
CO3	To be acquainted with prerequisite knowledge required to understand the Probability and applications of probability theory.
CO4	To understand the concept of correlation regression analysis and their applications.
CO5	To apply the learnt techniques in statistical testing and their applications.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	–	3	–	–	2	–
CO2	–	3	–	–	2	–
CO3	–	3	–	–	2	–
CO4	–	3	–	–	3	–
CO5	–	3	–	–	3	–

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = No correlation / Not applicable

Programme: BBA
Course Title: Business Environment
Semester: II
Course Code: BBA202-18
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	To Identify and evaluate the complexities of business environment and their impact on the business.
CO2	To analyze about the relationships between Government and business and understand the political, economic, legal and social policies of the country.
CO3	To understand the current economic conditions in developing emerging markets, and evaluate present and future opportunities.
CO4	To be acquainted with prerequisite knowledge required to understand the Probability and applications of probability theory.
CO5	To understand the concept of the Industrial functioning and strategies to overcome challenges in competitive markets.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	2	–	–	2	–
CO2	3	2	–	2	2	–
CO3	3	2	–	–	2	–
CO4	–	3	–	–	2	–
CO5	3	2	–	–	3	2

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = No correlation / Not applicable

Programme: BBA
Course Title: Managerial Economics-II
Semester: II
Course Code: BBAGE 201-18
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Explain the concept of national income and its measurement using different approaches.
CO2	Describe the underlying theories of demand and supply of money in an economy
CO3	Make use of employment and national income statistics students will be able to describe and analyze the economy in quantitative terms.
CO4	Interpret macroeconomic issues like money, inflation and unemployment.
CO5	Identify the phases of the business cycle and the problems caused by cyclical fluctuations in the market economy.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	2	–	–	2	–
CO2	3	2	–	–	2	–
CO3	3	3	–	–	2	–
CO4	3	3	–	–	2	–
CO5	3	3	–	–	2	–

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = No correlation / Not applicable

Programme: BBA
Course Title: Environment Studies
Semester: II
Course Code: EVS102-18
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Students will enable to understand environmental problems at local and national level through literature and general awareness.
CO2	The students will gain practical knowledge by visiting wildlife areas, environmental institutes and various personalities who have done practical work on various environmental Issues.
CO3	The students will apply interdisciplinary approach to understand key environmental issues and critically analyze them to explore the possibilities to mitigate these problems.
CO4	Reflect critically about their roles and identities as citizens, consumers and environmental actors in a complex, interconnected world

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	–	–	2	–	–
CO2	2	–	–	2	–	–
CO3	3	2	–	3	–	–
CO4	3	–	–	3	–	–

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = No correlation / Not applicable

Programme: BBA
Course Title: Organizational Behaviour
Semester: III
Course Code: BBA 301-18
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	To explain the basics of Organizational behaviour and various challenges for OB.
CO2	To illustrate the foundations of Individual Behaviour and various factors influencing individual behaviour viz. learning, personality, perception, attitude and motivation.
CO3	To examine the dynamics of group development and group properties
CO4	To understand various dimensions of organisational culture.
CO5	To analyse the process of conflict management and approaches to stress management.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	2	–	–	2	–
CO2	2	2	–	–	2	–
CO3	2	2	2	–	2	2
CO4	3	–	–	2	2	–
CO5	2	2	2	2	2	2

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = No correlation / Not applicable

Programme: BBA
Course Title: Marketing Management
Semester: III
Course Code: BBA 302-18
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Explain the basics of marketing, selling, marketing mix and its core concepts.
CO2	Describe the intricacies of the marketing environment and marketing information systems for effective marketing planning and strategies.
CO3	Develop necessary skills for effective market segmentation, targeting and positioning.
CO4	Illustrate various components of product mix, product life cycle and comprehend the new product development process.
CO5	Develop an understanding of promotion mix and strategies for successful promotion

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	2	–	–	3	2
CO2	3	3	–	–	3	2
CO3	2	3	2	–	3	3
CO4	2	2	–	–	3	2
CO5	2	2	3	–	3	2

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = No correlation / Not applicable

Programme: BBA
Course Title: Cost And Management Accounting
Semester: III
Course Code: BBA 303-18
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Understand and differentiate between Cost accounting and management accounting.
CO2	Make managerial decisions regarding make or buy, acceptance or rejection of export offers and continuation or shut down of plant.
CO3	Estimate the breakeven point of the firm.
CO4	Understand and apply the concepts of budgetary control for better decision-making.
CO5	Understand and estimate material, labour, overheads and sales variances for comparing planned with actual results.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	2	3	–	–	3	–
CO2	2	3	–	–	3	2
CO3	–	3	–	–	3	–
CO4	2	3	–	–	3	2
CO5	–	3	–	–	3	–

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = No correlation / Not applicable

Programme: BBA

Course Title: Production and Operations Management

Semester: III

Course Code: BBA- 304

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Understand ever growing importance of Production and Operations management in uncertain business environment.
CO2	Gain an in-depth understanding of resource utilization of an organization.
CO3	Appreciate the unique challenges faced by firms in services and manufacturing.
CO4	Understand the subject as a crucial part of functional management.
CO5	Develop skills to operate competitively in the current business scenario.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	2	–	–	3	–
CO2	2	3	–	–	3	–
CO3	3	2	–	–	3	–
CO4	2	2	–	–	3	2
CO5	3	2	–	–	3	3

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = No correlation / Not applicable

Programme: BBA
Course Title: IT Tools for Business
Semester: III
Course Code: BBA- SEC 301-18
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Develop understanding of computer fundamentals, functions and their classifications
CO2	Develop a clear understanding and knowledge about the functioning of a Computer software and window operating system
CO3	Demonstrate proficiency in Microsoft word & Excel.
CO4	Apply formatting and editing features to enhance worksheets.
CO5	Use styles, themes, and conditional formats to customize worksheets.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	–	3	–	–	2	–
CO2	–	3	–	–	2	–
CO3	–	3	2	–	2	–
CO4	–	3	–	–	2	–
CO5	–	3	–	–	2	–

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = No correlation / Not applicable

Programme: BBA
Course Title: Business Research Methods
Semester: IV
Course Code: BBA 401-18
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Explain the objectives and process of conducting research and its application in business.
CO2	Analyse the different types of research design and experimental errors.
CO3	Understand various techniques of sampling and methods of data collection.
CO4	Examine different types of scales and appraise about data preparation and analysis.
CO5	Identify and prepare various types of reports.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	2	3	–	–	3	–
CO2	2	3	–	–	3	–
CO3	–	3	–	–	3	–
CO4	–	3	–	–	3	–
CO5	–	2	3	–	2	–

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = No correlation / Not applicable

Programme: BBA
Course Title: Human Resource Management
Semester: IV
Course Code: BBA 402 -18
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	To explain the basics of Human Resource Management and analyse the evolution of HRM
CO2	To appraise various functions of HRM that facilitate employee hiring viz. human resource planning, job analysis recruitment and selection.
CO3	To understand the role of training, development, career planning and performance appraisal functions in human resource development.
CO4	To analyse the functions of compensation management namely, wages and salary administration, incentives and fringe benefits.
CO5	To comprehend the meaning and concept of Industrial relations.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	2	–	–	3	2
CO2	2	3	–	–	3	2
CO3	2	2	–	–	3	2
CO4	2	2	–	–	3	–
CO5	3	–	–	2	2	–

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = No correlation / Not applicable

Programme: BBA
Course Title: Financial Management
Semester: IV
Course Code: BBA 403-18
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Apply financial data for use in decision making by applying financial theory to problems faced by business enterprises.
CO2	Apply foundational finance theories and to analyse a forecast using relevant data and to conduct preliminary measurement of leverage analysis.
CO3	Apply time value of money techniques to various pricing and budgeting problems
CO4	Apply modern techniques in capital budgeting analysis.
CO5	Assess dividend policy's impacts on share prices and to understand the implications of Dividend decisions in financial decision making.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	2	3	–	–	3	2
CO2	2	3	–	–	3	2
CO3	–	3	–	–	3	–
CO4	–	3	–	–	3	–
CO5	2	2	–	–	3	–

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = No correlation / Not applicable

Programme: BBA
Course Title: Entrepreneurship Development
Semester: IV
Course Code: BBA GE- 401-18
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Describe the concept and theories of entrepreneurship and its role in economic development of nation.
CO2	Develop business plan and identify the reasons of failure of business plans.
CO3	Illustrate the steps in starting MSME.
CO4	Comprehend government policies and regulatory framework available in India to facilitate the process of entrepreneurial development.
CO5	Identify different sources of finance for new enterprises and assess the role of financial institutions and various government schemes in entrepreneurial development.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	2	–	2	2	3
CO2	2	3	–	–	3	3
CO3	2	2	–	–	3	3
CO4	3	2	–	3	2	3
CO5	2	2	–	–	3	3

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = No correlation / Not applicable

Programme: BBA

Course Title: Business Ethics & Corporate Social Responsibility

Semester: IV

Course Code: BBA SEC- 401-18

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Explore the relationship between ethics and business across different cultural traditions
CO2	Understand the relationship between ethics, morals and values in the workplace
CO3	Discuss the moral and social responsibility dimensions of corporate governance.
CO4	Describe models of CSR in India.
CO5	Assess international framework for CSR.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	–	–	3	2	–
CO2	2	–	–	3	–	–
CO3	3	–	–	3	2	–
CO4	2	–	–	3	–	–
CO5	2	–	–	3	–	–

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = No correlation / Not applicable

Programme: BBA
Course Title: Operation Research
Semester: V
Course Code: BBA 501-18
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Formulate and solve simple and complex optimization problems.
CO2	Formulate and solve transportation and assignment problems for cost minimization.
CO3	Formulate and solve job sequencing and network models.
CO4	Carry out economical replacement analysis for obsolete /worn out industrial equipment.
CO5	Formulate and solve different inventory model problems.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	2	3	–	–	3	–
CO2	–	3	–	–	3	–
CO3	–	3	–	–	3	–
CO4	–	3	–	–	3	–
CO5	–	3	–	–	3	–

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = No correlation / Not applicable

Programme: BBA
Course Title: Mercantile Law
Semester: V
Course Code: BBA 502-18
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Understand the applicability of various laws applicable to different business
CO2	Understanding and implementing various contract acts applicable to business
CO3	Learning and understanding the different types of negotiable instruments
CO4	Understanding various acts applicable to partnership firm of business
CO5	Gain knowledge about the applicability of different rights and protective laws for consumers

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	–	–	2	2	–
CO2	3	–	–	3	2	–
CO3	3	–	–	–	2	–
CO4	3	–	–	2	2	–
CO5	3	–	–	3	2	–

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = No correlation / Not applicable

Programme: BBA
Course Title: Consumer Behaviour
Semester: V
Course Code: BBA 511-18
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Understand the concept of consumer behaviour and the emerging trends.
CO2	Acquire knowledge on factors affecting the behaviour and perception of the consumers.
CO3	Learn and understand the impact of social and cultural setting on consumer behavior.
CO4	Understand the process of consumer decision making.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	2	–	–	3	–
CO2	3	2	–	–	3	–
CO3	3	–	–	3	2	–
CO4	2	2	–	–	3	–

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = No correlation / Not applicable

Programme: BBA

Course Title: Advertising and Sales Management

Semester: V

Course Code: BBA 512-18

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Understand the basic concepts of advertisements & the way these advertisements are created.
CO2	Acquire knowledge about the type of media used and planning/ scheduling of media.
CO3	Understand the ethics to be practiced in advertising.
CO4	Identify the concept and role of Sales management
CO5	Understand the hiring process of sales force management and role of technology in sales.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	2	–	–	3	–
CO2	3	2	–	–	3	–
CO3	2	–	–	3	2	–
CO4	2	2	–	–	3	2
CO5	–	2	–	–	3	2

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = No correlation / Not applicable

Programme: BBA
Course Title: Corporate Accounting
Semester: V
Course Code: BBA 521-18
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Understand and apply the basic concepts of accounting for share capital.
CO2	Understand accounting of preference share and debentures
CO3	Acquire practical knowledge about preparation of financial statements and their provisions
CO4	Understand the fundamentals of consolidation of accounts and apply them.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	2	3	–	–	3	–
CO2	2	3	–	–	3	–
CO3	2	3	–	–	3	–
CO4	2	3	–	–	3	–

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = No correlation / Not applicable

Programme: BBA
Course Title: Financial Market and Services
Semester: V
Course Code: BBA 522-18
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Understand the prevailing financial system in India.
CO2	Acquire knowledge about different financial services
CO3	Comprehend the basics of financial markets in India
CO4	Apprise about the roles of intermediaries and regulating bodies in Indian Financial System.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	2	–	–	3	–
CO2	3	2	–	–	3	–
CO3	3	2	–	–	3	–
CO4	3	2	–	2	3	–

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = No correlation / Not applicable

Programme: BBA

Course Title: Industrial Relations and Labour Laws

Semester: V

Course Code: BBA 531-18

Academic Year: 2024-25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Describe fundamental concepts and nature of Industrial Relations.
CO2	To understand the nature and role of trade unions for workers and industries.
CO3	To study the relevance of collective bargaining and its impact on employee-management relations.
CO4	To understand industrial disputes and ways to resolve them.
CO5	To apply various industrial legislations in business.

