BIRLA INSTITUTE OF TECHNOLOGY MESRA, RANCHI

SYLLABI FOR

BACHELOR OF SCIENCE (BUSINESS ANALYTICS)

As per NEP-2020

w.e.f. Academic Year2025-26

Department of Management
Birla Institute of Technology, Mesra
Ranchi- 835215 (India)

Institute Vision

To become a globally recognized academic institution in consonance with the social, economic and ecological environment, striving continuously for excellence in education, research and technological service to the national needs.

Institute Mission

- To educate students at Undergraduate, Post Graduate, Doctoral and Post Doctoral levels to perform challenging engineering and managerial jobs in industry
- To provide excellent research and development facilities to take up Ph.D. programmes and research projects
- To develop effective teaching and learning skills and state-of-the-art research potential of the faculty
- To build national capabilities in technology, education and research in emerging areas
- To provide excellent technological services to satisfy the requirements of the industry and overall academic needs of society

Department Vision

To be recognized as a front runner in Management education in the country in consonance with the social, economic, and ecological environment while striving to contribute to nation-building through excellence in research and development activities

Department Mission

- To educate students at Under Graduate, Post Graduate and Doctoral level to perform better in challenging managerial jobs in the industry as a leader and achieve excellence as Entrepreneurs and Researchers.
- To provide excellent research and development facilities for faculty and students to undertake path breaking theoretical and applied research.
- To build national capabilities in management education and research in emerging areas.
- To uphold the values of Personal Integrity and Social Responsibility in all our decisions.

Program Educational Objectives (PEO)

- Utilize data-driven decision-making, analytical models, and business intelligence tools to solve real-world business problems.
- Exhibit strong technical and managerial skills in analytics, enabling them to succeed in roles across diverse industries such as finance, marketing, operations, and consulting.
- Engage in continuous learning through professional development, certifications, or advanced studies in business analytics, data science, or related fields.
- Apply ethical principles and consider the social impact of data-driven decisions in a global and multicultural business environment.
- Work efficiently in teams and communicate analytical insights clearly to both technical and non-technical stakeholders.

Program Outcomes (PO)

On successfully completing the program a graduate shall be able to:

A. Apply Business Analytics concepts to analyze complex issues pertaining to contemporary organizations.
B. Identify business problems, create data models, and solve them using data analytical techniques.
C. Interpret data analysis results and formulate appropriate recommendations for managerial decision-making.
D. Develop effective solutions to business problems using data analytics.

SEMESTER- I [Monsoon]

[TOTAL CREDITS - 20.5]

HS24131 Communication Skills - I

COURSE INFORMATION SHEET

Course code: HS24131
Course title: Communication Skills - I
Nature of course: Sessional
Pre-requisite(s): NIL
Co-requisite(s): NIL
Credits: 1.5
L:0 T: 0 P:3
Class schedule per week: 03
Class: B.Sc. (Business Analytics)
Semester/Level: I/ 1
Branch: Business Analytics
Name of Teacher:

COURSE OBJECTIVES

This course enables the students to:

1	Develop Language Proficiency and communicative competence: Improve students' ability to read, write, speak, and listen effectively in English. In addition, students will also learn and improve politeness strategies in communicative contexts.
2	Enhance Verbal and Non-Verbal Communication: Train students in both spoken and body language communication for personal and professional interactions.
3	Enhance Reading Ability: Equip students with the ability to strategically comprehend and interpret visual and textual information.
4	Enhancing Writing Proficiency: Enable students to write structured reports, emails, resumes, and other professional documents.
5	Developing Presentation and Public Speaking Skills: Gain self-assurance when giving talks, presentations, and speeches.

COURSE OUTCOMES

After the completion of this course, students will be able to:

CO1	In a variety of pragmatic and communicative contexts, students will be able to confidently and fluently articulate their ideas.
CO2	This will enable learners to accurately interpret messages for effective interaction by comprehending audio texts and listening selectively.
CO3	Learners will be able to examine texts for particular and intricate details, draw inferences, and provide interpretations.
CO4	Learners will be capable of creating organized written pieces, including paragraphs, essays, and narratives, and will also be able to summarize, paraphrase, and create précis of ideas effectively.
CO5	Learners will be capable of confidently presenting speeches and delivering presentations by effectively utilizing both verbal and non-verbal communication in public situations.

SYLLABUS

Module 1

Theory
Principles of Fundamental Communication (6 Lectures)
Communication theory, various types and methods of communication, communication flow (upward, downward, and horizontal), characteristics of successful communication, obstacles, and approaches, verbal and non-verbal communication, and social context communication—requests, refusals, compliments, and providing constructive feedback.

Practice
Communication: Study relevant materials or case studies on effective communication, obstacles, strategies, and both verbal and non-verbal aspects. Understand and contextualize the influence of culture and society on communication in both writing and speaking.
Role plays: Engage in scenario-based questions focusing on communication, body language, and courtesy.
Dialogue writing: Presenting viewpoints based on various situations or scenarios—including requests, refusals, compliments, and criticism—in both writing and speaking.

Module 2
Theory
Communicating, Depicting, and Hearing: (6 Lectures)
Salutations, Presenting oneself/others, Descriptive communication for locations, objects, scenarios, challenges, etc. Proficient listening abilities and the various aspects of listening, including types such as intensive, responsive, selective, and extensive (a brief introduction to RP/Indian accent through audio and video examples).

Practice
Introducing people/Describing people: Introducing oneself as well as others (guest of honour, friend, etc.), Characterizing an individual, image, circumstance, Discussing traits

(positive/negative/critical) about a person, object, scenario, or image.
Listening skills: Engaging in attentive listening activities, Listening selectively to complete the blanks, Hearing a passage and rephrasing the precise information in your own words (listening comprehension), Listening to a discussion on a topic and responding critically. Attending informal workplace interactions and dialogues.

Module 3
Theory
Enhancing Vocabulary and Grammar (6 Lectures)
Lexicons, Affixes (Inflection/Derivation), Registrars, Idiomatic Expressions and Phrasal Verbs, vocabulary in context. Opposites, similar words, and one-word alternatives. Sentence constructions - Simple, compound, and complex, Expanded paragraphs (main idea, topic sentences), Generating ideas for paragraph composition.

Practice
Vocabulary Building: Students utilize specific vocabulary related to various registers to construct paragraphs, narratives, and more. Students incorporate phrasal verbs to create a coherent paragraph. Exercises involving antonyms, synonyms, and word substitution can be conducted using worksheets. Engage graphic organizers such as word associations and concept mapping for vocabulary enhancement activities. Identify suffixes, prefixes, idioms, and phrasal verbs: Analyze texts to find suffixes and prefixes along with their definitions. - Word association and spider diagrams can be utilized to uncover suffixes and prefixes.
Paragraph writing: -Generate ideas about a topic/concept/idea and prompt students to compose a detailed paragraph.

Module 4
Theory
Elements of Reading and Writing (6 Lectures)
Present the sub-skills involved in reading and writing, including the different types of reading such as close reading and intensive reading. Techniques like mind mapping and note-taking. Generating ideas through brainstorming, structuring thoughts, and creating coherent written pieces consisting of an introduction, body, and conclusion. Writing letters, summaries, précis, resumes, essays, narratives, biographies, and news articles.

Practice
Reading: Encourage students to distinguish between factual and inferential information from a text. Read a passage and create a mind map outlining the main and supporting ideas of the content. Read the text and take notes. Read and interpret the author's perspective. Read and conduct a critical analysis of the text. Read a passage and provide constructive feedback (speaking/writing modality)
Writing: Compose a summary, Write a précis, Create a resume, Develop an essay, Write a narrative account, whether personal or about others, - Produce a news column.

Module 5
Theory
Public speaking and presentation abilities (6 Lectures)
Public speaking and presentation techniques
Public speaking, objectives of a speech – to inform, entertain, persuade, or commemorate/celebrate. Methods of persuasion in speeches – ethos, logos, and pathos. Speech preparation – researching

background information, organizing content, crafting an introduction, developing main points, and concluding effectively. Showcasing structured speeches – welcome addresses, farewell remarks, expressions of gratitude (examples may be provided in written scripts, videos, or audio recordings). Presentation etiquette, verbal presentations, poster displays, and delivering speeches.