CO-PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	–	–	2	2	–
CO2	3	–	–	3	2	–
CO3	3	–	–	3	2	–
CO4	3	–	–	3	2	–
CO5	3	–	–	3	2	–

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = No correlation / Not applicable

Programme: BBA

Course Title: Organization Change and Development

Semester: V

Course Code: BBA 532-18

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Different approaches to managing organizational change and understand and utilize the competencies to induce and manage changes organization, group and individual levels.
CO2	Understand the framework Organisational Development and its foundations
CO3	Design and implement effective intervention strategies and to learn abilities to critically address problems of implementation, responsibility and measurement of effectiveness
CO4	Understand the contemporary issue in OD

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	2	–	2	3	3
CO2	3	2	–	–	3	3
CO3	2	3	–	–	3	3
CO4	2	2	–	–	2	2

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = No correlation / Not applicable

Programme: BBA
Course Title: Strategy Management
Semester: VI
Course Code: BBA 601-18
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Gain familiarity with the basics of strategy planning
CO2	Understand the complete process of strategic management- planning, implementation and control
CO3	Comprehend various models of strategic choice
CO4	Identify and understand different types of strategy and its applicability in corporate world

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	2	–	–	3	2
CO2	3	3	–	–	3	3
CO3	2	3	–	–	3	3
CO4	3	2	–	–	3	3

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = No correlation / Not applicable

Programme: BBA
Course Title: Company Law
Semester: VI
Course Code: BBA 602-18
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Understand the various clauses of Indian Companies Act-2013
CO2	Know the procedure of formation of a company and winding up of a company.
CO3	Describe the borrowing powers of a company
CO4	Know about the appointment and removal of directors.
CO5	Develop an understanding of conducting of board and other meetings.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	–	–	3	2	–
CO2	3	–	–	3	2	–
CO3	2	–	–	2	2	–
CO4	2	–	–	3	2	–
CO5	2	–	–	2	2	–

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = No correlation / Not applicable

Programme: BBA
Course Title: Services Marketing
Semester: VI
Course Code: BBA 611-18
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Understand the different types Services and its characteristics.
CO2	Comprehend the customer centric approach in the service marketing
CO3	Know about various concepts of marketing and its integration with services
CO4	Infer about delivery of the services with customer centric approach.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	2	–	–	3	–
CO2	3	2	2	–	3	2
CO3	2	2	–	–	3	2
CO4	2	2	2	–	3	2

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = No correlation / Not applicable

Programme: BBA
Course Title: Retailing and Logistics Management
Semester: VI
Course Code: BBA 612-18
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Understand the significance of retailing and various retail formats available
CO2	Gain knowledge of retailing strategy and financial and human resource management in retailing
CO3	Comprehend merchandise and store management strategy
CO4	Develop an understanding of Supply Chain Management and Logistics.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	2	–	–	3	2
CO2	3	2	–	–	3	3
CO3	2	2	–	–	3	2
CO4	3	2	–	–	3	3

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = No correlation / Not applicable

Programme: BBA
Course Title: Personal financial planning
Semester: VI
Course Code: BBA 621-18
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Understand the importance of personal financial planning and time value of money which is fundamental in achieving their financial goals.
CO2	Understand the various sources of investment and credit and their respective income tax implications.
CO3	Understand the concept of risk-return and risk management.
CO4	Understand the multiple areas of comprehensive financial planning including taxation, insurance, retirement, and estate planning.
CO5	Master the ethical guidelines and standards, disciplinary rules and procedures, and the consumer protection laws regarding personal finance.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	3	–	–	3	3
CO2	3	3	–	–	3	3
CO3	2	3	–	–	3	3
CO4	3	3	–	–	3	3
CO5	3	–	–	3	2	2

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = No correlation / Not applicable

Programme: BBA

Course Title: Direct and Indirect Tax Laws

Semester: VI

Course Code: BBA 622-18

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Describe the provisions in the corporate tax laws.
CO2	Explain different types of incomes and their taxability and expenses and their deductibility.
CO3	Learn various direct and indirect taxes and their implication in practical situations.
CO4	Use various deductions to reduce the taxable income.
CO5	Working knowledge of principles and provisions of GST.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	2	–	3	3	–
CO2	3	2	–	3	3	–
CO3	3	3	–	2	3	–
CO4	2	3	–	2	3	–
CO5	3	2	–	2	3	–

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = No correlation / Not applicable

Programme: BBA

Course Title: Training and Development

Semester: VI

Course Code: BBA- 631-18

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Understand the concepts and principles of Learning.
CO2	Develop understanding about training and development concept.
CO3	Able to assess training needs and select optimal method for employee Training.
CO4	Develop acumen to evaluate training effectiveness.
CO5	Comprehend the emerging issues for Training & development in Indian Industries.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	2	–	–	3	2
CO2	3	2	–	–	3	3
CO3	2	3	–	–	3	3
CO4	2	3	–	–	3	3
CO5	3	2	–	2	3	2

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = No correlation / Not applicable

Programme: BBA

Course Title: Cross Cultural Human Resource Management

Semester: VI

Course Code: BBA- 632-18

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Understand issues, opportunities and challenges pertaining to Cross Cultural HRM.
CO2	Develop competency in dealing with cross cultural situations.
CO3	Identify the role of cross cultural leadership in managing multicultural teams.
CO4	Understand external forces (e.g. globalisation, sociocultural changes, political and economic changes) that have the potential to shape Cross Cultural HRM.
CO5	To understand different cultures with respect to cross culture differences.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	2	–	3	3	3
CO2	3	2	3	2	3	3
CO3	3	2	3	2	3	3
CO4	3	2	–	3	3	3
CO5	3	2	2	3	2	2

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = No correlation / Not applicable

Bachelor of Computer Applications

CO–PO Mapping for All Courses

Program Outcomes (POs): Bachelor of Computer Applications

PO Number	Program Outcome Statement
PO1	<i>Basic knowledge:</i> An ability to apply knowledge of basic mathematics, science and domain knowledge to solve the computational problems.
PO2	<i>Discipline knowledge:</i> An ability to apply discipline –specific knowledge to solve core and/or applied computational problems.
PO3	<i>Discipline knowledge:</i> An ability to apply discipline–specific knowledge to solve core and/or applied computational.
PO4	<i>Tools Usage:</i> Apply appropriate technologies and tools with an understanding of limitations.
PO5	<i>Profession and society:</i> Demonstrate knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional practice.
PO6	<i>Environment and sustainability:</i> Understand the impact of the computational solutions in societal and environmental contexts, and demonstrate the knowledge and need for sustainable development.
PO7	<i>Ethics:</i> Apply ethical principles and commit to professional ethics and responsibilities and norms of the professional practice.
PO8	<i>Individual and team work:</i> Function effectively as an individual, and as a member or leader in diverse/multidisciplinary teams
PO9	<i>Communication:</i> An ability to communicate effectively.
PO10	<i>Life-long learning:</i> Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the context of technological changes

Programme: BCA
Course Title: Mathematics
Semester: I
Course Code: UGCA1901
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Define various mathematical notions.
CO2	Explain different terms used in basic mathematics.
CO3	Illustrate various operations and formulas used to solve mathematical problems.
CO4	Organize data in various models.
CO5	Prepare solutions for various real life problems.

CO–PO Mapping Matrix:

CO\PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	2	2	–	–	–	–	–	–	1
CO2	3	3	2	–	–	–	–	–	–	1
CO3	3	3	3	2	–	–	–	–	–	1
CO4	2	2	2	2	1	1	–	–	–	2
CO5	2	3	3	2	2	2	1	1	2	3

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = Not applicable / No correlation

Programme: BCA

Course Title: Fundamentals of Computer and IT

Semester: I

Course Code: UGCA1902

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Identify of input and output devices of Computers
CO2	Utilize the functioning of various components of computer system
CO3	Define the role of Operating system
CO4	Prepare documents using word processing, Spreadsheet and Presentation Graphics Software's.
CO5	Highlight the Internet safety, legally, and other issues.

CO–PO Mapping Matrix:

CO\PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	2	2	–	–	–	–	–	1
CO2	3	3	3	3	–	–	–	–	–	1
CO3	2	2	2	2	–	–	–	–	–	1
CO4	2	3	3	3	–	–	–	1	2	2
CO5	1	2	2	2	3	2	3	1	2	2

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: BCA
Course Title: Problem Solving using C
Semester: I
Course Code: UGCA1903
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Express the logical flow used in Programming.
CO2	Design algorithms for solving various real life problems.
CO3	Implement programs using C.
CO4	Choose the right data type and statements for programs.
CO5	Explain various concepts of C programming language.

CO–PO Mapping Matrix:

CO\PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	3	2	–	–	–	–	1	2
CO2	3	3	3	2	1	1	–	–	1	3
CO3	3	3	3	3	–	–	–	–	–	2
CO4	3	3	3	3	–	–	–	–	–	2
CO5	3	3	2	2	–	–	–	–	1	2

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = Not applicable / No correlation

Programme: BCA

Course Title: Workshop on Desktop Publishing

Semester: I

Course Code: UGCA1904

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Outline the characteristics of desktop publishing tools.
CO2	Identify the right components for designing documents.
CO3	Apply knowledge in designing various documents.
CO4	Prepare different types of graphic related documents.
CO5	Express the messages through graphical content.

CO–PO Mapping Matrix:

CO\PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	2	2	2	2	–	–	–	–	1	2
CO2	2	3	3	3	–	–	–	–	1	2
CO3	3	3	3	3	–	–	–	–	2	2
CO4	3	3	3	3	–	–	–	1	2	2
CO5	2	2	2	2	–	–	–	1	3	2

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: BCA

Course Title: Problem Solving using C Laboratory

Semester: I

Course Code: UGCA1905

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Select the right statement for the program.
CO2	Experiment with different input values.
CO3	Test the output with boundary conditions.
CO4	Distinguish between various control statements and data types.
CO5	Implement programs for various problems.

CO–PO Mapping Matrix:

CO\PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	3	2	–	–	–	–	–	2
CO2	3	3	3	3	–	–	–	–	–	2
CO3	3	3	3	3	–	–	–	–	–	2
CO4	3	3	3	3	–	–	–	–	–	2
CO5	3	3	3	3	–	–	–	–	1	2

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: BCA
Course Title: Fundamentals of Computer and IT Laboratory
Semester: I
Course Code: UGCA1906
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Highlight the features of word processing, spreadsheet and presentation tools.
CO2	Identify the right components for its documents on editor, spread sheet and presentation software.
CO3	Prepare documents and apply formatting.
CO4	Select the right tool for different requirements.
CO5	Apply various operations.

CO–PO Mapping Matrix:

CO\PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	2	2	2	2	–	–	–	–	1	2
CO2	2	3	3	3	–	–	–	–	1	2
CO3	3	3	3	3	–	–	–	–	2	2
CO4	2	3	3	3	–	–	–	1	2	2
CO5	3	3	3	3	–	–	–	1	2	2

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = Not applicable / No correlation

Programme: BCA
Course Title: English
Semester: I
Course Code: BTHU103-18
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	The objective of this course is to introduce students to the theory, fundamentals and tools of communication.
CO2	To help the students become the independent users of English language.
CO3	To develop in them vital communication skills which are integral to their personal, social and professional interactions.
CO4	The syllabus shall address the issues relating to the Language of communication.
CO5	Students will become proficient in professional communication such as interviews, group discussions, office environments, important reading skills as well as writing skills such as report writing, note taking etc.

CO–PO Mapping Matrix:

CO\PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	2	2	2	1	–	–	–	1	3	2
CO2	1	2	2	1	–	–	–	1	3	3
CO3	1	2	2	1	1	–	–	2	3	3
CO4	1	2	2	–	–	–	–	1	3	2
CO5	1	2	2	1	1	–	–	2	3	3

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = Not applicable / No correlation

Programme: BCA
Course Title: English Practical/Laboratory
Semester: I
Course Code: BTHU104/18
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	The objective of this course is to introduce students to the theory, fundamentals and tools of communication
CO2	To help the students become the independent users of English language
CO3	To develop in them vital communication skills which are integral to personal, social and professional interactions
CO4	The syllabus shall address the issues relating to the Language of communication.
CO5	Students will become proficient in professional communication such as interviews, group discussions, office environments, important reading skills as well as writing skills such as report writing, note taking etc.

CO–PO Mapping Matrix:

CO\PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	1	2	2	–	–	–	–	1	3	2
CO2	1	2	2	–	–	–	–	1	3	3
CO3	1	2	2	–	1	–	–	2	3	3
CO4	1	2	2	–	–	–	–	1	3	2
CO5	1	2	2	–	1	–	–	2	3	3

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = Not applicable / No correlation

Programme: BCA

Course Title: Human Values, De-addiction and Traffic Rules

Semester: I

Course Code: HVPE101-18

Academic Year: 2024-25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	To help the students appreciate the essential complementarity between 'VALUES' and 'SKILLS' to ensure sustained happiness and prosperity which are the core aspirations of all human beings.
CO2	To facilitate the development of a Holistic perspective among students towards life, profession and happiness, based on a correct understanding of the Human reality and the rest of Existence. Such a holistic perspective forms the basis of Value based living in a natural way.
CO3	To highlight plausible implications of such a Holistic understanding in terms of ethical human conduct, trustful and mutually satisfying human behavior and mutually enriching interaction with Nature.