Practice
Public speaking: Deliver an opening speech (during the Annual day, General meeting, sports day, cultural events), Present a farewell address, Express gratitude through a vote of thanks, Make a persuasive speech (given a specific scenario), Engage in an extempore speech
Presentations:- Conduct a role play, Prepare a PowerPoint presentation, Create a poster presentation

TEXT BOOKS

Communication Skills (2015) 2nd edition, Sanjay Kumar & Pushp Lata, Oxford University Press
Business Correspondence and Report Writing (2017), R.C. Sharma, Krishna Mohan. McGraw Hill

REFERENCE BOOKS

Basic Business Communication-(2004). Lesikar I Flatley, McGraw Hill
Business Communication Today, (2017), Bovee, Thill and Chatterjee, Pearson
Krishnan, M, & Jha, S. (2024). *Focus: A course in Communication Skills*. Cambridge University Press
Suparna Dutta, 2013 Business Communication, PHI Learning Pvt Ltd, New Delhi

Gaps in the Syllabus (to meet Industry/ Profession requirements) POs met through Gaps in the Syllabus: Nil

Topics beyond the syllabus/ Advanced topics/ Design: Nil

POs met through Topics beyond the syllabus/ Advanced topics/ Design

Course Outcome (CO) Attainment Assessment Tools & Evaluation Procedure

DIRECT ASSESSMENT

Assessment Tool	% Contribution during CO Assessment
Continuous Internal Assessment	60
End Semester exams	40

Continuous Internal Assessment	Distribution
Day-to-day performance & assignments	30
Quiz 1	10
Viva- Voce	20

End Semester Examination	Distribution
Examination: Submission of reports	30
Viva- Voce	10

Indirect Assessment

Student Feedback on Faculty

Student Feedback on Course Outcome

Mapping between Course outcomes (CO) and Programme Outcomes (PO):

CO's	PO1	PO2	PO3	PO4
CO1	H	H	M	L
CO2	H	M	M	L
CO3	H	L	H	M
CO4	H	L	M	H
CO5	M	H	L	M

Grading: Low Correlation-L, Moderate Correlation-M, High Correlation-H

Mapping between COs and Course Delivery (CD) Methods

CD Code	Course Delivery Methods	Course Outcome	Course Delivery Method Used
CD1	Lecture by use of Boards/ LCD Projectors	CO1	CD2,CD3
CD2	Tutorials/Assignments	CO2	CD3,CD6,
CD3	Seminars	CO3	CD1,CD2
CD4	Mini Projects/Projects	CO4	CD3, CD6
CD5	Laboratory Experiments/Teaching Aids	CO5	CD2,CD3,CD6
CD6	Industrial/ Guest Lectures		
CD7	Industrial Visits/ In-plant Training		
CD8	Self-learning such as use of PTEL Materials and Internets		
CD9	Simulation		

MN25118 Introduction to Computing

COURSE INFORMATION SHEET
Course code: MN25118
Course title: Introduction to Computing
Nature of course: Lecture
Pre-requisite(s): NIL
Co- requisite(s): NIL
Credits: 3 L:3 T:0 P:0
Class schedule per week: 03
Class: B. Sc. (Business Analytics)
Semester / Level: I / 1
Branch: Business Analytics
Name of Teacher:

COURSE OBJECTIVES

This course enables the students:

1.	Understand the fundamental structure and functioning of computer systems, including hardware components, memory organization, and input/output units.
2.	Grasp the significance of programming languages and their role in problem-solving, along with an introduction to low-level and high-level programming paradigms.
3.	Develop a strong foundation in data representation and binary arithmetic, including conversions between number systems and performing arithmetic operations using binary and two's complement representations.
4.	Explore memory technologies and storage devices, understanding the memory hierarchy and the functioning of various primary and secondary storage media.
5.	Gain basic knowledge of computer networks and operating systems, including networking protocols, types of operating systems, and an introduction to UNIX/Linux environments.

COURSE OUTCOMES

After the completion of this course, students will be able to:

CO1	Describe the basic architecture, characteristics, and functional components of a computer system.
CO2	Demonstrate understanding of various programming language types and the role of compilers in translating high-level code.
CO3	Perform conversions between number systems and execute binary arithmetic operations including two's complement.
CO4	Identify and explain different types of memory devices and understand memory hierarchy and organization.
CO5	Explain the fundamentals of computer networks and the functioning of operating systems, including batch, multiprogramming, and UNIX/Linux systems.

SYLLABUS

Module 1: Computer Basics and Languages (6 lectures)
Basics of a Computer Systems, Basic Characteristics of Computers, Problem Solving. Why Programming Language Assembly Language, High- level Language, Compiling High level Language, Some High-level Languages.

Module 2: Data Representation (6 lectures)
Representation of Characters in Computers, Representation of Integers and Real in binary, Octal and Hexadecimal Representation of Numbers, Conversion between Different Number System

Module 3: Binary Arithmetic (8 lectures)
Binary Addition, Binary Subtraction, Signed Numbers, Two's Complement Representation of
Numbers, Addition/Subtraction of Numbers in 2's Complement Notation, Binary Multiplication, Binary Division. Computer Input/Output Unit: Description of Computer Input Units Other Input Methods, Computer Output Units.

Module 4: Memory (6 lectures)
Memory Cell Memory Organization Read-only Memory, Serial-access Memory Physical Devices Used to Construct Memory, Magnetic Hard Disk, Floppy Disk Drives, CD ROM, Magnetic Tape Drives. Memory hierarchy.

Module 5: Computer Networks and Operating Systems (8 lectures)
Need for Computer Communication Networks, Internet and World Wide Web, Communication Protocols, Local Area Networks. Operating Systems: Why We Need an OS, Batch OS, Multiprogramming OS, Time Sharing OS, Unix and Linux.

Text Books:
ITLESL Introduction to Computer Science, Pearson, New Delhi.
O'Brien & James Introduction to Information System, McGraw-Hill.

Reference Books:
Sinha, P.K. & Sinha, P. Computer Fundamentals BPB, New Delhi
Fundamental of Computers–By V. Rajaraman B.P.B. Publications
Fundamental of Computers–By P. K. Sinha

Gaps in the syllabus (to meet Industry/Profession requirements)
POs met through Gaps in the Syllabus Topics beyond syllabus/Advanced topics/Design POs met through Topics beyond syllabus/Advanced topics/Design

Course Delivery Methods
Lecture by use of boards/LCD projectors/OHP projectors
Tutorials/Assignments
Seminars
Mini projects/Projects
Laboratory experiments/teaching aids
Industrial/guest lectures
Industrial visits/in-plant training
Self-learning such as use of NPTEL materials and internets
Simulation

Course Outcome (CO) Attainment Assessment tools & Evaluation procedure
Direct Assessment

Assessment Tool	% Contribution during Assessment
End-Sem Examination Marks	50
Mid-Sem Examination Marks	25
Quiz(s)	20
Independent Teaching Assessment	5

Indirect Assessment–

1. Student Feedback on Faculty
2. Student Feedback on Course Outcome Mapping between Objectives and Outcomes

Mapping between Objectives and Outcomes

Mapping of Course Outcomes on to Program Outcomes

Course Outcome	Program Outcomes			
	A	**B**	**C**	**D**
CO1	H	L	M	L
CO2	L	H	H	M
CO3	H	L	M	L
CO4	H	H	L	M
CO5	L	L	H	H

CD	Course Delivery Methods	Course Outcome	Course Delivery Method
CD1	Lecture by use of boards/LCD projectors/OHP projectors	CO1	CD1
CD2	Tutorials/Assignments	CO2	CD1
CD3	Seminars	CO3	CD1, CD2,CD5
CD4	Mini projects/Projects	CO4	CD1, CD2, CD5
CD5	Laboratory experiments/teaching aids	CO5	CD1, CD2, CD5
CD6	Industrial/guest lectures		
CD7	Industrial visits/in-plant training		
CD8	Self-learning such as use of NPTEL materials and internet		
CD9	Simulation		

MN25102 Human Values & Professional Ethics

COURSE INFORMATION SHEET

Course code: MN25102
Course title: Human Values & Professional Ethics
Nature of course: Lecture
Pre-requisite(s): NIL
Co-requisite(s): NIL
Credits: 2 L:2 T:0 P: 0
Class schedule per week: 02
Class: B. Sc. (Business Analytics)
Semester/Level: I/1
Branch: Business Analytics
Name of Teacher:

COURSE OBJECTIVES

This course enables the students:

1	Create awareness about the concepts of Human Values and its types, Morality, Ethics and virtues, Value Education
2	Harmony as a concept, Harmony the self and the body, Concept of coexistence of the self and the body
3	Harmony of Family and Nature. The basics for respect and the issues it encompasses
4	Concept of Professional ethics and the issues related to it.
5	Global issues in Professional Ethics. Business Ethics concept, Concept of Corporate Governance, Ethical issues in different spheres of Business and commerce.

COURSE OUTCOMES

After completion of this course the students will be able to:

CO1	Understand the concepts of Human Values, Morality, Ethics and Virtues and should be aware of the concept and process of Value education.
CO2	To explain the concept of Harmony and its relationship with self and the body, and also the concept of co-existence.
CO3	Understand the concepts of Harmony of Family and Nature. The basics for respect and the issues it encompasses.
CO4	To explain the concept of Professional ethics and the issues related to it.
CO5	Understand the Global issues in Professional Ethics. Business Ethics concept, Concept of Corporate Governance, Ethical issues in different spheres of Business and commerce.

SYLLABUS

Module-1 (11 lectures)

Meaning of Human Values, Types of Human Values, Meaning of Morality, Human Values and Ethics, Concept of Civic Virtue- Respect for others, living peacefully, Caring, sharing, honesty, courage, cooperation, commitment, empathy, spirituality.

Value Education-Concept, Need for value education, the content and process of value education, Self exploration as a way of Value education, Happiness and Prosperity as parts of value education.

Module-2 (7 lectures)

Harmony in the Human being, Human being is more than just the body, Harmony of the self with the body, Understanding myself as Co -existence of the self and the body, Understanding needs of the self and the needs of the body.

Module-3 (8 lectures)

Harmony in the family and society, Harmony in the Nature, Family as a basic unit of Human Interaction and values in relationships, The basics for respect and todays crisis: Affection, Care, Guidance, Reverence, Glory , Gratitude, and love.

Module-4 (8 lectures)

Concept of Professional Ethics, Value based life and Profession, Professional Ethics and right understanding, competence in professional ethics, Issues in Professional ethics- the current scenario in the society.

Module-5 (5lectures)

Global issues in Professional Ethics with examples, Business Ethics concept, Concept of Corporate Governance, Ethics in Manufacturing and Marketing, Media Ethics, Concept of Intellectual Property rights and the role of ethics and values.

Text Books:

A.N. Tripathy, Human Values, New Age International Publishers,2003
Bajpai. B.L, Indian Ethos and Modern Management, New Royal Book Co, Reprinted,2004

Reference Book:
Professional Ethics; R. Subramanian, Oxford University Press, 2015

Gaps in the Syllabus (to meet Industry/Profession requirements) POs met through Gaps in the Syllabus

Topics beyond syllabus/Advanced topics/Design

Pos met through Topics beyond syllabus /Advanced topics/ Design

Course Delivery methods
Lecture by use of boards/LCD projectors
Tutorials/Assignments
Seminars/Group Discussions by the students
Industrial/guest lectures
Self-learning such as use of NPTEL materials and internets
Case Study

Direct Assessment

Assessment Tool	**% Contribution during CO Assessment**
First Quiz	10
Mid Semester Examination	25
Second Quiz	10
Teacher's Assessment	5
End Semester Examination	50

Indirect Assessment

Student Feedback on course outcome

Student Feedback on Faculty

Mapping of Course Outcomes with Program Outcomes

Course Outcome	Program Outcomes			
	A	B	C	D
CO1	H	H	M	M
CO2	H	M	H	L
CO3	M	H	M	H
CO4	H	H	L	H
CO5	L	H	M	M

Mapping Between COs and Course Delivery (CD) methods

CD Code	Course Delivery Methods	Course Outcome	Course Delivery Method Used
CD1	Lecture by use of Boards/LCD Projectors	CO1	CD1, CD8
CD2	Tutorials/Assignments	CO2	CD1, CD8 and CD9
CD3	Seminars	CO3	CD1, CD2 and CD5
CD4	Group Discussions	CO4	CD1, CD5, CD8 and CD9
CD5	Case Study	CO5	CD1, CD2 and CD9
CD6	Industrial/Guest Lectures		
CD7	Industrial Visits/In-plant Training		
CD8	Self-learning such as use of NPTEL Materials and Internets		
CD9	Simulation		

CA25110 Office Automation Tools

COURSE INFORMATION SHEET

Course code: CA25110
Course title: Office Automation Tools
Nature of course: Sessional
Pre-requisite(s): NIL.
Co-requisite(s): NIL
Credits: 3 L:0 T:1 P:4
Class schedule per week: 05
Class: B. Sc. (Business Analytics)
Semester / Level: I/ 1
Branch: Business Analytics
Name of Teacher:

COURSE OBJECTIVES

This course enables the students:

1	Use file mangers, word processors, spread sheets, presentation software's.
2	Understand the dynamics of an office environment.
3	Present conclusions effectively, orally and in writing.
4	Demonstrate the ability to apply application software in an office environment.
5	To know the practical application of various automation tools.

COURSE OUTCOMES

After the completion of this course, students will able to:

CO1	Use file mangers, word processors, spreadsheets, presentation software's
CO2	Describe the features and functions of the categories of application software.
CO3	Understand the dynamics of an office environment.
CO4	To apply different tools for different automation problems.
CO5	Use Google Suite for office data management tasks.

SYLLABUS

Module 1

Basics of Computer: Introduction of Computer, Computer generations, Types of computers, Characteristics of Computer, Fundamental understanding of computer storage device, input device, output device, types of software, usage of computer. **Windows Operating System:** Introduction to Windows, Starting Windows, desktop, taskbar, startup menu, working with programs and icons – Adding, removing, starting and quitting programs and icons. **Working with files and folders:** Creating, deleting, opening, finding, copying, moving and renaming files and folders. **Other Features:** Control Panel, settings, My Computer, Recycle Bin, My Documents, drives, Windows Notepad, Accessories, and Windows Explorer.

Module 2

Introduction to Open Office / MS Office / LibreOffice Word Processing: Features, Creating, Saving and Opening Documents in Word, Interface, Toolbars, Ruler, Menus, Keyboard, Shortcut, Editing, Previewing, Printing & Formatting a Document, Advanced Features of MS Word, Find & Replace, Using Thesaurus, Using Auto-Multiple Functions, Mail Merge, Handling Graphics, Tables & Charts, Converting a Word Document into various formats like – Text, Rich Text Format, WordPerfect, HTML, PDF etc.

Module 3

Spreadsheets: Worksheet basics, creating worksheet, entering into worksheet, heading information, data, text, dates, alphanumeric values, saving & quitting worksheet, opening and moving around in an existing worksheet, toolbars and menus, keyboard shortcuts, working with single and multiple workbook, working with formulae & cell referencing, Auto Sum, copying formulae, absolute & relative addressing, worksheet with ranges, formatting of worksheet, previewing & printing worksheet, graphs and charts, database, creating and using macros, multiple worksheets – concepts, creating and using.

Module 4

Presentation Tools: Adding and formatting text, pictures, graphic objects including charts, objects, formatting slides, notes, hand-outs, slide shows, using transitions, animations.

Module 5

Online Office Tool Google Docs Tools: Creating, saving, downloading, sharing files/folders from Google Drive, creating and sharing Google Docs, import and export Docs, creating and sharing Google Sheet, import and export Google Sheet, Google Forms and form responses, creating Google Slides to present your ideas.

List of Programs as Assignments:

Implementation of the above modules in the lab experiments.

Textbooks:

1. Computer Fundamentals by Pradeep K. Sinha
2. Peter Norton: Computing Fundamentals, 6th Edition, McGraw Hill-Osborne
3. Working in Microsoft Office – Richard Mansfield – Tata McGraw Hill Education
4. Microsoft Office 2010 For Dummies by Wallace Wang

Web Resource:
https://gsuite.google.com/learning-center

Gaps in the Syllabus (to meet Industry/Profession requirements):

Introduction to online automation software and applications

Multimedia Introduction

POs met through Gaps in the Syllabus: 1, 2, 3, 4

Topics beyond Syllabus / Advanced Topics / Design:

Online automation, online apps

POs met through Topics beyond Syllabus / Advanced Topics / Design: 3, 5, 7, 8

Course Outcome (CO) Attainment Assessment Tools & Evaluation Procedure:
Direct Assessment

Assessment Tool	% Contribution during CO Assessment
Quizzes	10
Viva Voce	20
Day to Day Performance	30
End Evaluation Performance	40

Indirect Assessment

Student Feedback on Faculty

Student Feedback on Course Outcome

Mapping between Cos and Program Outcomes

Course Outcome	Program Outcomes			
	A	B	C	D
CO1	M	H	H	M
CO2	H	H	M	H
CO3	L	M	H	H
CO4	M	H	M	H
CO5	H	M	H	M

Correlation Levels L, M, H as defined below:
L: Slight (Low); M: Moderate (Medium); H: Substantial (High)

Mapping Between COs and Course Delivery (CD) Methods

CD Code	**Course Delivery Methods**	**Course Outcome**	**Course Delivery Methods Used**
CD1	Lecture by use of Boards/ LCD Projectors	CO1	CD1,CD2
CD2	Tutorials/Assignments	CO2	CD1, CD2, CD3,CD8
CD3	Seminars	CO3	CD1,CD2,CD5
CD4	Mini Projects /Projects	CO4	CD1,CD2,CD5
CD5	Laboratory Experiments/ Teaching Aids	CO5	CD2,CD4,CD8
CD6	Industrial/Guest Lectures		
CD7	Industrial Visits /In-plant Training		
CD8	Self-learning such as use of NPTEL Materials and Internets		

BA25101 Principles and Practices of Management

COURSE INFORMATION SHEET

Course code: BA25101
Course title: Principles and Practices of Management
Nature of course: Lecture
Pre-requisite(s): NIL
Co- requisite(s): NIL
Credits: 3 L: 3 T:0 P:0
Class schedule per week: 03
Class: B. Sc. (Business Analytics)
Semester: First
Level: I / 1 Branch: Business Analytics
Name of Teacher:

COURSE OBJECTIVES

This course aims to enable the students:

1.	To understand the basics of Management discipline.
2.	To understand various types of planning.
3.	To understand various Organization Structures.
4.	To understand various Aspects of staffing and directing.
5.	To understand the control systems.