CO-PO Mapping Matrix:

CO\PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	–	–	–	–	3	2	3	2	2	2
CO2	–	–	–	–	2	3	3	2	2	2
CO3	–	–	–	–	3	3	3	2	2	2

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: BCA
Course Title: Fundamentals of Statistics
Semester: II
Course Code: UGCA1907
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Highlight the need of studying & analysing numbers.
CO2	Identify visualization tools for representing data.
CO3	Describe various statistical formulas.
CO4	Compute various statistical measures.
CO5	Compare result of different statistical measures.

CO–PO Mapping Matrix:

CO\PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	2	2	–	–	–	–	–	1	2
CO2	2	2	2	3	–	–	–	–	1	2
CO3	3	3	3	2	–	–	–	–	–	2
CO4	3	3	3	2	–	–	–	–	–	2
CO5	3	3	3	2	–	–	–	–	1	2

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = Not applicable / No correlation

Programme: BCA
Course Title: Computer System Architecture
Semester: II
Course Code: UGCA1908
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Identify the various internal and peripheral components of computer system.
CO2	Categorize different number system.
CO3	Outline the role of various components of computer system.
CO4	Identify micro-operations.
CO5	Comment on the design of Combinational & Sequential circuits.

CO–PO Mapping Matrix:

CO\PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	2	2	2	–	–	–	–	1	2
CO2	3	3	3	2	–	–	–	–	–	2
CO3	3	2	2	2	–	–	–	–	–	2
CO4	3	3	3	3	–	–	–	–	–	2
CO5	3	3	3	3	–	–	–	–	–	2

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = Not applicable / No correlation

Programme: BCA

Course Title: Object Oriented Programming using C++

Semester: II

Course Code: UGCA1909

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Outline the role of programming for solving real world problems.
CO2	Explain Object oriented approach for finding Solutions to various problems with the help of C++ language.
CO3	Implement computer based solutions to various real-world problems using C++
CO4	Select the right Object Oriented Concept for optimal solution.
CO5	Review different solutions for a common problem.

CO–PO Mapping Matrix:

CO\PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	2	2	–	–	–	–	–	1	2
CO2	2	3	3	2	–	–	–	–	–	2
CO3	3	3	3	3	–	–	–	–	–	2
CO4	3	3	3	3	–	–	–	–	–	2
CO5	2	2	3	2	–	–	–	–	1	2

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: BCA

Course Title: Object Oriented Programming using C++ Laboratory

Semester: II

Course Code: UGCA1910

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Design the classes.
CO2	Illustrate the concept of memory representation for objects.
CO3	Implement programs using OOP concepts for various problems.
CO4	Implement file handling in C++.
CO5	Select the right data types to represent class properties.

CO–PO Mapping Matrix:

CO\PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	3	2	–	–	–	–	–	2
CO2	3	2	3	2	–	–	–	–	–	2
CO3	3	3	3	3	–	–	–	–	–	2
CO4	2	2	2	3	–	–	–	–	–	2
CO5	3	3	3	2	–	–	–	–	–	2

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: BCA
Course Title: Fundamentals of Statistics Laboratory
Semester: II
Course Code: UGCA1911
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Create Frequency table and Graphs for data representation.
CO2	Analyse real life data using statistical tool.
CO3	Prepare data in different formats and styles.

CO–PO Mapping Matrix:

CO\PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	3	2	–	–	–	–	1	2
CO2	3	3	3	3	–	2	–	–	–	2
CO3	2	2	2	2	–	–	–	–	1	2

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = Not applicable / No correlation

Programme: BCA

Course Title: Computer System Architecture Laboratory

Semester: II

Course Code: UGCA1912

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Identify various types of Gates and Circuits.
CO2	Highlight the functioning of various gates and circuits.
CO3	Validate the outcome of various gates and circuits.
CO4	Differentiate between the various types of gates and circuits.
CO5	Outline the use of each type of gate and circuit.

CO–PO Mapping Matrix:

CO\PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	2	2	–	–	–	–	–	2
CO2	3	2	2	2	–	–	–	–	–	2
CO3	3	3	3	3	–	–	–	–	–	2
CO4	3	3	2	2	–	–	–	–	–	2
CO5	2	2	2	2	–	–	–	–	–	2

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: BCA
Course Title: Environmental Studies
Semester: II
Course Code: EVS102-18
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Students will enable to understand environmental problems at local and national level through literature and general awareness.
CO2	The students will gain practical knowledge by visiting wildlife areas, environmental institutes and various personalities who have done practical work on various environmental Issues.
CO3	The students will apply interdisciplinary approach to understand key environmental issues and critically analyse them to explore the possibilities to mitigate these problems.
CO4	Reflect critically about their roles and identities as citizens, consumers and environmental actors in a complex, interconnected world.

CO–PO Mapping Matrix:

CO\PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	2	2	1	–	3	3	2	–	–	2
CO2	2	–	–	–	2	3	2	–	–	2
CO3	2	2	2	–	3	3	3	–	–	3
CO4	2	1	2	–	3	3	3	2	2	3

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = Not applicable / No correlation

Programme: BCA
Course Title: Computer Networks
Semester: III
Course Code: UGCA1913
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Highlight the characteristics of various protocols.
CO2	Define different network technologies and their application.
CO3	Identify Hardware and software components for designing network.
CO4	Compare the performance of different network media.
CO5	Implement various configuration settings.

CO–PO Mapping Matrix:

COs \ POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	2	2	–	–	–	–	2	2
CO2	3	3	3	2	–	–	–	–	2	2
CO3	3	3	3	3	–	–	–	–	2	2
CO4	2	3	3	2	–	–	–	–	2	2
CO5	3	3	3	3	1	–	–	1	2	3

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = No correlation / Not applicable

Programme: BCA
Course Title: Programming in Python
Semester: III
Course Code: UGCA1914
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Explain environment, data types, operators used in Python.
CO2	Compare Python with other programming languages.
CO3	Outline the use of control structures and numerous native data types with their methods.
CO4	Design user defined functions, modules, files, and packages and exception handling methods.
CO5	Write solutions for Object Oriented Programming Concepts.

CO–PO Mapping Matrix:

COs \ POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	3	2	–	–	–	–	2	2
CO2	2	3	3	2	–	–	–	–	2	2
CO3	3	3	3	3	–	–	–	–	2	2
CO4	3	3	3	3	–	–	–	–	2	3
CO5	3	3	3	3	–	–	–	1	2	3

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = No correlation / Not applicable

Programme: BCA
Course Title: Data Structures
Semester: III
Course Code: UGCA1915
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Apply appropriate constructs of Programming language, coding standards for application development.
CO2	Select appropriate data structures for problem solving and programming.
CO3	Illustrate the outcome of various operations on data structures.
CO4	Identify appropriate searching and/or sorting techniques for wide range of problems and data types.
CO5	Differentiate between various types of data structures.

CO–PO Mapping Matrix:

COs \ POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	3	3	–	–	–	–	2	2
CO2	3	3	3	3	–	–	–	–	2	2
CO3	3	3	3	3	–	–	–	–	2	2
CO4	3	3	3	3	–	–	–	–	2	3
CO5	3	3	3	2	–	–	–	–	2	2

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = No correlation / Not applicable

Programme: BCA
Course Title: Computer Networks Laboratory
Semester: III
Course Code: UGCA1916
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Outline the key features of various protocols
CO2	Implement network configuration settings for an operating system
CO3	Prepare different types of cables for networking.
CO4	Design network model using network simulation tool.
CO5	Implement various setting on FTP, Proxy and other servers.

CO–PO Mapping Matrix:

COs \ POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	2	2	–	–	–	–	2	2
CO2	3	3	3	3	–	–	–	–	2	2
CO3	3	3	3	3	–	–	–	–	1	2
CO4	3	3	3	3	–	–	–	1	2	3
CO5	3	3	3	3	1	–	–	1	2	3

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = No correlation / Not applicable

Programme: BCA
Course Title: Programming in Python Laboratory
Semester: III
Course Code: UGCA1917
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Outline various programming constructs like data types and control structures of Python.
CO2	Implement different data structures.
CO3	Implement modules and functions.
CO4	Illustrate concept of object oriented programming.
CO5	Implement file handling.

CO–PO Mapping Matrix:

COs \ POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	3	2	–	–	–	–	2	2
CO2	3	3	3	3	–	–	–	–	2	2
CO3	3	3	3	3	–	–	–	–	2	2
CO4	3	3	3	3	–	–	–	–	2	3
CO5	3	3	3	3	–	–	–	–	2	2

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = No correlation / Not applicable

Programme: BCA
Course Title: Data Structures Laboratory
Semester: III
Course Code: UGCA1918
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Implement Dynamic memory allocation.
CO2	Create different data structures in C/ C++.
CO3	Implement various operations of all data structures.
CO4	Illustrate the outcome of various operations with the help of examples.
CO5	Write programs to implement various types of searching and sorting algorithms.

CO–PO Mapping Matrix:

COs \ POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	3	3	–	–	–	–	2	2
CO2	3	3	3	3	–	–	–	–	2	2
CO3	3	3	3	3	–	–	–	–	2	2
CO4	3	3	3	2	–	–	–	–	2	2
CO5	3	3	3	3	–	–	–	–	2	2

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = No correlation / Not applicable

Programme: BCA
Course Title: PC Assembly & Troubleshooting
Semester: III
Course Code: UGCA1919
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Identify various components of computer systems.
CO2	Differentiate between types of processors required for different computer systems.
CO3	Explain the steps to install, connect and configure various peripheral devices
CO4	Execute the troubleshooting issues in Computer Systems
CO5	Explain how resources can be shared over network

CO–PO Mapping Matrix:

COs \ POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	3	2	–	–	–	–	2	2
CO2	3	3	3	2	–	–	–	–	2	2
CO3	3	3	3	3	–	–	–	1	2	2
CO4	3	3	3	3	–	–	–	1	2	3
CO5	2	2	2	3	1	–	–	1	2	2

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = No correlation / Not applicable

Programme: BCA
Course Title: PC Assembly & Troubleshooting Laboratory
Semester: III
Course Code: UGCA1920
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Identify key component of computer system while assembling a system.
CO2	Implement installation and configuration of computer system
CO3	Perform installation, configuration and sharing of peripheral devices.
CO4	Solve troubleshooting issues in Computer Systems
CO5	Execute dual booting.

CO–PO Mapping Matrix:

COs \ POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	3	2	–	–	–	–	2	2
CO2	3	3	3	3	–	–	–	–	2	2
CO3	3	3	3	3	–	–	–	1	2	2
CO4	3	3	3	3	–	–	–	1	2	3
CO5	3	3	3	3	–	–	–	–	2	3

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = No correlation / Not applicable

Programme: BCA
Course Title: Software Engineering
Semester: IV
Course Code: UGCA1921
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Highlight the need of software engineering
CO2	Outline the phases and activities involved in the conventional software life cycle models
CO3	Design documents for various phases of software life cycle.
CO4	Compute the complexity of the software based on multiple matrices.
CO5	Identify the tools needed for different types of documents required in software engineering.

CO–PO Mapping Matrix:

CO\PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	2	2	2	1	1	1	1	–	1	2
CO2	2	3	3	2	–	–	–	–	1	2
CO3	2	3	3	2	–	–	–	2	2	2
CO4	3	3	3	2	–	–	–	–	–	2
CO5	2	2	2	3	–	–	–	–	–	2

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = Not applicable / No correlation

Programme: BCA
Course Title: Database Management Systems
Semester: IV
Course Code: UGCA1922
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Define the basic concepts of DBMS.
CO2	Design SQL queries.
CO3	Illustrate the concept of data normalization with the help of real life examples.
CO4	Explain the concept of transaction management.
CO5	Outline features of advanced database management systems.

CO–PO Mapping Matrix:

CO\PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	2	2	–	–	–	–	–	2
CO2	2	3	3	3	–	–	–	–	–	2
CO3	3	3	3	2	–	–	–	–	–	2
CO4	3	3	2	3	–	–	–	–	–	2
CO5	2	3	2	3	–	–	–	–	–	3

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = Not applicable / No correlation

Programme: BCA
Course Title: Operating Systems
Semester: IV
Course Code: UGCA1923
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Discuss the evaluation of operating systems.
CO2	Explain different resource managements performed by operating system.
CO3	Describe the architecture in terms of functions performed by different types of operating systems.
CO4	Analyze the performance of different algorithms used in design of operating system components.
CO5	Compare the key properties of different types of Operating Systems.