COURSE OUTCOMES

After the completion of this course, students will be able:

CO1	To apply the basic knowledge of Management discipline.
CO2	To analyze and apply the concept of planning in business situations.
CO3	To understand merits and demerits of various Organization Structures.
CO4	To apply various concepts linked with staffing, motivation and leadership.
CO5	To understand and apply various techniques of controlling.

SYLLABUS

Module 1: Introduction to Management (7 lectures)

Definition, Nature, Managerial Roles, Managerial skills and Levels, Basic Functions of Management, Evolution of Management Thoughts, Trends and Challenges of Management in Global Scenario, The Impact of Industry 5.0 on the Functions of Management

Module 2: Planning (7 lectures)

Definition, Nature, Importance, Types of Planning, Steps in Planning, Planning Premises Forecasting and decision making

Module 3: Organizing (7 lectures)

Concept, Definition, Formal and Informal organization, Organizational Structure: - Types & significance (Functional Organization, Product/ Market organization and Matrix Structure), Span of Management, Delegation of authority.

Module 4: Staffing & directing (8 lectures)

Definition, Process of staffing, Meaning of Motivation, Motivational theories - Maslow Hierarchy of Need Theory & Herzberg Two Factor Theory Leadership Definition, Characteristics (referring few theories of leadership as trait, charismatic and contingency theory)

Module 5: Controlling (6 lectures)

Meaning and Need of Control, Controlling Process, Types of Control Devices, Non-Budgetary Control Techniques, Budgetary Control Techniques, Information Systems and Control, Characteristics of Effective Controls.

Text books

Koontz, H., Weihrich, H., & Cannice, M. V. (2020). Essentials of management (11th ed.). McGraw Hill. [Module 1 : P 55-104, Module 2: P 196-259, Module 3: P 303-373, Module 4 : P 412-459, 548-623, Module 5 : P 700-768]

Stephen P. Robbins, Mary A. Coulter and David A. De Cenzo. (2020). Fundamentals of Management (11 (Global Edition)). Pearson Education. [Module 1 : P 26-59, Module 2: P 210-240, Module 3: P 244-277, Module 4 : P 356-452, Module 5 : P 486-514]

Reference books

Weihrich, H. (2016). Management: A global perspective. South-Western, Cengage Learning.
Prasad, L.M. (2024) Principles and Practices of Management. Sultan Chand and Sons, New Delhi.

Robbins, S. P., & Coulter, M. (2020). Management (15th ed.). Pearson.

Gaps in the syllabus (to meet Industry/Profession requirements)

POs met through Topics beyond syllabus/Advanced topics/Design

Course Delivery methods
Lecture by use of boards/LCD projectors/OHP projectors
Tutorials/Assignments
Seminars
Mini projects/Projects
Laboratory experiments/teaching aids
Industrial/guest lectures
Industrial visits/in-plant training
Self-learning such as use of NPTEL materials and internets
Simulation
Case Studies

Course Outcome (CO) Attainment Assessment tools & Evaluation procedure

Direct Assessment:

Assessment Tool	% Contribution during CO Assessment
End Sem Examination Marks	50
Mid Sem Examination Marks	25
Quiz(s)	20
Independent Teaching Assessment	5

Indirect Assessment –

Student Feedback on Faculty

Student Feedback on Course Outcome

Mapping between Objectives and Outcomes

Mapping of Course Outcomes onto Program Outcomes

Course Outcomes	Programme Outcomes			
	A	B	C	D
CO1	H	L	H	H
CO2	H	M	H	M
CO3	H	M	L	H
CO4	H	M	H	H
CO5	H	L	H	M

CD	**Course Delivery methods**	**Course Outcome**	**Course Delivery Method**
CD1	Lecture by use of boards/Projectors	CO1	CD1
CD2	Tutorials/Assignments	CO2	CD1, CD2, CD4
CD3	Seminars	CO3	CD1
CD4	Mini projects/Projects	CO4	CD1, CD2, CD5, CD8
CD5	Laboratory experiments/teaching aids	CO5	CD1, CD2, CD3, CD4, CD6, CD8
CD6	Industrial/guest lectures		
CD7	Industrial visits/in-plant training		
CD8	Self- learning such as use of NPTEL materials and internets		
CD9	Simulation		

MN25119 Statistics for Managers

COURSE INFORMATION SHEET

Course code: MN25119
Course title: Statistics for Managers
Nature of course: Lecture
Pre-requisite(s): NIL
Co- requisite(s): NIL
Credits: 3 L: 3 T:0 P:0
Class schedule per week: 03
Class: B. Sc. (Business Analytics)
Semester / Level: I / 1
Branch: Business Analytics

COURSE OBJECTIVES

This course enables the students:

1	To understand the importance of data and how to collect, organize and summarize those data.
2	To describe data and preliminary descriptive statistical techniques to solve problems.
3	To explain the merits and limitations of different statistical techniques.
4	To impart the knowledge of interpreting these, result of data analysis.
5	To enable the students in terms of understanding the statistical aspects related to Business thereby enhancing their skills in this regard.

COURSE OUTCOMES

After the completion of this course, students willable to:

CO1	Appraise the need for data analysis.
CO2	Design and describe problems of descriptive statistics.
CO3	Analyse business data using different statistical techniques.
CO4	Interpret the results of statistical analysis for improved managerial decision making.
CO5	Apply analytical skills in both private and public business organizations in the country.

SYLLABUS

Module 1: (9 Lectures) Introduction to Statistics: Definition, Scope of Statistics, Data Types. Methods of collecting Data, Designing Questionnaire, Bar Diagram, Pie Chart, Frequency Distribution Diagram: Histogram, Polygon & Ogive. Numerical exercises**.**

Module 2: (6 Lectures) Measures of Central Tendency: AM, GM & HM, Median, Mode: their properties, merits and demerits. Numerical exercises.

Module 3: (6 Lectures)
Measures of Dispersion: Range, Average Deviation, Standard deviation, Coefficient of Variation: their properties, merits and demerits. Numerical exercises

Module 4: (12 Lectures)
Correlation and Bi-Variate Regression Analysis (for ungrouped data): Definition, Types of Correlation, Methods of Studying Correlation – Coefficient of correlation (r), Rank Correlation Coefficient (R) – Properties, merits & demerits. Numerical Exercises. Regression equations (Bi-variate only), Regression co-efficient and its properties. Numerical exercise.

Module 5: (9 Lectures)
Business Forecasting through Time Series Analysis: Definition, Steps in Forecasting, Role of Time Series Analysis, Components of Time Series: Secular Trend, Seasonal Variations, Cyclical Variations, Irregular Variations. Method of Semi-averages. Numerical exercise.

Note: The treatment of the subject matter is to be application oriented in the field of management. The proof of theorems and derivations of formulae is not required

Text Books

1. Gupta S.P. and Gupta M.P. (2015), *Business Statistics*. *(Sultan Chand & Sons: New Delhi).18th ed.*
2. Das N.G. (2017). *Statistical Methods (combined volumes)*. *(Tata McGraw-Hill: New Delhi).*

Reference Books

1. Richard I. Levin, David S. Rubin, Masood H. Siddiqui (2017), *Statistics for Management. (Pearson: New Delhi) 8th ed.*
2. Hogg Robert V., Mckean Joeseph, Craig Allen T. (2017), *Introduction to Mathematical Statistics (Pearson: New Delhi) 7th ed.*
3. Miller James D. (2017), *Statistics for Data Science (Packt Publishing: Birmingham, Mumbai) 1st ed*

Course Delivery methods
Lecture by use of boards/ LCD projectors/OHP projectors
Tutorials/Assignments
Seminars
Mini projects/Projects
Laboratory experiments/teaching aids
Industrial/guest lectures
Industrial visits/in-plant training
Self-learning such as use of NPTEL materials and internet
Simulation

Direct Assessment

Assessment Tool	%Contribution during CO Assessment
End Sem Examination Marks	50
Mid Sem Examination Marks	25
Quiz(s)	20
Independent Teaching Assessment	5

Indirect Assessment–

Student Feedback on Faculty

Student Feedback on Course Outcome

Mapping of Course Outcomes onto Program Outcomes

Course Outcome	Program Outcomes			
	A	B	C	D
CO1	M	L	M	L
CO2	H	M	M	L
CO3	M	H	H	M
CO4	H	M	H	H
CO5	M	H	M	M

L=LOW, M= MEDIUM, H=HIGH

MN25108 Introduction to Business Accounting

COURSE INFORMATION SHEET

Course code: MN25108
Course title: Introduction to Business Accounting
Nature of course: Lecture
Pre-requisite(s): NIL
Co-requisite(s): NIL
Credits:3 L: 3 T:0 P: 0
Class schedule per week: 03
Class: B. Sc. (Business Analytics)
Semester / Level: I/ 1
Branch: Business Analytics
Name of Teacher:

COURSE OBJECTIVES

This course enables the students:

1	To understand the concept and role of accounting in financial reporting in modern economy
2	To develop the understanding of basic accounting concepts and techniques of and accounting system. Principles and procedures underlying the accounting process.
3	To provide an understanding, importance of accounting and preparation of final accounts for profit making organization
4	To understand the preparation of accounting of non-profit organization.
5	To provide the knowledge of bills of exchange transaction and bank reconciliation statement.

COURSE OUTCOMES

After the completion of this course, students will able to:

CO1	Demonstrate the role of accounting in business in economic world
CO2	Explain the principles of accounting and bookkeeping
CO3	Apply accounting rules in determining financial results and preparation of financial statement
CO4	Develop and practice the maintenance of accounting books for non-profit making organization
CO5	Determine the processes of billing in business and banking transaction.

SYLLABUS

Module 1 (9 Lectures)

Accounting: Basics of Accounting, Accounting Mechanics, Double Entry System, Classification, Golden Rules, Concepts and Conventions. Journal: Meaning, Advantages. Ledger: Meaning, Posting and Balancing. Trial Balance: Objectives, defects, locating errors and preparations of Trial Balance. Subdivision of Journal: Day Book.

Module 2 (9 Lectures)

Final Accounts: Trading Account, Profit and Loss Account, Balance Sheet, Closing entries, Assets and their Classification, Liabilities and their Classification, Uses and Limitations of Balance Sheet.

Module 3 (9 Lectures)

Capital and Revenue Expenditure and Receipts: Rules for Determining Capital Expenditure and Revenue Expenditure, Deferred Revenue Expenditure, Capital and Revenue Receipts, Capital and Revenue Profit and Loss.

Module 4 (9Lectures)

Accounting for Non-Profit: Organization: Accounting Procedures, Receipts and Payments Accounts, Distinction between Receipts and Payments Accounts, Income and Expenditure Account problems

Module 5 (9Lectures)

Bills of Exchange: Parties to a Bill of Exchange, Types, Promissory Notes, Distinction between Promissory Notes and Bills of Exchange, Dishonors of Bills, Preparation of Bank Reconciliation.

Text Books

Grewal, T. S. (2021). *Financial accounting* (45th ed.). S. Chand Publishing. (Module 4 1.1-1.80; Module 5)
Tulsian, P. C., & Pandey, A. (2022). *Financial accounting* (4th ed.). Pearson Education.(Module 1 ,2, and 3 from chapter 1 to 7)

Reference Books

Jawahar Lal, Financial accounting. (2019). McGraw-Hill Education.
Horngren, C. T., Sundem, G. L., Elliott, J. A., & Philbrick, D. (2019). Introduction to financial accounting (11th ed.). Pearson.

Mukherjee, D., & Hanif, M. (2018). Financial accounting (5th ed.). Tata McGraw- Hill Education.
Bhattacharyya, A. K. (2018). Financial accounting for business managers (3rd ed.). Prentice Hall India.

Gaps in the Syllabus (to meet Industry/Profession requirements)
POs met through Gaps in the Syllabus

Topics beyond Syllabus / Advanced Topics / Design
POs met through Topics beyond Syllabus / Advanced Topics / Design

Course Delivery methods
Lecture by use of boards/ LCD projectors/ OHP projectors
Tutorials/Assignments
Seminars
Mini projects/Projects
Laboratory experiments/teaching aids
Industrial/guest lectures
Industrial visits/in-plant training
Self-learning such as use of NPTEL materials and internets
Simulation

Course Outcome (CO) Attainment Assessment tools & Evaluation procedure

Direct Assessment

Assessment Tool	% Contribution during CO Assessment
End Sem Examination Marks	50
Mid Sem Examination Marks	25
Quiz(s)	20
Independent Teaching Assessment	5

Indirect Assessment–

Student Feedback on Faculty

Student Feedback on Course Outcome

Mapping of Course Outcomes onto Program Outcomes

Course Outcome#	Program Outcome			
	A	B	C	D
CO1	L	M	L	M
CO2	M	L	H	M
CO3	M	M	M	H
CO4	L	M	H	M
CO5	M	M	M	H

Mapping Between COs and Course Delivery (CD)methods

CD	**Course Delivery methods**	**Course Outcome**	**Course Delivery Method**
CD1	Lecture by use of boards/LCD projectors/OHP projectors	CO1	CD1
CD2	Tutorials/Assignments	CO2	CD1
CD3	Seminars	CO3	CD1 and CD2
CD4	Mini projects/Projects	CO4	CD1
CD5	Laboratory experiments/teaching aids	CO5	CD1 and CD2
CD6	Industrial/guest lectures		
CD7	Industrial visits/in-plant training		
CD8	Self-learning such as use of NPTEL materials and internets		
CD9	Simulation		

SEMESTER- II [SPRING]

[TOTAL CREDITS - 21.5]

MN25109 Public Speaking & Creative Writing

COURSE INFORMATION SHEET

Course Code: MN25109
Course title: Public Speaking & Creative Writing
Nature of course: Lecture
Pre-requisite(s): NIL
Co-requisite(s): NIL
Credits: 2 L:1 T:0 P:2
Class schedule per week: 03
Class: B.Sc. (Business Analytics)
Semester/Level: II/ 1
Branch: Business Analytics
Name of Teacher:

COURSE OBJECTIVES

This course enables the students:

1	To lay down a basic foundation for basic communication that is a part of a student's everyday life.
2	To inculcate the fundamentals of communication with the aim to enhance listening, speaking and writing skills
3	To one practical skills that can be used in day-to-day affairs
4	To inculcate practical skills in students by napping their creative talent which beneficiary for employability too.
5	To perform hands-on-activities to students to develop their creative skills through Practical sessions.

COURSE OUTCOMES

After the completion of this course, students will able to:

CO1	To improve mediation skills.
CO2	To build human relationships
CO3	To foster societal understanding & develop an independent perspective.
CO4	To enhance social communication skills of students.
CO5	To induce an understanding of the relationship between an individual and society.

SYLLABUS

Module 1: (5 Lectures)
Introduction to Effective Communication – Features, Advantages & Disadvantages. Importance of Listening. Oral Communication – Meaning, Features & Importance.
Reading Public Speech – Reading documented speeches delivered in the past; Understanding the threat of wordplay, vocabulary, and putting thoughts into words.

Module 2: (4 Lectures)
Public Speaking – What is Speech? Overcoming Fear of Public Speaking, Language of Public Speech. Drafting a Public Speech – Reading, research, writing, fact-check, re-writing, delivery. 3 P's of Public Speaking – Preparation, Practice, and Performance. Types of Public Speaking – Physical & Online.

Module 3: (6 Lectures)
Ted Talks, Public Speaking in Media, Listening in Groups and Discussion – Listening to famous speeches (from history & everyday life); Analysis of its elements & classroom discussion. Writing Public Speech – Classroom practice sessions. Developing Leadership Competence through Public Speaking – Extempore; Group Discussion.

Module 4: (8 Lectures)
Introduction to Creative Writing – Meaning, Importance. Imagination & Writing – Peer interaction, activities on imagination. Tropes, Motifs and Figures – Learning tropes, motifs and figures through videos, discussion on the findings.

Module 5: (5 Lectures)
Importance of Public Speaking in Developing Leadership Skills, Ethics in Public Speaking Mock Parliament / MUNs, Craft of Writing – Figure of speech, wordplay, character creation. Steps of Creative Writing – Pre-writing, writing, post-writing/final draft.

Textbook

Mitra, B.K., *Personality Development and Soft Skills*, Oxford University Press.

Reference Books

Kumar, Sanjay and Pushplata, *Communication Skills*, Oxford University Press.
Mandal, S.K., *Effective Communication and Public Speaking*, Jaico Publishing.

Gaps in the Syllabus (to meet Industry/Profession requirements)
POs met through Gaps in the Syllabus

Topics beyond Syllabus / Advanced Topics / Design
POs met through Topics beyond Syllabus / Advanced Topics / Design

Course Delivery methods
Lecture by use of boards/ LCD projectors / OHP projectors
Tutorials/Assignments
Seminars
Mini projects/Projects
Laboratory experiments/teaching aids
Industrial/guest lectures
Industrial visits/in-plant training
Self-learning such as use of NPTEL materials and internets
Simulation

Course Outcome (CO) Attainment Assessment tools & Evaluation procedure

Direct Assessment

Assessment Tool	%Contribution during CO Assessment
End Sem Examination Marks	50
Mid Sem Examination Marks	25
Quiz(s)	20
Independent Teaching Assessment	5

Indirect Assessment–

Student Feedback on Faculty

Student Feedback on Course Outcome

Mapping between Objectives and Outcomes

Mapping of Course Outcomes onto Program Outcomes

Course Outcome	Program Outcomes			
	A	**B**	**C**	**D**
CO1	H	M	M	L
CO2	H	M	H	M
CO3	H	M	M	M
CO4	H	H	H	M
CO5	H	M	H	M

BA25102 Python Programming

Course Information Sheet

Course Code	:	BA25102
Course Title	:	Python Programming
Pre-requisite(s)	:	
Co-requisite(s)	:	Python Programming Lab
Credits	:	4.5
Class schedule/ week	:	L:3 T: 0 P: 3
Class	:	B.Sc. (Business Analytics)
Semester/Level	:	II/1
Branch	:	Business Analytics

COURSE OBJECTIVES

This course enables the students to:

1	Understand computer programming concept using python language
2	Explore basic data types, control structures and standard library functions.
3	Explore the basic data structures: List, Tuple, Sets, Dictionaries available in python
4	Learning Object oriented concept of programming and its implementation in python.
5	Handle disk data file for input output operations.