CO–PO Mapping Matrix:

CO\PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	2	–	–	–	–	–	–	2
CO2	3	3	3	2	–	–	–	–	–	2
CO3	3	3	3	2	–	–	–	–	–	2
CO4	3	3	3	3	–	–	–	–	–	2
CO5	2	3	3	2	–	–	–	–	–	2

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = Not applicable / No correlation

Programme: BCA

Course Title: Software Engineering Laboratory

Semester: IV

Course Code: UGCA1924

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Identify the scope and objective of different domains that have impact on society.
CO2	Create data flow diagrams.
CO3	Compute software complexity using latest tools.
CO4	Design a software engineering process life cycle.
CO5	Implement specification, design, implementation, and testing process using latest tools.

CO–PO Mapping Matrix:

CO\PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	2	2	2	–	2	1	1	–	–	2
CO2	2	3	3	2	–	–	–	–	–	2
CO3	3	3	3	3	–	–	–	–	–	2
CO4	3	3	3	2	–	–	–	–	–	2
CO5	3	3	3	3	–	–	–	2	2	2

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: BCA

Course Title: Database Management Systems Laboratory

Semester: IV

Course Code: UGCA1925

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Differentiate between DDL, DML and DCL commands.
CO2	Implement DDL, DML and DCL commands.
CO3	Write integrity constraints on a database.
CO4	Design Databases and Tables in relational model for some project related to society welfare.
CO5	Implement PL/SQL.

CO–PO Mapping Matrix:

CO\PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	2	2	–	–	–	–	–	2
CO2	3	3	3	3	–	–	–	–	–	2
CO3	3	3	3	3	–	–	1	–	–	2
CO4	3	3	3	3	2	2	–	2	1	3
CO5	3	3	3	3	–	–	–	–	–	2

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: BCA
Course Title: Operating Systems Laboratory
Semester: IV
Course Code: UGCA1926
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Implement the installation and configuration of different operating systems.
CO2	Write programs for different scheduling algorithms.
CO3	Execute various commands in Vi editor
CO4	Implement the dual boot installation
CO5	Execute commands in shell programming

CO–PO Mapping Matrix:

CO\PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	2	2	3	–	–	–	–	–	2
CO2	3	3	3	2	–	–	–	–	–	2
CO3	3	2	2	2	–	–	–	–	–	2
CO4	3	2	2	3	–	–	–	–	–	2
CO5	3	3	3	3	–	–	–	–	–	2

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = Not applicable / No correlation

Programme: BCA
Course Title: Web Designing
Semester: IV
Course Code: UGCA1927
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Create pages with simple tags in HTML
CO2	Design webpages with multiple sections or frames
CO3	Explain how to link webpages through hypertext or images a links
CO4	Outline the key web designing concepts using java script
CO5	Design forms with special controls using HTML

CO–PO Mapping Matrix:

CO\PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	2	2	–	–	–	–	–	2
CO2	3	3	2	2	–	–	–	–	–	2
CO3	3	3	2	2	–	–	–	–	–	2
CO4	3	3	3	3	–	–	–	–	–	2
CO5	3	3	3	3	–	–	–	–	–	2

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = Not applicable / No correlation

Programme: BCA
Course Title: Web Designing Laboratory
Semester: IV
Course Code: UGCA1928
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Design pages with simple tags in HTML
CO2	Create web pages with Audio and Video content in it.
CO3	Illustrate the movement from one web page to another
CO4	Implement advanced web designing concepts using java script
CO5	Execute a small web passed project for the benefit of society

CO–PO Mapping Matrix:

CO\PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	2	2	–	–	–	–	–	2
CO2	3	3	2	3	–	–	–	–	–	2
CO3	3	3	2	2	–	–	–	–	–	2
CO4	3	3	3	3	–	–	–	–	–	2
CO5	3	3	3	3	2	2	1	2	2	3

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = Not applicable / No correlation

Programme: BCA

Course Title: Programming in PHP

Semester: V

Course Code: UGCA1929

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Outline the importance and benefits of PHP
CO2	Compare Client Side Script & Server Side Script.
CO3	Explain the use of control structures, data types used in PHP.
CO4	Implement database connectivity.
CO5	Develop Dynamic Website that can interact with different kinds of Database Languages.

CO–PO Mapping Matrix:

COs \ POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	2	2	–	–	–	–	2	2
CO2	2	2	2	2	–	–	–	–	2	2
CO3	3	3	3	3	–	–	–	–	2	2
CO4	3	3	3	3	–	–	–	1	2	3
CO5	3	3	3	3	–	–	–	1	2	3

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = No correlation / Not applicable

Programme: BCA

Course Title: Programming in PHP Laboratory

Semester: V

Course Code: UGCA1930

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Write scripts for basic web page designs
CO2	Design the work flow of web page with the help of various control statements
CO3	Differentiate between client side and server side scripting
CO4	Illustrate the concept of static and dynamic websites
CO5	Implement the database concepts in PHP

CO–PO Mapping Matrix:

COs \ POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	2	2	–	–	–	–	2	2
CO2	3	3	3	3	–	–	–	–	2	2
CO3	2	2	2	2	–	–	–	–	2	2
CO4	3	3	3	3	–	–	–	1	2	3
CO5	3	3	3	3	–	–	–	1	2	3

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = No correlation / Not applicable

Programme: BCA
Course Title: Data Warehouse and Mining
Semester: V
Course Code: UGCA1931
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Highlight the need of Data Warehousing & Mining
CO2	Differentiate between the Transactional and Analytical data models.
CO3	Identify the real life applications where data mining can be applied.
CO4	Apply different data mining algorithms on wide range of data sets.
CO5	Explain the role of visualization in data representation and analysis.

CO–PO Mapping Matrix:

COs \ POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	3	2	1	–	–	–	2	2
CO2	3	3	3	2	–	–	–	–	2	2
CO3	3	3	3	2	2	–	–	–	2	2
CO4	3	3	3	3	–	–	–	1	2	3
CO5	3	3	3	3	–	–	–	1	2	3

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = No correlation / Not applicable

Programme: BCA
Course Title: Data Warehouse and Mining Laboratory
Semester: V
Course Code: UGCA1937
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Identify different data mining tools used to analyse data.
CO2	Implement classification/ Clustering techniques in R/ Weka
CO3	Create visualization for representing data.
CO4	Execute various data pre-processing techniques
CO5	Analyse the data which has direct impact on the society

CO–PO Mapping Matrix:

COs \ POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	3	3	–	–	–	–	2	2
CO2	3	3	3	3	–	–	–	1	2	3
CO3	3	3	3	3	–	–	–	1	2	3
CO4	3	3	3	3	–	–	–	–	2	2
CO5	3	3	3	3	2	2	–	1	2	3

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = No correlation / Not applicable

Programme: BCA
Course Title: Programming in Java
Semester: V
Course Code: UGCA1932
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Define various Object Oriented concepts in Java Programming.
CO2	Compare different data types in java.
CO3	Differentiate between built-in and user defined functions/methods, interfaces and packages etc.
CO4	Outline the importance of exception handling in programs.
CO5	Explain advanced concepts like multithreading, applet used in java.

CO–PO Mapping Matrix:

COs \ POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	3	2	–	–	–	–	2	2
CO2	3	3	3	2	–	–	–	–	2	2
CO3	3	3	3	3	–	–	–	–	2	2
CO4	3	3	3	3	–	–	–	–	2	3
CO5	3	3	3	3	–	–	–	1	2	3

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = No correlation / Not applicable

Programme: BCA
Course Title: Programming in Java Laboratory
Semester: V
Course Code: UGCA1938
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Execute Core Java concepts.
CO2	Illustrate the role of different data type, operators and control statement in java with the help of programs.
CO3	Write programs to handle exceptions
CO4	Implement multithreading in java
CO5	Execute interfaces and packages.

CO–PO Mapping Matrix:

COs \ POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	3	3	–	–	–	–	2	2
CO2	3	3	3	3	–	–	–	–	2	2
CO3	3	3	3	3	–	–	–	–	2	3
CO4	3	3	3	3	–	–	–	1	2	3
CO5	3	3	3	3	–	–	–	1	2	3

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = No correlation / Not applicable

Programme: BCA
Course Title: Cloud Computing
Semester: V
Course Code: UGCA1936
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Define the concept of cloud computing.
CO2	Outline the benefits if migrating to a cloud solution for different applications.
CO3	Compare different virtualization technologies.
CO4	Identify various resources needed to build cloud.
CO5	Explain various security threats to cloud.

CO–PO Mapping Matrix:

COs \ POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	3	2	–	–	–	–	2	2
CO2	3	3	3	2	2	–	–	–	2	2
CO3	3	3	3	3	–	–	–	–	2	2
CO4	3	3	3	3	–	–	–	–	2	3
CO5	3	3	3	3	3	2	2	1	2	3

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = No correlation / Not applicable

Programme: BCA
Course Title: Cloud Computing Laboratory
Semester: V
Course Code: UGCA1942
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Identify major commercial projects in the field of cloud computing
CO2	Design basic cloud applications
CO3	Execute basic functionalities of open source tools like Open Stack.
CO4	Implement virtualization
CO5	Define major services provided by cloud service provider.

CO–PO Mapping Matrix:

COs \ POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	3	2	2	–	–	–	2	2
CO2	3	3	3	3	–	–	–	–	2	3
CO3	3	3	3	3	–	–	–	–	2	3
CO4	3	3	3	3	–	–	–	1	2	3
CO5	3	3	3	3	2	1	2	1	2	3

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = No correlation / Not applicable

Programme: BCA
Course Title: Android Programming
Semester: VI
Course Code: UGCA1943
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Prepare environment for working on Android OS.
CO2	Highlight various security issues in Android platform.
CO3	Design innovative User Interface and develop activity for android app.
CO4	Outline the steps for creating database applications.
CO5	Write programs for basic Android based applications.

CO–PO Mapping Matrix:

CO\PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	2	3	–	–	–	–	–	2
CO2	2	2	2	2	2	–	2	–	–	2
CO3	3	3	3	3	–	–	–	–	1	2
CO4	3	3	2	3	–	–	–	–	–	2
CO5	3	3	3	3	–	–	–	–	–	2

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = Not applicable / No correlation

Programme: BCA

Course Title: Android Programming Laboratory

Semester: VI

Course Code: UGCA1944

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Prepare environment for working on Android OS.
CO2	Program basic Android based applications.
CO3	Highlight various security issues in Android platform.
CO4	Implement database applications.
CO5	Design innovative User Interface and develop activity for android app.

CO–PO Mapping Matrix:

CO\PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	2	3	–	–	–	–	–	2
CO2	3	3	3	3	–	–	–	–	–	2
CO3	2	2	2	2	2	–	2	–	–	2
CO4	3	3	3	3	–	–	–	–	–	2
CO5	3	3	3	3	–	–	–	–	1	2

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

Programme: BCA
Course Title: Artificial Intelligence
Semester: VI
Course Code: UGCA1945
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Highlight the significance and domains of Artificial Intelligence and knowledge representation.
CO2	Outline the advantages and disadvantages of various search techniques.
CO3	Identify various Expert Systems and AI applications.
CO4	Define the role of AI in different areas like NLP, Pattern Recognition etc.
CO5	Select the right AI tool for different AI based applications.

CO–PO Mapping Matrix:

CO\PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	3	2	1	2	1	–	–	2
CO2	3	3	3	3	–	–	–	–	–	2
CO3	2	3	2	2	1	–	1	–	–	2
CO4	2	3	3	2	1	2	–	–	–	2
CO5	3	3	3	3	–	–	–	–	–	2

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = Not applicable / No correlation

Programme: BCA
Course Title: Artificial Intelligence Laboratory
Semester: VI
Course Code: UGCA1951
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Identify right tool for different AI based problems.
CO2	Develop basic applications using AI tools.
CO3	Represent various real life problem domains using logic based techniques and use this to perform inference or planning.
CO4	Outline the use of Bayesian approach to solve uncertain problems.
CO5	Implement basic Natural Language processing programs.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	3	3	–	–	–	–	–	2
CO2	3	3	3	3	–	–	–	–	–	2
CO3	3	3	3	2	1	–	1	–	–	2
CO4	2	3	2	2	–	2	–	–	–	2
CO5	2	3	3	2	–	–	–	–	1	2

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = Not applicable / No correlation

Programme: BCA
Course Title: Digital Marketing
Semester: VI
Course Code: UGCA1947
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Highlight the key elements of a digital marketing strategy.
CO2	Choose the right platform for digital marketing
CO3	Identify the major digital marketing channels.
CO4	Design content for digital marketing.
CO5	Develop digital marketing strategy and plan.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	2	3	3	2	2	1	1	–	2	2
CO2	2	3	3	3	2	–	–	–	–	2
CO3	2	3	3	3	2	1	–	–	–	2
CO4	2	3	2	2	–	–	–	–	3	2
CO5	2	3	3	3	2	1	1	2	2	3

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = Not applicable / No correlation

Programme: BCA
Course Title: Digital Marketing Laboratory
Semester: VI
Course Code: UGCA1953
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Highlight the key elements of a digital marketing strategy.
CO2	Implement common digital marketing exercise using SEO, Social media and Blogs.
CO3	Identify the major digital marketing channels.
CO4	Design content for digital marketing.
CO5	Develop digital marketing strategy and plan.