COURSE OUTCOMES

After the completion of this course, students will be able to:

CO1	Solve the basic mathematical problem using python programming
CO2	Use basic data types control structures and utility functions from standard library for faster programming.
CO3	Use the basic and user defined data structures as per the need of problem.
CO4	Design and implement the problem using OOP concept of python.
CO5	Store, retrieve and manipulate data with disk file.

SYLLABUS

Module 1: (8 Lectures) Introduction to Python Programming: Introduction, Programming Languages, Features of python language, Getting Started with Python, Programming Errors. Writing a Simple Program, Reading Input from the Console, Identifiers, Variables, Assignment Statements, and Expressions, Simultaneous Assignments, Named Constants, Numeric Data Types and Operators, Evaluating Expressions and Operator Precedence, Augmented Assignment Operators, Type Conversions and Rounding.

Module-2: (8 Lectures) Mathematical Functions, Strings, and Objects: Introduction, Common Python Functions, Strings and Characters, Introduction to Objects and Methods, Formatting Numbers and Strings.

Control Structures: Selections: Introduction, Boolean Types, Values, and Expressions, if Statements, Two-Way if-else Statements, Nested if and Multi-Way if-elif-else Statements, Logical Operators, Conditional Expressions, Loops: Introduction, The while Loop, The for Loop, Nested Loops, Keywords break and continue. Looping Constructs: while, do-while, and for loops.

Module-3: (8 Lectures) Functions: Introduction, Defining a Function, Calling a Function, Functions with/without Return Values, Positional and Keyword Arguments, Passing Arguments by Reference Values, The Scope of Variables, Default Arguments, Returning Multiple Values.

Lists and Arrays: Introduction, List Basics, Copying Lists, Passing Lists to Functions, returning a List from a Function, Searching Lists, Sorting, Processing Two-Dimensional Lists, Passing Two-Dimensional Lists to Functions, Multidimensional Lists. List to Array conversion and array operation using numpy module.

Module-4: (8 Lectures) Tuples, Sets, and Dictionaries: Introduction, Tuples: Creating Tuples, Basic Tuple Operations, Indexing and Slicing in Tuples, Tuple methods, Sets: Creating Sets, Manipulating and Accessing Sets, Subset and Superset, Set Operations, Comparing the Performance of Sets and Lists, Dictionaries: Creating a Dictionary, Adding, Modifying, and Retrieving Values, Deleting Items, Looping Items, The Dictionary Methods.

Module-5: (8 Lectures) Objects and Classes: Introduction, Defining Classes for Objects, Immutable Objects vs. Mutable Objects, Hiding Data Fields, Class Abstraction and Encapsulation, Object-Oriented Thinking. Inheritance and Polymorphism: Introduction, Super classes and Subclasses, Overriding Methods.

Files and Exception Handling: Introduction, text input and output : opening a file, Writing Data, Testing a File's Existence, Reading All Data from a File, Writing and Reading Numeric Data, Binary IO Using Pickling, Reading and writing CSV file using pandas, Exception Handling, Raising Exceptions.

Text Book

Y. Daniel Liang, "Introduction to programming using python", Pearson Education; First edition (2017).

Reference Books

Martin C. Brown, "Python: The Complete Reference", McGraw Hill Education; Forth edition (2018)
Fabio Nelli "Python Data Analytics: With Pandas, NumPy, and Matplotlib" *Second Edition* Apress Media LLC
Mark Summerfield, "Programming in Python 3: A Complete Introduction to the Python Language" Pearson Education; Second edition (2018)

Gaps in the Syllabus (to meet Industry/ Profession requirements)

POs met through Gaps in the Syllabus:

Topics beyond the syllabus/ Advanced topics/ Design:

POs met through Topics beyond the syllabus/ Advanced topics/ Design

Course Outcome (CO) Attainment Assessment Tools & Evaluation Procedure

DIRECT ASSESSMENT

Assessment Tool	% Contribution during CO Assessment
Continuous Internal Assessment	50
Semester End Examination	50
Continuous Internal Assessment	% Distribution
First Quiz	10
Mid Semester Examination	25
Second Quiz/ Assignment/Seminar Presentation	10
Teacher's Assessment	5

Assessment Components	CO1	CO2	CO3	CO4	CO5
Continuous Internal Assessment	20%[10]	20%[10]	20%[10]	20%[10]	20%[10]
Semester End Examination	20%[10]	20%[10]	20%[10]	20%[10]	20%[10]

INDIRECT ASSESSMENT
Student Feedback on Faculty
Student Feedback on Course Outcome

Mapping between Course Outcomes and Program Outcomes

Course Outcomes	Program Outcomes (POs)			
	A	B	C	D
CO1	H	H	M	H
CO2	H	H	M	M
CO3	H	H	M	M
CO4	H	H	M	H
CO5	H	H	M	H

Correlation Levels L, M, H as defined below:

L: Slight (Low) M: Moderate (Medium) H: Substantial (High)

Mapping between COs and Course Delivery (CD) methods

CD Code	Course Delivery Methods	Course Outcome	Course Delivery Method Used
CD1	Lecture by use of Boards/ LCD Projectors	CO1	CD1,CD8
CD2	Tutorials/Assignments	CO2	CD1,CD8,CD9
CD3	Seminars	CO3	CD1,CD2,CD5
CD4	Mini Projects/Projects	CO4	CD1,CD5,CD8, CD9
CD5	Laboratory Experiments/Teaching Aids	CO5	CD1,CD2,CD9
CD6	Industrial/ Guest Lectures		
CD7	Industrial Visits/ In-plant Training		
CD8	Self-learning such as use of NPTEL Materials and Internets		
CD9	Simulation		

BA25103 Advanced Microsoft Excel

COURSE INFORMATION SHEET

Course code: BA25103
Course title: Advanced Microsoft Excel
Nature of course: Sessional
Pre-requisite(s): NIL
Co- requisite(s): NIL
Credits: 3 L:0 T:1 P:4
Class schedule per week: 5
Class: B. Sc. (Business Analytics)
Semester: II/I
Branch: Business Analytics

COURSE OBJECTIVES

This course enables the students:

1	Gain expert-level skills in using Microsoft Excel for data management, analysis, and reporting.
2	Learn to use complex formulas, logical functions, lookup functions, and array formulas to solve business problems.
3	Use to Power Query & Power Pivot
4	Apply Use tools like PivotTables, Pivot Charts, and Conditional Formatting to analyze large data sets and present insights clearly.
5	Use to Data Protection & Security and Excel Shortcuts Error Checking

COURSE OUTCOMES

After the completion of this course, students will able to:

CO1	Students will be able to collect, analyze, and interpret to Advanced Formulas & Functions
CO2	Students will gain hands-on experience with Pivot Tables and data Validation
CO3	Learners will develop skills to Creating relationships between multiple tables in Power Pivot.
CO4	Students will understand and evaluate key Creating interactive forms with VBA for customized user input.
CO5	Students will explore how used by Advanced Excel Tips & Best Practices

SYLLABUS

Module 1: Advanced Formulas & Functions (8Lectures)

Array Formulas: Introduction and application of array functions. Logical Functions: Advanced use of IF, IFS, AND, OR, NOT. Lookup Functions: Mastery of VLOOKUP, HLOOKUP, INDEX, MATCH, and XLOOKUP. Text Functions: Techniques for manipulating and extracting text using LEFT, RIGHT, MID, TEXT, LEN, SEARCH, Date and Time Functions: Using DATE, DATEDIF, NETWORKDAYS, and TEXT for time and date manipulation.

Module 2: Data Analysis & Visualization (8Lectures)

Pivot Tables: Creating and modifying pivot tables, using slicers, and advanced pivot table calculations. Pivot Charts: How to visualize pivot data with charts. Conditional Formatting: Advanced conditional formatting to highlight trends and outliers. Data Validation: Setting rules for data entry to ensure consistency and accuracy. Charts and Graphs: Advanced charting techniques (Combo charts, Heat maps, etc.).

Module 3: Power Query & Power Pivot (8Lectures)

Power Query: Introduction to Power Query for importing, cleaning, and transforming data.Data Model: Using Power Pivot to create data models and connect different tables.DAX Functions: Introduction to basic DAX formulas like CALCULATE, SUMX, AVERAGEX, Relationship Management: Creating relationships between multiple tables in Power Pivot.

Module 4: Automation & Macros (8Lectures)

Introduction to Macros: Recording simple macros and understanding VBA.VBA Programming: Basic VBA concepts, writing simple functions and automating tasks. Event-Driven Macros: Using VBA to automate actions based on user interactions (e.g., button clicks, changes in cells).User Forms: Creating interactive forms with VBA for customized user input.

Module 5: Advanced Excel Tips & Best Practices- (7Lectures)

Data Protection & Security: Protecting your workbook, sheets, and data. Advanced Filtering: Using advanced filtering techniques and the advanced filter dialog box. Excel Shortcuts: Productivity hacks with keyboard shortcuts to speed up work. Error Checking: Troubleshooting common Excel errors and using error handling functions like IFERROR. Collaboration & Sharing: Using Excel's collaboration features like shared workbooks, commenting, and real-time co-authoring.

Text Books:

1. Excel 2016: A Comprehensive Guide" by S.K. Bansal.
2. Excel: A Practical Guide for Data Analysis" by P.K. Suri.

Reference Books:

Excel 2019 Bible" by Michael Alexander, Richard Kusleika, and John Walkenbach.
Microsoft Excel Data Analysis and Business Modeling" by Wayne Winston

Course Delivery methods
Lecture by use of boards /LCD projectors/ OHP projectors
Tutorials/Assignments
Seminars
Mini projects/Projects
Laboratory experiments/teaching aids
Industrial/guest lectures
Industrial visits/in-plant training
Self-learning such as use of NPTEL materials and internets
Simulation

Direct Assessment

Assessment Tool	% Contribution during CO Assessment
First Quiz	10
Second Quiz	10
Viva Voce	20
Day to Day Performance	30

Indirect Assessment–

Student Feedback on Faculty

Student Feedback on Course Outcome

Mapping of Course Outcomes on to Program Outcomes

Course Outcome	Program Outcomes			
	A	B	C	D
CO1	M	L	M	L
CO2	H	M	M	L
CO3	M	H	H	M
CO4	H	M	H	H
CO5	M	H	M	M

CD	Course Delivery methods	Course Outcome	Course Delivery Method
CD1	Lecture by use of boards/LCD projectors/OHP projectors	CO1	CD1
CD2	Tutorials/Assignments	CO2	CD1
CD3	Seminars	CO3	CD1 and CD2
CD4	Mini projects/Projects	CO4	CD1
CD5	Laboratory experiments/teaching aids	CO5	CD1 and CD2
CD6	Industrial/guest lectures		
CD7	Industrial visits/in-plant training		
CD8	Self-learning such as use of NPTEL materials and internets		
CD9	Simulation		

BA25104 Marketing Management

COURSE INFORMATION SHEET

Course code: BA25104
Course title: Marketing Management
Nature of course: Lecture
Pre-requisite(s): NIL
Co-requisite(s): NIL
Credits: 4 L:3 T:1 P:0
Class Schedule per week: 04
Class: B. Sc. (Business Analytics)
Semester/Level: II/ 1
Branch: Business Analytics
Name of Teacher:

COURSE OBJECTIVES

This course enables the students:

1.	To develop a comprehensive understanding of the conceptual framework of marketing and its application within the dynamic marketing environment.
2.	To gain an insight into the concept of market segmentation, targeting and positioning
3.	To develop understanding towards product mix and branding
4.	To examine the relevance of Pricing, distribution and marketing communication in product mix
5.	To develop an understanding of strategic marketing and digital marketing for a firm

COURSE OUTCOMES

After the completion of this course, students will able to:

CO1	Apply the basic concepts of Marketing and Marketing environment
CO2	Analyze and identify markets managements and explore targeting and positioning.
CO3	Distinguish the product mix of various companies and identify the relevance of branding
CO4	Enumerate the significance of pricing, distribution and promotion related decisions of a firm.
CO5	Analyze the importance of Digital marketing and strategic marketing for a firm.

SYLLABUS

Module 1: Introduction to Marketing and Marketing Environment (8 lectures)

Meaning and Concept of Market and Marketing, Core Marketing Concepts and its application in different industries Marketing and selling orientation (concepts and differences), Elements of a Company's Macro and Micro Environment, Responding to Company's marketing environment.

Module 2: Market Segmentation, Targeting and Positioning (8 lectures)

Concept, Needs, bases/variables for segmenting consumer market, Attributes of Effective Segmentation, Concept of Target Market, Selection of Target Market, Concept of Market positioning, The process of Positioning, Introduction to the concept of Marketing Mix and its elements.

Module 3: Product Management (8 lectures)

Definition of Product, Classification and Levels of Product, Concept of Product Line, Product Line Decision, Product Mix , Definition of Brand and Brand Equity, Selection of Brand Name, Concept of product life cycle, Marketing strategies at different stages of the Product Lifecycle.

Module 4: Pricing Decisions and Channel Management (11 lectures)

Concept of Price, Factors Influencing Pricing, Methods of Pricing, Concept and Importance of Distribution Channels, Functions of Marketing Channels, Types of Marketing Intermediaries, Channel Design Decision, Introduction to Wholesaling and retailing.

Marketing Communication: Definition, Concept of Integrated Marketing Communication, and Relevance of Integrated Marketing Communication, The concept of promotion mix, Introduction to the elements of Promotion mix.

Module 5: Strategic marketing &Digital marketing (9 lectures)

Marketing planning: Concept of Strategic Plan, Strategic Planning Process at the corporate level, Concept of Strategic Business Unit, BCG Matrix. Introduction to Digital marketing, its evolution and importance, Digital platforms and social marketing: concept, evolution and importance.

Textbooks:

Kotler, P., Keller, K. L., Koshy, A., & Jha, M. (2022). *Marketing Management: A South Asian Perspective* (16th ed.). Pearson Education. **(Module 1 and Module 2 as Part I and Part II, III)**

Ramaswamy, V. S., & Namakumari, S. (2018). *Marketing Management: Global Perspective, Indian Context* (6th ed.). Mc Graw-Hill Education. **(Module 1 Environment part, Module 3, 4, 5)**

Reference Books:

Kotler, P., & Keller, K. L. (2016). *Marketing Management* (15th ed.). Pearson Education.
Lamb, C. W., Hair, J. F., & McDaniel, C. (2021). *MKTG: Principles of Marketing* (13th ed.). Cengage Learning.
Etzel, M. J., Walker, B. J., & Stanton, W. J. (2007). *Marketing* (14th ed.). McGraw-Hill Education.
Saxena, R. (2019). *Marketing Management* (5th ed.). McGraw-Hill Education India.

Course Delivery methods
Lecture by use of boards/ LCD projectors/ OHP projectors
Tutorials/Assignments
Seminars
Mini projects/ Projects
Laboratory experiments/teaching aids
Industrial/guest lectures
Industrial visits/in-plant training
Self-learning such as use of NPTEL materials and internets
Simulation

Course Outcome (CO) Attainment Assessment tools & Evaluation procedure

Direct Assessment

Assessment Tool	%Contribution during CO Assessment
End Sem Examination Marks	50
Mid Sem Examination Marks	25
Quiz(s)	20
Independent Teaching Assessment	5

Indirect Assessment–

Student Feedback on Faculty

Student Feedback on Course Outcome

Mapping of Course Outcomes on to Program Outcomes

Course Outcome#	Program outcomes			
	A	**B**	**C**	**D**
1	H	M	H	H
2	L	L	H	M
3	L	M	H	M
4	H	L	M	H
5	H	M	L	H

CD	**Course Delivery methods**	**Course Outcome**	**Course Delivery Method**
CD1	Lecture by use of boards/LCD projectors/OHP projectors	CO1	CD1
CD2	Tutorials/Assignments	CO2	CD1,CD2
CD3	Seminars	CO3	CD1,CD2
CD4	Mini projects/Projects	CO4	CD1,CD2
CD5	Laboratory experiments/teaching aids	CO5	CD1,CD2
CD6	Industrial/guest lectures	CO5	CD1,CD2
CD7	Industrial visits/in-plant training		
CD8	Self-learning such as use of NPTEL materials and internets		
CD9	Simulation		

MN25115 Business Economics

COURSE INFORMATION SHEET

Course code: MN25115
Course title: Business Economics
Nature of course: Lecture
Pre-requisite(s): NIL.
Co-requisite(s): NIL
Credits:3 L:3 T:0 P: 0
Class schedule per week: 3
Class: B. Sc. (Business Analytics)
Semester/Level: II / 1
Branch: Business Analytics
Name of Teacher:

COURSE OBJECTIVES

This course enables the students:

1.	To understand economic theories, concepts and principles.
2.	To make a choice from among various alternatives, to analyze the laws of demand, supply and its impact on market equilibrium.
3.	To study consumer behavior and various methods of demand forecasting.
4.	To explore theories of production and cost
5.	To examine different market structures and understand price and output determination.

COURSE OUTCOMES

After the completion of this course, students will able to:

CO1	Analyze the scope, assumptions, and analytical tools of Business Economics, and understand its interdisciplinary nature.
CO2	Develop an understanding of demand and supply function in determining market equilibrium
CO3	Interpret consumer behavior patterns and calculate different types of demand elasticity to support pricing and marketing decisions.
CO4	Analyze production and cost structures in business, perform break-even analysis, and evaluate the implications of economies of scale.
CO5	Determine optimal pricing and output strategies under each form of market structure.