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	2	3	3	2	2	1	1	–	2	2
CO2	2	3	3	3	2	1	–	–	2	2
CO3	2	3	3	2	2	–	–	–	–	2
CO4	2	3	2	2	–	–	–	–	3	2
CO5	2	3	3	3	2	1	1	2	3	3

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = Not applicable / No correlation

Programme: BCA
Course Title: Information Security
Semester: VI
Course Code: UGCA1948
Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Identify issues involved in the field of information security.
CO2	Categorize various types of viruses.
CO3	Outline the information security risks across de Internet and WWW.
CO4	Explain different encryption techniques
CO5	Define cryptography

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	2	2	1	2	2	1	2	3
CO2	2	3	2	2	1	1	1	–	–	2
CO3	3	3	2	2	2	3	2	1	–	2
CO4	3	3	2	3	2	–	–	–	–	2
CO5	3	2	2	2	1	–	–	–	–	2

Legend:

3 = Strong correlation
2 = Moderate correlation
1 = Low correlation
– = Not applicable / No correlation

Programme: BCA

Course Title: Information Security Laboratory

Semester: VI

Course Code: UGCA1954

Academic Year: 2024–25

Course Outcomes (COs):

CO Number	Course Outcome Statement
CO1	Outline various types of attacks.
CO2	Categorize various types of viruses.
CO3	Prepare solutions to various threats
CO4	Review security policy
CO5	Implement Encryption Techniques

CO–PO Mapping Matrix:

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	2	2	2	1	2	2	1	–	2
CO2	2	3	2	1	1	2	1	–	–	2
CO3	3	3	3	3	2	2	2	1	–	3
CO4	2	2	2	2	2	3	3	2	–	3
CO5	3	3	3	3	2	2	2	–	–	3

Legend:

3 = Strong correlation

2 = Moderate correlation

1 = Low correlation

– = Not applicable / No correlation

The screenshot shows the 'Program Overview' section for the Bachelor of Computer Applications (BCA) program at GIANJYOTI. The page includes the institute's logo, NAAC accreditation, and a navigation menu. The program details are as follows:

Program Length	Credential	Location Offered	Intake
3 Years	Bachelor Degree	Mohali (Chandigarh)	July

With a degree in computer applications you can turn concepts like self-driving vehicle, smart tech wearable and holographic surgery into everyday realities. Nearly every industry needs digital technology to succeed, which means computer applications is full of opportunities in medicine, entertainment, aerospace, sports, green energy or heavy industry, just to start. By understanding the logic and algorithms that drive technology, you will begin to see opportunities everywhere.

Program Outcome

Why Study BCA @GJIMT

Screenshot of Program Outcomes displayed on Official Institutional Website

The screenshot shows the 'Course Outcomes' section for the BCA program at GIANJYOTI. The page includes the institute's logo, NAAC accreditation, and a navigation menu. The course outcomes are displayed in a table with columns for Semester, Course Code, Course Type, Subjects, and Credits.

Semester	Course Code	Course Type	Subjects	Credits
Semester 1	UGCA1901	Core Theory	Mathematics	4
Semester 1	UGCA1902	Core Theory	Fundamentals of Computer and IT	4
Semester 1	UGCA1903	Core Theory	Problem Solving using C	4
Semester 1	UGCA1904	Practical/Laboratory	Workshop on Desktop Publishing	2
Semester 1	UGCA1905	Core Practical/Laboratory	Problem Solving using C Laboratory	2
Semester 1	UGCA1906	Core Practical/Laboratory	Fundamentals of Computer and IT Laboratory	2
Semester 2	BTHU103/18	Ability Enhancement Compulsory Course (AECC)-I	English	1
Semester 2	BTHU104/18	Ability Enhancement Compulsory Course (AECC)	English Practical/Laboratory	1
Semester 2	HVPE101-18	Ability Enhancement Compulsory Course (AECC)	Human Values, De-addiction and Traffic Rules	3
Semester 2	HVPE102-18	Ability Enhancement Compulsory Course (AECC)	Human Values, De-addiction and Traffic Rules (Lab/ Seminar)	1

Screenshot of Course Outcomes displayed on Official Institutional Website

Program Outcomes displayed in Institutional Premises

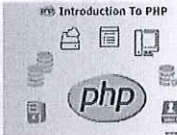




UGCA1929
Programming in PHP



Intro to the Course
Mr. Jyoti GJMT Mohali



Introduction To PHP

BUILDING CAREERS IN: MBA | MCA | BBA | BCA | B.Com(Hons) | PhD





Program Outcomes

PO NO.	BRIEF PROGRAM OUTCOMES
PO1	Basic knowledge: An ability to apply knowledge of basic mathematics, science and domain knowledge to solve the computational problems.
PO2	Discipline knowledge: An ability to apply discipline-specific knowledge to solve core and/or applied computational problems.
PO3	Experiments and practice: An ability to plan and perform experiments and practices and to use the results to solve computational problems.
PO4	Tool usage: Apply appropriate technologies and tools with an understanding of limitations.
PO5	Profession and society: Demonstrate knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional practice.
PO6	Environment and sustainability: Understand the impact of the computational solutions in societal and environmental contexts, and demonstrate the knowledge and need for sustainable development.
PO7	Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the professional practice.
PO8	Individual and teamwork: Function effectively as an individual, and as a member or leader in diverse/multi-disciplinary teams.
PO9	Communication: An ability to communicate effectively.
PO10	Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the context of technological changes.

BUILDING CAREERS IN: MBA | MCA | BBA | BCA | B.Com(Hons)





UGCA1929
Programming in PHP

Course Outcomes:

CO1	Outline the importance and benefits of PHP
CO2	Compare Client Side Script & Server Side Script
CO3	Explain the use of control structures, data types used in PHP.
CO4	Implement database connectivity
CO5	Develop Dynamic Website that can interact with different kinds of Database Languages.

BUILDING CAREERS IN: MBA | MCA | BBA | BCA | B.Com(Hons)





UGCA1929
Programming in PHP

Timelines:

Session	July to Dec
Total duration in weeks	12
MSTs	2
Sessions per week	4
Session duration	60 minutes

BUILDING CAREERS IN: MBA | MCA | BBA | BCA | B.Com(Hons)

Screenshot of Introductory Lecture PPT showcasing Program Outcomes and Course Outcomes to Students



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COURSE FILE

AY 2024-25

Semester: I

Course Title: Business Environment and Indian Economy

Course Code: MBA 105-18

Program: Master of Business Administration (MBA)

Department: Management and Commerce

Credits: 4

Prepared By

Dr. Bushra S. P. Singh

Assistant Professor

Submitted To

Dr. Neeraj Sharma

Dean Academics

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Gian Jyoti Institute of Management and Technology		
Department of Management & Commerce		
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Academic Calendar



F – 03

Administrative Program Calendar Aug – Dec 2024 (For Odd Semesters Classes)

Dates	Event		
23 rd July	UG Session Starts- Former Batch		
5th Aug	Orientation Week - New Batch		
2nd Sept	Allocation of Assignment-I		
9th Sept	Submission of Assignment-I		
16th - 21st Sept	1st Sessional Mid Semester Test		
27th Sept	Fresher's Party- Aagaman		
7th Oct	Allocation of Assignment-II		
14th Oct	Submission of Assignment-II		
21st- 26th Oct	IInd Sessional Mid Semester Test		
4th-8th Nov	Revision Classes		
11th Nov	Final End Semester IKGPTU Examination		
20th Dec	International Conference- 18th IntConMITE 2024		
22nd-29th Dec	Winter Vacation		

S. No.	Holidays	Date	Day	<i>Note 1: The SCRs should be submitted to Director Madam by Class Incharges on every 30th day of the month.</i> <i>Note 2: The Physical Attendance Registers should be shown by Subject Incharges to Dean or Director Madam on every 29th day of the month.</i>
1	Independence Day	15th Aug	Thursday	
2	Raksha Bandhan*	19 th Aug	Monday	
3	Janam Ashtami	26th Aug	Monday	
4	Eid-e-Milad*	16th Sept	Monday	
5	Gandhi Jayanti	2nd Oct	Wednesday	
6	Agarsain Jayanti	3rd Oct	Thursday	
7	Dussehra	12th Oct	Saturday	
8	Valmiki Jayanti	17th Oct	Thursday	
9	Diwali	31st Oct	Thursday	
10	Vishwakarma Day	1st Nov	Friday	
11	Goverdhan Puja*	2nd Nov	Saturday	
12	Guru Nanak Dev Ji Birthday	15th Nov	Friday	
13	Shahidi Diwas Kartar S.Sarabha	16th Nov	Saturday	
14	Teg Bahadur Ji Martyr Day	6th Dec	Friday	
15	Christmas Day	25th Dec	Wednesday	
16	Shahidi Jodd Mela	27th Dec	Friday	

(Director)

Program Outcomes (POs)

- PO1. Business Environment and Domain Knowledge:** Economic, legal and social environment of Indian business. Graduates are able to improve their awareness and knowledge about functioning of local and global business environment and society. This onwards helps in recognizing the functioning of businesses, identifying potential business opportunities, involvement of business enterprises and exploring the entrepreneurial opportunities.
- PO2. Critical thinking, Business Analysis, Problem Solving and Innovative Solutions:** Competencies in quantitative and qualitative techniques. Graduates are expected to develop skills on analysing the business data, application of relevant analysis, and problem solving in other functional areas such as marketing, business strategy and human resources.
- PO3. Global Exposure and Cross-Cultural Understanding:** Demonstrate a global outlook with the ability to identify aspects of the global business and Cross-Cultural Understanding.
- PO4. Social Responsiveness and Ethics:** Developing responsiveness to contextual social issues / problems and exploring solutions, understanding business ethics and resolving ethical dilemmas. Graduates are expected to identify the contemporary social problems, exploring the opportunities for social entrepreneurship, designing business solutions and demonstrate ethical standards in organizational decision making. Demonstrate awareness of ethical issues and can distinguish ethical and unethical behaviors.
- PO5. Effective Communication:** Usage of various forms of business communication, supported by effective use of appropriate technology, logical reasoning, articulation of ideas. Graduates are expected to develop effective oral and written communication especially in business applications, with the use of appropriate technology (business presentations, digital communication, social network platforms and so on).
- PO6. Leadership and Teamwork:** Understanding leadership roles at various levels of the organization and leading teams. Graduates are expected to collaborate and lead teams across organizational boundaries and demonstrate leadership qualities, maximize the usage of diverse skills of team members in the related context.

Course Syllabus

Business Environment and Indian Economy

MBA 105-18

Course Objective: This course aims at providing knowledge of the environment in which businesses operate, the economic, political, legal and social framework with a basic idea of the Indian Economy. **Course Outcomes:** At the end of the course, student should be able to

- CO1. Outline how an entity operates in a complex business environment.
- CO2. To systematically learn impact of legal & regulatory, macroeconomic, cultural, political, technological, global and natural environment on Business enterprise.
- CO3. To examine the critical opportunities and threats that arise from an analysis of external business conditions by applying scenario planning to synthesize trends prevailing in the external environment.
- CO4. To describe how various types of economic systems play a significant role in the success of a business.
- CO5. To understand the nature of Indian Economy and various issues relating to Indian Economy having a direct or indirect impact on business environment.
- CO6. To discuss various development strategies in India.

UNIT I

Business Environment: Meaning, Types: Internal Environment; External Environment; Micro and Macro Environment, Components of Business Environment. Political Environment: Three political institutions: Legislature, Executive and Judiciary, Fundamental rights, Directive Principles, Rationale and extent of state intervention. Economic Environment: Concept, features of various economic systems, New Industrial policy and industrial licensing, new economic policies, aspects of economic reforms and their effects on business and emerging economies. Effect of recession on Business and remedies for that, Economic Planning in India: Objectives, Strategies and Evaluation of current five year plan, Monetary and Fiscal Policy.

UNIT II

Legal Environment: Company Regulatory Legislations in India, FEMA, EXIM policy, Competition Law, Right to Information Act 2005.

Public Sector in India: Concepts, Philosophy and Objectives, Performance, Problems and Constraints. Disinvestment and Privatisation, Joint sector and Cooperative sector in India, Deficit Financing and its implications for the Indian Economy; Analysis of current year Annual Budget. Consumerism: Role of Consumer Groups with Special Reference to India; Consumer Protection Act, 1986 with Latest Amendments. Ecological Environment: Concepts of Green Management, Global Warming, Carbon Foot Printing, The Environment Protection Act 1986.

UNIT III

Technological Environment: Impact of Technology on Business, Technological Policy, Intellectual Property Rights, Import of Technology, Appropriate Technology, Problems in Technology Transfer. International Environment: Emergence of Globalisation, Control of Foreign Direct Investment, Benefits and Problems from MNCs. WTO, its role and functions, Implications for India. Trading Blocks, Foreign Trade: SEZ (Special Economic Zones), EPZ (Export processing zone), EOU (Export Oriented Units), Dumping and AntiDumping measures.

Introduction to Indian Economy: Colonialism and Development of Indian Economy, Framework of Indian Economy, Demographic Features and Indicators of Economic Growth and Development, Rural-Urban Migration and issues related to Urbanization, Poverty debate and Inequality, Nature, Policy and Implications.

Unit IV

Unemployment-Nature, Central and State Government's policies, policy implications, Employment trends in Organized and Unorganized Sector

Development Strategies in India: Agricultural- Pricing, Marketing and Financing of Primary Sector, Changing structure of India's Foreign Trade.

The Economic Policy and Infrastructure Development: Energy and Transport, Social Infrastructure- Education, Health and Gender related issues, Social Inclusion, Issues and policies in Financing Infrastructure Development.

Suggested Readings:

- Paul Justin, Business Environment, Latest Edition, McGraw Hill Education, New Delhi.
- V.K. Puri & S.K. Misra, Economic Environment of Business, Latest Edition, Himalaya Publishing House, New Delhi.
- A.C. Fernando, Business Environment, Latest Edition, Pearson Publication, New Delhi.
- V. Neelamegam, Business Environment, Latest Edition, Vrinda Publications, Delhi.
- Francis Cherunilam, Business Environment, Latest Edition, Himalaya Publishing House, New Delhi.
- K. Aswathappa, Essentials of Business Environment, Latest Edition, Himalaya Publishing House, New Delhi. Govt. of India, Five Years Plan Documents.

CO-PO Mapping Matrix

COs 	POs 					
	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	2	2		1	1
CO2	3	2	3	2		
CO3	3	3	2	1		1
CO4	2					
CO5	3	1		2		
CO6	3			2		2

MBA I Time-Table

DAY	9:00-9:50	9:50-10:40	10:40-11:30	11:30-11:45	11:45-12:35	12:35-1:25	1:25-2:05	2:05-2:55	2:55-3:10	3:10-4:05	4:05-4:55
MON	BE-CSR (NS)	FOM (IK)	ME (AU)	TEA BREAK	BC (BK)	QT (VS)	LUNCH BREAK	VAC	TEA BREAK	AMR (RD)	
TUE	FOM (IK)	QT (VS)	BE-CSR (NS)		BC (BK)	IRP (SH)		VAC		AMR (RD)	BE-IE (BSP)
WED	BE-CSR (NS)	QT (VS)	FOM (IK)		BC (ST)	AMR (RD)		VAC		BE-IE (BSP)	ME (AU)
THURS	ME (AU)	QT (VS)	BE-CSR (NS)		BE-IE (BSP)	AMR (RD)		VAC			
FRI	FOM (IK)	QT (VS)	BE-IE (BSP)		BC (BK)	ME (AU)		VAC		IRP (SH)	
SAT	BE-CSR (NS)	FOM (IK)	AMR (RD)		QT (VS)	QT (VS)		VAC			

Time-Table of Teacher

Dr. Bushra S. P. Singh											
DAY	9:00-9:50	9:50-10:40	10:40-11:30	11:30-11:45	11:45-12:35	12:35-1:25	1:25-2:05	2:05-2:55	2:55-3:10	3:10-4:05	4:05-4:55
MON		OR (BBA V)		TEA BREAK	MR (MBA III)		LUNCH BREAK	VAC	TEA BREAK		
TUE			OR (BBA V)		MR (MBA III)			VAC			
WED			OR (BBA V)			MR (MBA III)		VAC		BE-IE (MBA I)	
THURS	MR (MBA III)		OR (BBA V)		BE-IE (MBA I)			VAC			
FRI			BE-IE (MBA I)					VAC			
SAT								VAC			

Scheme of Evaluation

Evaluation Component	Weightage	Tentative Dates
First Mid-Semester Test	12%	16-23 September 2024
Second Mid-Semester Test	12%	8-14 November 2024
First Assignment	5%	2 September 2024
Second Assignment	5%	7 October 2024
Class Attendance	6%	1 December 2024
External Assessment	60%	18 December 2024

Lesson Plan

Lesson Plan				
MBA - Semester 1 – Aug-Dec				
Name of Subject:	Business Environment and Indian Economy		Internal Assessment:	40 marks
Subject Code:	MBA 106-18		External Assessment:	60 marks
Start Date:	Aug		Total:	100 marks
Finish Date:	Dec		Session Duration:	60 minutes
No of sessions/ week:	4		Instructor:	Dr. Bushra S. P. Singh
Session	Topic	Teaching Methodology	Other Modes	Reference
1	Introduction to the Course	Power Point & Discussion		
Unit I: Political and Economic Environment in India	2 Business Environment: Meaning, Types: Internal Environment;	Power Point & Discussion	Video: Overview of Business Environment: Vidyamitra (Source: https://www.youtube.com/watch?v=lp_Otcdlnmk&list=PL_a1T15CC9RG-ouQ3LXCfBE32gOeacChI&index=6)	R1, R2, R3
	3 External Environment; Micro and Macro Environment,	Power Point & Discussion		R1, R2, R3
	4 Components of Business Environment	Power Point & Discussion		R1, R2, R3
	5 Political Environment: Three political institutions: Legislature, Executive and Judiciary	Power Point & Discussion	Video: Political Environment: IIT Roorkee: Vidyamitra (Source: https://www.youtube.com/watch?v=buW5bY7WTgs&list=PLLy_2iUCG87AV6gOQI5-GtZJlLoCBGHb&index=18)	R1, R2, R3
	6 Fundamental rights, Directive Principles	Power Point & Discussion	Video: Fundamental rights: Vidyamitra (Source: https://www.youtube.com/watch?v=vqFuq1osXaM) Video: Relationship between Fundamental rights and DPSP (Source: https://www.youtube.com/watch?v=3g-GRu3e7WU)	R1, R2, R3
	7 Rationale and extent of state intervention	Power Point & Discussion		R1, R2, R3
	8 Economic Environment: Concept, features of various economic systems	Power Point & Discussion	Video: Economic Environment: Vidyamitra (Source: https://www.youtube.com/watch?v=mGoxPpcT7v4)	R1, R2, R3
	9 New Industrial policy and industrial licensing, new economic policies	Power Point & Discussion	Video: Industrial Policy: Vidyamitra (Source: https://www.youtube.com/watch?v=Mozp7La4QrU&t=1s)	R1, R2, R3
	10 Aspects of economic reforms and their effects on business and emerging economies	Power Point & Discussion	Video: Economic Reforms: Vidyamitra (Source: https://www.youtube.com/watch?v=cMHSqPlfvkE&list=PL_a1T15CC9RHpr7eDDGHESz_s7ext2UIGS&index=9)	R1, R2, R3
	11 Effect of recession on Business and remedies for that	Power Point & Discussion		R1, R2, R3
	12 Economic Planning in India: Objectives	Power Point & Discussion	Video: Economic Planning in India (Source: https://www.youtube.com/watch?v=sWLUuu8yNA&list=PL_a1T15CC9RG-ouQ3LXCfBE32gOeacChI&index=13)	R1, R2, R3
	13 Strategies and Evaluation of current five-year plan,	Power Point & Discussion		R1, R2, R3
	14 Monetary and Fiscal Policy	Power Point & Discussion	Video: Monetary and Fiscal Policy (Source: https://www.youtube.com/watch?v=qHEmc7Mpqug)	R1, R2, R3
	15 Quiz and Case Study 1	Power Point & Discussion	Case: A Big Push Decision, R3	R1, R2, R3
Assignment - 1				
Unit II: Legal, Ecological Environment in India, Public Sector and Consumerism in India			Video: Legal Environment: IIT Roorkee (Source: https://www.youtube.com/watch?v=_m00-FfDnfs&list=PLLy_2iUCG87AV6gOQI5-)	R1, R2, R3
16	Legal Environment: Company Regulatory Legislations in India	Power Point & Discussion		

			GIZJfLoCBGHb&index=20)	
17	FEMA, EXIM policy	Power Point & Discussion	Video: FEMA: Vidyamitra (Source: https://www.youtube.com/watch?v=k-XwjPZQgw)	R1, R2, R3
18	Competition Law	Power Point & Discussion	Video: Competition Law: Vidyamitra (Source: https://www.youtube.com/watch?v=W5Hnn81ROHI)	R1, R2, R3
19	Right to Information Act 2005.	Power Point & Discussion	Video: RTI Act 2005: IIT Roorkee (Source: https://www.youtube.com/watch?v=_m00-FfDnfs&list=PLLy_2iUCG87AV6gOQI5-GIZJfLoCBGHb&index=20)	R1, R2, R3
20	Public Sector in India: Concepts, Philosophy and Objectives	Power Point & Discussion	Video: Public Sector in India: Vidyamitra (Source: https://www.youtube.com/watch?v=aybn7lHx7qs)	R1, R2, R3
21	Performance, Problems and Constraints	Power Point & Discussion		R1, R2, R3
22	Disinvestment and Privatisation	Power Point & Discussion	Video: Liberalisation, Privatisation, Disinvestment: Vidyamitra (Source: https://www.youtube.com/watch?v=5luNdmeP79I)	R1, R2, R3
23	Joint sector and Cooperative sector in India	Power Point & Discussion		R1, R2, R3
24	Deficit Financing and its implications for the Indian Economy	Power Point & Discussion	Video: Deficit Financing: Vidyamitra (Source: https://www.youtube.com/watch?v=M5WPrbJVas8)	R1, R2, R3
25	Analysis of current year Annual Budget	Power Point & Discussion	Video: Union Budget 2024: Doordarshan (Source: https://www.youtube.com/watch?v=Nz6uDZT-REs)	R1, R2, R3
26	Consumerism: Role of Consumer Groups with Special Reference to India	Power Point & Discussion	Video: Consumerism in India: Vidyamitra (Source: https://www.youtube.com/watch?v=eDz-0GSbJU8)	R1, R2, R3
27	Consumer Protection Act, 1986 with Latest Amendments	Power Point & Discussion	Video: Consumer Protection Act, 1986 (Source: https://www.youtube.com/watch?v=ufn3s1kfKy0)	R1, R2, R3
28	Ecological Environment: Concepts of Green Management	Power Point & Discussion		R1, R2, R3
29	Global Warming, Carbon Foot Printing	Power Point & Discussion		R1, R2, R3
30	The Environment Protection Act 1986	Power Point & Discussion	Video: Environment Protection Act (Source: https://www.youtube.com/watch?v=EDmtawhADnY)	R1, R2, R3
31	Quiz and Case Study 2	Power Point & Discussion	Case: RBI Slapped Rs. 125 Crore on Reliance Infrastructure: A Case Study on FEMA, R3	R1, R2, R3
MST - 1				
Unit III: Technological, International Environment in India and Introduction to Indian Economy 32			Video: Technological Environment: Vidyamitra (Source: https://www.youtube.com/watch?v=gMJ_KRvNTja&list=PL_a1T15CC9RG-ouQ3LXCfBE32gOeacChl)	R1, R2, R3
33	Technological Policy, Intellectual Property Rights	Power Point & Discussion		R1, R2, R3
34	Appropriate Technology, Problems in Technology Transfer	Power Point & Discussion	Video: Technology Transfer: IIT Roorkee (Source: https://www.youtube.com/watch?v=VJB3uUCB9Ok&list=PLLy_2iUCG87AV6gOQI5-GIZJfLoCBGHb&index=25)	R1, R2, R3
35	International Environment: Emergence of Globalisation, Control of Foreign Direct Investment	Power Point & Discussion	Video: Globalisation and its impact on India: Vidyamitra (Source: https://www.youtube.com/watch?v=ss2DQ2Gax54&list=PL_a1T15CC9RG-ouQ3LXCfBE32gOeacChl&index=14)	R1, R2, R3
36	Benefits and Problems from MNCs. WTO, its role and functions, Implications for India	Power Point & Discussion	Video: WTO: IIT Roorkee (Source: https://www.youtube.com/watch?v=AOng_0C2g6M&list=PLLy_2iUCG87AV6gOQI5-GIZJfLoCBGHb&index=45)	R1, R2, R3
37	Trading Blocks, Foreign Trade: SEZ (Special Economic Zones)	Power Point & Discussion	Video: Special Economic Zones: Vidyamitra (Source: https://www.youtube.com/watch?v=fv5TGrS0Yeg)	R1, R2, R3

Unit IV: Unemployment and Development Trends in India 44	38	EPZ (Export processing zone), EOU (Export Oriented Units), Dumping and Anti-Dumping measures.	Power Point & Discussion		R1, R2, R3
	39	Introduction to Indian Economy: Colonialism and Development of Indian Economy	Power Point & Discussion		R4, R5
	40	Framework of Indian Economy	Power Point & Discussion		R4, R5
	41	Demographic Features and Indicators of Economic Growth and Development	Power Point & Discussion	Video: Demographic Features (Source: https://www.youtube.com/watch?v=gU9q7vJ-wb0&list=PL_a1T15CC9RERUQ2kwBP6mJQKeXslMuBS&index=12)	R4, R5
	42	Rural-Urban Migration and issues related to Urbanization	Power Point & Discussion		R4, R5
	43	Poverty debate and Inequality, Nature, Policy and Implications.	Power Point & Discussion	Video: Poverty: Vidyamitra (Source: https://www.youtube.com/watch?v=JVIX8OISI-k&list=PL_a1T15CC9RERUQ2kwBP6mJQKeXslMuBS&index=4)	R4, R5
	44	Quiz and Case study 3	Power Point & Discussion	Case: Technology and Innovation at Asian Paints, R3	R3, R4, R5
	Assignment - 2				
		Unemployment-Nature, Central and State Government's policies, policy implications	Power Point & Discussion	Video: Unemployment Trends in India: Vidyamitra (Source: https://www.youtube.com/watch?v=JwPVV45lf2M&list=PL_a1T15CC9RERUQ2kwBP6mJQKeXslMuBS&index=6)	R4, R5
	45	Employment trends in Organized and Unorganized Sector	Power Point & Discussion		R4, R5
	46	Development Strategies in India: Agricultural- Pricing, Marketing and Financing of Primary Sector	Power Point & Discussion		R4, R5
	47	Changing structure of India's Foreign Trade	Power Point & Discussion	Video: India's Foreign Trade: Vidyamitra (Source: https://www.youtube.com/watch?v=qK-6DEJ-A6A&list=PL_a1T15CC9RHpR7eDDGHESzs7ext2UIGS&index=31)	R4, R5
	48	The Economic Policy and Infrastructure Development: Energy and Transport	Power Point & Discussion	Video: Infrastructure Development: Vidyamitra (Source: https://www.youtube.com/watch?v=YwQYx4jCpzc)	R4, R5
	49	Social Infrastructure- Education, Health and Gender related issues	Power Point & Discussion	Video: Social Infrastructure: IIT Roorkee (Source: https://www.youtube.com/watch?v=4iw3KNmdYhM&list=PL_a1T15CC9RERUQ2kwBP6mJQKeXslMuBS&index=42)	R4, R5
	50	Social Inclusion, Issues and policies in Financing Infrastructure Development	Power Point & Discussion		R4, R5
	51	Case, Quiz and Practice Exercises	Power Point & Discussion	Case: Unemployment, Job Aspiration and Migration: A Case Study of Tangkhul Migrants to Delhi, R3	R3
MST - 2					
References					
	Code	Book	Authors	Publisher	Edition/ISBN
	R1	K. Aswathappa	Essentials of Business Environment	Himalaya Publishing House	Latest
	R2	Justin Paul	Business Environment: Text and Cases	Tata McGraw Hill	Latest
	R3	Vivek Mittal	Business Environment	Excel Books	Latest
	R4	Ramesh Singh	Indian Economy	Tata McGraw Hill	Latest
	R5	Indian Economy & Indian Financial System	Indian Institute of Banking & Finance	MacMillan Publication	2024

Case Study Planning and Execution

Date of Execution	Key Topic Covered	Name of the Case
14 th September 2024	Political Environment	A Big Push Decision
4 th October 2024	Public Sector Banks	RBI Slapped Rs. 125 Crore on Reliance Infrastructure: A Case Study on FEMA
23 rd October 2024	Technological Environment	Technology and Innovation at Asian Paints
1 st November 2024	Unemployment and Migration	Unemployment, Job Aspiration and Migration: A Case Study of Tangkhul Migrants to Delhi

Assignment Schedule

Assignment No.	Date of Allotment	Last date of Submission	Content of Assignment
I (Covering Units 1 and 2)	02.09.2024	09.09.2024	Students were tasked with selecting an industry of their choice and conducting a comprehensive industry analysis.
II (Covering Units 3 and 4)	07.10.2024	14.10.2024	Students were required to provide answers to questions covering important topics of units 3 and 4.



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Mid-Semester Test I



F-05

MST I
MBA I Semester
Business Environment and Indian Economy (MBA-105-18)

Time Allowed: 2 hrs.
Maximum Marks: 40
Date: 23-Sep-24(M)

Please note the following:

1. Section A – There are 5 questions. Attempt any 4 questions out of 5. Each question carries 4 marks.
2. Section B – There are two sets of two questions each. Attempt one question only from each set. Each question carries 8 marks.
3. Section C – Case Study with one question is compulsory and carries 8 marks.

Section A [Short Answers]

(4 X 4 marks = 16)

- Q.1 Define Business Environment.
- Q.2 Explain the Components of Micro Environment.
- Q.3 Explain the Structure of Executive in India.
- Q.4 Which article of the Indian Constitution is known as its 'heart and soul'? Why?
- Q.5 What were the key provisions of the 42nd Amendment to the Constitution?

Section B [Long Answers]

(2 X 8 marks = 16)

- Q.6 Explain the principles underlying the Directive Principles of State Policy (DPSP).

OR

- Q.7 Explain the Functions of Legislature in India
- Q.8 Explain the Functions of Judiciary in India.

OR

- Q.9 Describe and explain each article related to fundamental rights as outlined in the constitution.

Section C [Case Study is compulsory]

(8 <4+4> marks)

The Relocation of Tata Nano Plant from Singur to Sanand

Q. 10

In 2008, Tata Motors, an Indian multinational automotive manufacturer, announced its plan to produce the Tata Nano, which was billed as the world's most affordable car. The Nano project aimed to revolutionize the automotive industry by providing an inexpensive vehicle for the masses. Initially, Tata Motors chose Singur in West Bengal as the location for its manufacturing plant. However, the project faced significant challenges that led to its relocation to Sanand in Gujarat.

The Singur project encountered intense local opposition from farmers and political groups who were dissatisfied with the land acquisition process. The land on which the plant was being developed was originally agricultural land, and the displacement of local farmers led to widespread protests and legal disputes. This opposition resulted in significant delays and increased costs, which impacted Tata Motors' ability to stay on schedule and within budget.

Additionally, the political climate in West Bengal further complicated matters. The state government, led by the Left Front, faced criticism and unrest over its handling of the project, which strained Tata Motors' relationship with local authorities. The instability and negative public sentiment in Singur created an unpredictable and challenging business environment.

Given these issues, Tata Motors assessed alternative locations and found Gujarat to be a more favorable environment. Gujarat, under the leadership of Chief Minister Narendra Modi, was actively promoting industrialization and offering various incentives to attract businesses. The state provided a more stable and supportive environment for setting up the new plant, with fewer political and social hurdles.

The relocation of the Nano plant to Gujarat allowed Tata Motors to mitigate the risks and challenges faced in Singur. It also provided an opportunity to streamline operations and implement advanced manufacturing processes in a more conducive environment.

Answer the following questions:

1. Assess how the local opposition and political environment in Singur influenced Tata Motors' decision to relocate the Nano plant to Sanand. What were the primary factors that led to this decision?
2. Evaluate the advantages and challenges Tata Motors encountered in moving the plant to Gujarat. How did the macro environment in Gujarat compare to Singur in terms of supporting the Nano project?
3. Based on the case study, propose how Tata Motors could address similar challenges in future projects to avoid disruptions and ensure successful project implementation.

Mid-Semester Test II



F-05

MST II
MBA I Semester
Business Environment and Indian Economy (MBA-105-18)

Time Allowed: 2 hrs.
Maximum Marks: 40
Date: 23-Sep-24(M)

Please note the following:

1. Section A – There are 5 questions. Attempt any 4 questions out of 5. Each question carries 4 marks.
2. Section B – There are two sets of two questions each. Attempt one question only from each set. Each question carries 8 marks.
3. Section C – Case Study with one question is compulsory and carries 8 marks.

Section A [Short Answers]

(4 X 4 marks = 16)

- Q.1 Describe briefly Social Infrastructure
- Q.2 EXIM Policy
- Q.3 Differentiate between organized and unorganized structure.
- Q.4 What is deficit financing?
- Q.5 What is meant by Special Economic Zones?

Section B [Long Answers]

(2 X 8 marks = 16)

- Q.6 Discuss briefly Consumer Protection Act.

OR

- Q.7 Discuss the Agricultural Price Policy in India
- Q.8 Discuss the major causes of unemployment in India.

OR

- Q.9 Explain the problems and constraints of Public Sector in India.

Section C [Case Study is compulsory]**(8 <4+4> marks)****Reliance Jio – Marching towards Monopoly****Q. 10**

The case is about the growing dominance of Indian telecommunications company Reliance Jio Infocom Limited (Jio) in the Indian telecom sector. Jio entered the Indian market in 2016 with a host of freebies, including unlimited calling and data plans. Its entry revolutionized the telecommunication sector across the country. Its aggressive and innovative tariff plans helped Jio become the fourth-largest telecom provider in India within six months of its launch. Even after the freebie period ended on March 31, 2017, Jio continued to offer the cheapest data plans as compared to its rivals. This helped it maintain its competitive edge in the market. Jio's dominance continued, and it soon surpassed other major players in the market. Jio's rise led to consolidation in the market, with two of the top players, Idea and Vodafone, announcing a merger that left the country with three major telecom players. Jio's continuous strong run changed the dynamics of the Indian telecom industry, with experts opining that it would soon monopolize India's telecom sector. The competitors who were experiencing shrinking revenues, mounting quarterly losses, and high debt were taken aback when in October 2019, the Supreme Court of India gave a ruling directing Airtel and Vodafone Idea to pay dues amounting to Rs. 410 billion and Rs.400 billion respectively toward licensing fees and spectrum charges. Given the financial condition of these companies, they would find it difficult to pay the dues. These companies were desperately looking to the government for some relief measures that would enable them to stay on in the market. The competitors' problems gave Jio ample time to execute its plans and consolidate its position at their cost. Jio's cheap pricing seemed attractive in the short run, but given the firm's investment in network coverage, quality, and technology, it was doubtful whether it could continue to offer low prices in the long run.

Questions:

1. Discuss the economic implications of Jio's dominance in the telecom market.
2. Analyze how government economic policies regarding telecom infrastructure might influence Jio's future operations and growth

Previous End-Semester Test Question Paper

Roll No.

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Total No. of Pages : 03

Total No. of Questions : 10

MBA/ MBA(IB) (Sem.-1)

BUSINESS ENVIRONMENT AND INDIAN ECONOMY

Subject Code : MBA-105-18

M.Code : 75406

Date of Examination : 21-06-2024

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A contains EIGHT questions carrying TWO marks each and students has to attempt ALL questions.
2. SECTION-B consists of FOUR Subsections : Units-I, II, III & IV. Each Subsection contains TWO questions each carrying EIGHT marks each and student has to attempt any ONE question from each Subsection.
3. SECTION-C is COMPULSORY and consist of ONE Case Study carrying TWELVE marks.

SECTION-A

1. Answer the following :

- a. "*Economic conditions affect business*". Do you agree?
- b. Fundamental Rights.
- c. Any two objectives of EXIM Policy.
- d. Consumerism.
- e. Intellectual Property Rights.
- f. Indicators of Economic Growth and Development.
- g. Aatmanirbhar Bharat Rojgar Yojana (ABRY).
- h. Agricultural Pricing.

SECTION-B

UNIT-I

2. What do you mean by Business Environment? Describe the importance of Business Environment for the business firm.
3. What do you mean by Monetary Policy? Discuss its objectives and its instruments.

UNIT-II

4. What parameters are applied by the Competition Commission of India to determine if the proposed combination is likely to have appreciable adverse effect on competition in relevant market in India?
5. Discuss in detail the role of public sector enterprises in the economic development of India. Examine briefly various problems faced by Indian Public Sector Enterprises in the recent past.

UNIT-III

6. What are the various types of MNC (Multi National Corporation)? Discuss in detail the benefits of MNCs to the host country.
7. What do you mean by technological environment? Discuss various problems related to technology transfer. What according to you should be done to remove these problems?

UNIT-IV

8. Explain in detail various schemes framed by Government to reduce unemployment in our country.
9. Write detailed note on :
 - a. Social Infrastructure.
 - b. Social Inclusion.

SECTION-C

10. Solve the following case:

Reliance Consultancy Services (RCF) is in the information technology sector. It is currently facing a shortage of skilled man power and is fuelling a hike in employee salaries, which have been posting a 20%-40% growth during the last couple of years. While there is an abundance of trainable human resources, a dearth in skilled manpower is being felt across the industry and this has resulted in a hike in salaries.

Typically, salary jumps happen not only in the conventional manner of being promoted but also because of professionals changing jobs more frequently. The increase in salaries varies from job to job and ranks highest in the IT sector where employees get a hike of over 40% when they join a new establishment. There is no dearth in entry-level human resources as there is a large supply, but a severe shortage is felt in the middle-level positions.

According to Mr. Jugnu, CEO of Reliance Consultancy Services (RCF), many new captive and third party off-shore facilities being set up in the country have led to a competition for skilled human resources that are already scarce. This is also leading to an ever-widening demand-supply gap and raise in the average salary level for all positions, apart from pushing up attrition in existing facilities, he said.

There is new trend of employees moving to multinational companies abroad for higher salaries and global experience. The salary package and working environment is far better than India in countries like USA. Then returning to India with global experience makes for a higher pay and position. This is also one reason for the shortage of skilled man power and hike in employee salaries in the IT sector.

Question:

- a. What problems is Reliance Consultancy Services (RCF) is facing? Suggest some remedies for its problems.
- b. Do you support Globalization?

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.

Assignment I

Overview:

For Assignment 1, students are required to select an industry of their choice and perform a detailed analysis covering the specified aspects below. This is an individual, hand-written assignment.

Assignment Requirements:

1. **Competitors:** Identify and list the key competitors within the chosen industry.
2. **Products:** Describe the major products or services offered in the industry.
3. **Market Share:** Provide an overview of the market share held by different companies in the industry.
4. **SWOT Analysis:** Conduct a SWOT analysis, identifying the Strengths, Weaknesses, Opportunities, and Threats for the industry.
5. **QUEST Analysis:** Perform a QUEST analysis to explore the strategic options available for the industry.
6. **News Clippings:** Attach relevant news clippings or industry reports to support your analysis.

Submission Guidelines:

- **Deadline:** All submissions must be completed by **September 16**.
- **Format:** The assignment must be hand-written and submitted in a clear and legible format.
- **References:** Ensure your analysis is backed by credible sources, and cite any references where applicable.

Evaluation Criteria:

- Completeness and accuracy of the analysis.
- Relevance and quality of the attached news clippings.
- Presentation and clarity of hand-written work.

Failure to adhere to these instructions may result in deductions in marks. For any questions or clarification, please contact the class in charge.

Assignment II

Instructions:

1. Choose one topic from the list below.
2. Write a detailed analysis (1500-2000 words) covering the required points.
3. Your submission must be properly formatted (12pt font, double-spaced) and include relevant references.
4. The deadline for submission is 14th October 2024.

Questions:

1. Discuss how technological advancements have transformed business operations in recent years.
2. Provide real-life examples of companies leveraging technology for competitive advantage.
3. Examine how trading blocks (e.g., SAARC, ASEAN) have influenced India's foreign trade.
4. Provide policy recommendations for sustainable urban development.
5. Explain the purpose of SEZs and EPZs in boosting trade.
6. Examine the role of education, health, and gender-related policies in socio-economic development.
7. Analyze gaps in the existing infrastructure and suggest improvements.
8. Provide examples of successful initiatives in social inclusion.

Evaluation Criteria:

- Clarity of concepts (25%)
- Depth of analysis (25%)
- Use of examples and references (20%)
- Structure and presentation (15%)
- Originality and creativity (15%)

Sample Question Bank

Course & Branch: MBA	Semester: 1
Subject: Business Environment and Indian Economy	Subject Code: MBA 105-18
No. of Students: 52	Regular/ Reappear: Regular

Short Answer Type Questions

Sr. No	Identify CO	Question location/ Topic	Question
1	CO1	Unit -1	Define the term "business environment."
2	CO1	Unit -1	List any three components of the micro environment.
3	CO1	Unit -1	What is meant by "economic reforms"?
4	CO1	Unit -1	How does a recession impact business?
5	CO1	Unit -1	Define "Fundamental Rights" in the Indian Constitution.
6	CO1	Unit -2	Define the term "legal environment" and explain its significance for businesses in India.
7	CO1	Unit -2	List any two provisions of the Right to Information Act, 2005.
8	CO2	Unit -2	What are the key objectives of public sector enterprises in India?
9	CO1	Unit-2	Write a short note on carbon foot printing.
10	CO4	Unit-3	What is globalization?
11	CO4	Unit-3	Define technology transfer.
12	CO2	Unit-3	What are dumping and anti-dumping measures?
13	CO3	Unit-4	Define unemployment.
14	CO3	Unit-4	Define social infrastructure with examples.
15	CO3	Unit-4	What is the primary aim of energy infrastructure in India?
16	CO3	Unit-4	List two challenges in financing infrastructure development in India.

Long Answer Type Questions

Sr. No	Identify CO	Question Location / Topic	Question
1	CO1	Unit -1 Average	Explain the difference between internal and external business environments with examples.
2	CO1	Unit -1 Average	Explain the functions of the Legislature, Executive, and Judiciary in India.
3	CO1	Unit -1 Average	Explain any two remedies for a business to overcome a recession.
4	CO1	Unit -1 Average	What are Directive Principles of State Policy, and how do they

			influence business decisions?
5	CO1	Unit -1 Difficult	Evaluate the role of the Directive Principles in promoting social and economic equality.
6	CO1	Unit -1 Difficult	Discuss how the three political institutions work together and their combined impact on the business environment.
7	CO1	Unit -1 Difficult	How do economic reforms in emerging economies differ from those in developed nations? Provide examples.
8	CO1	Unit -1 Difficult	Discuss the long-term effects of a global recession on the Indian economy and suggest possible remedies.
9	CO2	Unit -2 Average	Explain the role and importance of company regulatory legislations in India.
10	CO2	Unit -2 Average	Discuss the concept and benefits of green management.
11	CO2	Unit -2 Average	Discuss the amendments made to the Consumer Protection Act, 1986, and their implications.
12	CO2	Unit -2 Average	Highlight the implications of deficit financing on the Indian economy.
13	CO2	Unit -2 Difficult	Critically evaluate the effectiveness of FEMA in managing foreign exchange in India.
14	CO1	Unit -2 Difficult	Analyze the significance of the EXIM policy in boosting India's foreign trade.
15	CO5	Unit -2 Difficult	Critically assess the role of the Right to Information Act, 2005, in promoting transparency in governance.
16	CO1	Unit -2 Difficult	Assess the relevance of the Consumer Protection Act, 1986, in the context of contemporary consumerism in India.
17	CO5	Unit -3 Average	Describe the functions of the World Trade Organization (WTO).
18	CO4	Unit -3 Average	Discuss the benefits and challenges posed by MNCs to host countries.
19	CO4	Unit -3 Average	Describe the functions of the World Trade Organization (WTO).
20	CO4	Unit -3 Average	Explain the framework of the Indian economy with suitable examples.
21	CO4	Unit -3 Difficult	Compare and contrast SEZs, EPZs, and EOUs in the context of India's foreign trade policy.
22	CO4	Unit -3 Difficult	Discuss the emergence of trading blocks and their impact on global trade with examples.
23	CO4	Unit -3 Difficult	How does FDI control influence the economic development of a country? Illustrate with Indian examples.
24	CO4	Unit -3 Difficult	Discuss the role and challenges of technological environment policies in enhancing industrial competitiveness.
25	CO3	Unit -4 Average	Explain the major employment trends in the organized sector in India.

26	CO3	Unit -4 Average	Highlight the role of transport infrastructure in economic growth.
27	CO3	Unit -4 Average	Explain the policy implications of State Government efforts in reducing unemployment.
28	CO3	Unit -4 Average	Discuss the impact of social infrastructure on education in India.
29	CO3	Unit -4 Difficult	Compare and contrast the employment trends in the organized and unorganized sectors of India.
30	CO3	Unit -4 Difficult	How has the changing structure of India's foreign trade affected its global economic standing? Provide examples.
31	CO3	Unit -4 Difficult	Evaluate the role of energy and transport infrastructure in accelerating India's economic development.
32	CO3	Unit -4 Difficult	Evaluate the effectiveness of agricultural policies in addressing the challenges faced by farmers in India.



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Topics on Advances in the subject covered by Faculty in the class

1. Emerging Trends in Globalization and their impact on Indian Businesses
2. Sector-wise evaluation of Make in India and Atmanirbhar Bharat initiatives.
3. Comparison of capitalist, socialist, and mixed economies, with a focus on India's unique economic framework.
4. Case studies on Indian companies adopting sustainable practices and contributing to a green economy.
5. Role of AI, IoT, and blockchain in transforming the Indian business landscape.
6. Government initiatives like Digital India and Start-up India: challenges and opportunities.



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Analysis and Feedback of the Contents by Faculty

- The subject provides students with a strong foundation to understand how external factors like the economy, policies, and global trends impact business operations. It is particularly relevant in helping students analyze real-world business scenarios.
- Students find the topics on globalization, government policies, and economic systems very engaging, as these relate directly to current events and industry practices. Case studies and discussions further enhance their interest and understanding.
- The course equips students with tools like SWOT analysis and scenario planning, which they can apply in internships and future roles. The focus on India's economic policies also helps students connect theoretical concepts with practical situations.
- Some students initially struggle with understanding macroeconomic concepts and their implications. Additional resources and simplified examples have been provided to address this issue.
- More interactive sessions, such as group discussions on contemporary issues, could further improve engagement.
- Incorporating guest lectures by industry experts would help students gain practical insights into the business environment.

Identification of Slow Performer and Advanced Learner

MST I Marksheet

S.No.	Roll No.	MST I Marks (MM: 40)
1	2429646	20
2	2429647	20
3	2429649	14
4	2429650	17
5	2429651	15
6	2429652	21
7	2429653	25
8	2429654	21
9	2429655	24
10	2429656	18
11	2429657	24
12	2429658	19
13	2429659	18
14	2429660	22
15	2429661	18
16	2429662	12
17	2429663	21
18	2429664	24
19	2429665	25
20	2429666	27
21	2429667	26
22	2429668	30
23	2429669	30
24	2429670	23
25	2429671	24
26	2429672	28
27	2429673	30
28	2429674	19
29	2429675	18
30	2429676	25

S.No.	Roll No.	MST I Marks (MM: 40)
31	2429677	13
32	2429678	21
33	2429679	25
34	2429680	24
35	2429681	16
36	2429682	absent
37	2429683	11
38	2429684	absent
39	2429685	13
40	2429686	21
41	2429687	14
42	2429688	23
43	2429689	20
44	2429690	34
45	2429691	12
46	2429692	26
47	2429693	11
48	2429694	15
49	2429695	26
50	2429696	19
51	2429697	36
52	2429698	30

Advanced Learners (Scored above 70%)

1. 2429668
2. 2429669
3. 2429673
4. 2429690
5. 2429697
6. 2429698

Slow Performers (Scored below 40%)

1. 2429649
2. 2429651
3. 2429662
4. 2429677
5. 2429683
6. 2429685
7. 2429687
8. 2429691
9. 2429693
10. 2429694



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Remedial Actions for Slow Performers

- Extra classes and one-on-one doubt-clearing sessions were held to address specific challenges faced by students and to reinforce difficult concepts effectively.
- Concise notes, topic summaries, and simplified explanations were shared with students to help them understand complex topics more easily.
- The progress of slow performers was tracked through weekly assessments, and constructive feedback was provided to guide their improvement.
- Group discussions were encouraged, and study buddies were assigned to foster collaborative learning and peer support among students.
- Real-life examples and relevant case studies were incorporated into lessons to make theoretical concepts easier to comprehend and more relatable for students.



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Review of Slow Performers progress after MST II

Compiled Internal Assessment Marksheet

S.No.	Roll No.	Internal Assessment (MM: 40)
1	2429646	32
2	2429647	35
3	2429649	32
4	2429650	31
5	2429651	33
6	2429652	31
7	2429653	33
8	2429654	34
9	2429655	36
10	2429656	31
11	2429657	32
12	2429658	33
13	2429659	33
14	2429660	31
15	2429661	38
16	2429662	25
17	2429663	34
18	2429664	33
19	2429665	36
20	2429666	31
21	2429667	36
22	2429668	38
23	2429669	36
24	2429670	34
25	2429671	38
26	2429672	36
27	2429673	33

S.No.	Roll No.	Internal Assessment (MM: 40)
28	2429674	33
29	2429675	33
30	2429676	37
31	2429677	24
32	2429678	33
33	2429679	36
34	2429680	32
35	2429681	34
36	2429682	33
37	2429683	32
38	2429684	26
39	2429685	21
40	2429686	26
41	2429687	32
42	2429688	33
43	2429689	34
44	2429690	36
45	2429691	25
46	2429692	33
47	2429693	25
48	2429694	33
49	2429695	34
50	2429696	36
51	2429697	39
52	2429698	36

- All slow performers improved their performance and achieved over 40% after compiling marks from both mid-semester tests, both assignments, and attendance.

Evaluation of CO-PO Attainment

Attainment Levels

Level	Percentage of Students scoring above 60%	Interpretation
Level 3	$\geq 60\%$	High
Level 2	50-60%	Medium
Level 1	40-50%	Low
No Level	$< 40\%$	Very Low

Assessment Components

Component	Weightage
Mid-Semester Test I	12%
Mid-Semester Test II	12%
Assignment I	5%
Assignment II	5%
Attendance	6%

Analysis and Interpretation

Total Students	52
Students Scoring >60%	50
Percentage Scoring above 60%	96%
Attainment Level	Level 3
Interpretation	High

Remarks: This indicates that the majority of students have demonstrated adequate knowledge and skills, which directly contribute to their overall PO attainment. Additional support and targeted interventions may be required for the students who scored below 60%.

Best Practices adopted by Faculty

1. Real-world examples and case studies were integrated into lectures to enhance understanding of complex concepts and their practical applications.
2. Interactive teaching methods, such as role-playing and group discussions, were employed to engage students and encourage active participation.
3. Regular quizzes and assignments were conducted to assess understanding and reinforce learning throughout the course.
4. Customized learning resources, including handouts, infographics, and videos, were provided.
5. Feedback from students was regularly sought and incorporated to improve teaching methods and ensure relevance to their learning needs.