SYLLABUS

MODULE 1: (6 lectures)
Basic Concepts and Principles: Introduction, definition and scope of Business Economics, Basic assumptions in Business Economics, Types of Economic Analysis, Types of Economic Decision in Business Economics, Relationship of Business Economics with other disciplines.

MODULE 2: (5 lectures)

Theory of Demand and Supply: Introduction to demand, types of demand, determinants of demand, Law of Demand. Introduction to supply, determinants of supply, Law of Supply, Market Equilibrium.

MODULE 3: (8 lectures)

Theory of Consumer Behavior and Demand Forecasting: Introduction and concept of consumer choice, consumer preferences, and consumer income. Concept of Revealed Preference Theory and Consumer Surplus. Introduction and concept of Price Elasticity of Demand, Income Elasticity of Demand, Cross Elasticity of Demand, and Promotional Elasticity of Demand. Importance of Elasticity of Demand. Introduction and meaning of Demand Forecasting, Subjective methods of Demand Forecasting, Quantitative methods of Demand Forecasting, and limitations of Demand Forecasting.

MODULE 4: (11 lectures)
Theory of Production and Cost: Introduction and concept of Production Theory, Production Function, Production Function with one variable input, Production Function with two variable inputs, Elasticity of Substitution, Iso-quants, Iso-cost lines, Producer's Equilibrium, Expansion Path. Types of Cost, Cost in short run and long run, Break-even analysis, Economies of Scale.

MODULE 5: (10 lectures)
Market Structure and Decision Making**:** Introduction and concept of Monopoly, Price–Output decision in Monopoly. Introduction and concept of Perfect Competition, Demand and Revenue of a firm in Perfect Competition, Short run equilibrium and Long run equilibrium in Perfect Competition. Introduction and concept of Monopolistic Competition, Price–Output decision in Monopolistic Competition.

Textbooks:

Geetika, Ghosh, P., & Roy Chowdhury, P. (2018). *Managerial Economics* (3rd ed.). McGraw Hill Education

Ahuja, H. L. (2017). *Managerial Economics: Analysis of Managerial Decision Making* (9th ed.). S. Chand & Company

Reference Books:

Petersen, C. H., Lewis, W. C., & Jain, S. K. (2006). *Managerial Economics* (4th ed.). Pearson Education.

Agarwal, V. (2022). *Managerial Economics*. Pearson Education India.

Course Delivery methods
Lecture by use of boards/ LCD projectors/ OHP projectors
Tutorials/Assignments
Seminars
Mini projects/ Projects
Laboratory experiments/teaching aids
Industrial/guest lectures
Industrial visits/in-plant training
Self-learning such as use of NPTEL materials and internets
Simulation

Course Outcome (CO) Attainment Assessment tools & Evaluation procedure

Direct Assessment

Assessment Tool	% Contribution during CO Assessment
End Sem Examination Marks	50
Mid Sem Examination Marks	25
Quiz(s)	20
Independent Teaching Assessment	5

Indirect Assessment –

Student Feedback on Faculty

Student Feedback on Course Outcome

Mapping between Objectives and Outcomes

Mapping of Course Outcomes onto Program Outcomes

Course Outcome	Program Outcomes			
	A	**B**	**C**	**D**
1	M	L	M	H
2	H	M	M	H
3	H	H	H	M
4	M	H	H	H
5	H	H	H	H

L=LOW, M=MEDIUM, H=HIGH

CD	**Course Delivery methods**	**Course Outcome**	**Course Delivery Method**
CD1	Lecture by use of boards / LCD projectors /OHP projectors	CO1	CD1
CD2	Tutorials/Assignments	CO2	CD1
CD3	Seminars	CO3	CD1 and CD2
CD4	Mini projects/Projects	CO4	CD1
CD5	Laboratory experiments/teaching aids	CO5	CD1 and CD2
CD6	Industrial/guest lectures		
CD7	Industrial visits/in-plant training		
CD8	Self-learning such as use of NPTEL materials and internets		
CD9	Simulation		

BA25105 Fundamentals of Business Analytics

COURSE INFORMATION SHEET

Course code: BA25105
Course title: Fundamentals of Business Analytics
Nature of course: Lecture
Pre-requisite(s): NIL
Co-requisite(s): NIL
Credits: 3 L:3 T:0 P:0
Class schedule per week: 03
Class: B. Sc. (Business Analytics)
Semester/Level: II/2
Branch: Business Analytics
Name of Teacher:

COURSE OBJECTIVES

This course enables the students:

1	To know details about the business data analytics
2	Data Sources, advantages and limitations of various analytics techniques.
3	Real life use of various data analytics.
4	Case studies on business data analytics.
5	Objects in Programming

COURSE OUTCOMES

After the completion of this course, students will able to:

CO1	Understand the properties of various business data analytics
CO2	Identify important resource to support business analytics and identify the strength and weaknesses of different business data analytics
CO3	Design and utilize appropriate data analytics techniques for solving problems
CO4	Understand the role of statistics in data analytics
CO5	Understand the role of data mining in data analytics

SYLLABUS

Module 1: Introduction to Business Analytics (6 lectures)

Introduction to Business Analytics: Meaning, Business Analytics Process, Business growth with data analysis, Introduction to programming language, Importance of Business Analytics, Strategy and advantage of Business Analytics.

Module 2: Data Analysis Process (4 lectures)

Address the business problems, explore the data, analyze the data, prediction with data, optimize the data, make a decision, measure the outcome, update the system with this data.

Module 3: Data Literacy and Business Analytics for Business (4 lectures)

Introduction to data literacy, mathematical functions (mean, mode, median), types of variables, employ data effectively, make key business decisions with keystone projects.

Module 4: Introduction to Tools and Language Used in Business Analytics (13 lectures)

Introduction to Python Programming, NumPy and Array, Libraries, Data analysis with Python, Commands, Basics of R and Tableau, Introduction to Microsoft Power BI to analyze the data.

Module 5: Five Key Specializations in Business Analytics (11 lectures)

Natural Language Processing with Python and Excel, Deep Learning with Excel and TensorFlow, Business Analytics with MySQL and Python, Business Intelligence with Power BI and Tableau, Data Engineering with PySpark and Sqoop.

Text Books

Business Analytics: Data Analysis & Decision Making, Wayne Winston, 2014.

Business Intelligence, Analytics, and Data Science: A Managerial Perspective, Ramesh Sharda, Dursun Delen, Efraim Turban, Fourth Edition, 2017.

Reference Books

S. Christian Albright, Wayne L. Winston, *Business Analytics: Data Analysis & Decision Making*, Cengage Learning, 2015.

R. Evans James, *Business Analytics*, Pearson, 2017.

Gaps in the Syllabus (to meet Industry/Profession Requirements):

POs met through Gaps in the Syllabus

Topics Beyond Syllabus / Advanced Topics / Design:

POs met through Topics Beyond Syllabus / Advanced Topics / Design

Course Delivery methods
Lecture by use of boards/ LCD projectors/ OHP projectors
Tutorials/Assignments
Seminars
Mini projects/ Projects
Laboratory experiments/teaching aids
Industrial/guest lectures
Industrial visits/in-plant training
Self-learning such as use of NPTEL materials and internets
Simulation

Course Outcome (CO) Attainment Assessment tools & Evaluation procedure

Direct Assessment

Assessment Tool	%Contribution during CO Assessment
End Sem Examination Marks	50
Mid Sem Examination Marks	25
Quiz(s)	20
Independent Teaching Assessment	5

Indirect Assessment–

Student Feedback on Faculty

Student Feedback on Course Outcome

Mapping of Course Outcomes onto Program Outcomes

Course Outcomes#	Program outcomes			
	A	B	C	D
1	M	H	M	M
2	H	M	M	L
3	M	M	L	H
4	H	H	M	M
5	M	H	M	M

CD	Course Delivery methods	Course Outcome	Course Delivery Method
CD1	Lecture by use of boards/LCD projectors/OHP projectors	CO1	CD1,CD5,CD3
CD2	Tutorials/Assignments	CO2	CD1,CD2,CD4,CD5
CD3	Seminars	CO3	CD1,CD2,CD4,CD5
CD4	Mini projects/Projects	CO4	CD1,CD3,CD4, CD5
CD5	Laboratory experiments /teaching aids	CO5	CD1,CD4,CD5,CD8
CD6	Industrial/guest lectures		
CD7	Industrial visits/in-plant training		
CD8	Self-learning such as use of NPTEL materials and internets		
CD9	Simulation		

VALUE ADDED COURSE GROUP: VAC*

Level	Course Code	Name of the Value Added Course (VAC)	L	T	P	C
1	MN25103	Yoga	1	0	2	2
1	MN25104	Physical Education	1	0	2	2
1	MN25111	Digital Empowerment	2	0	0	2
1	MN25112	Emotional Intelligence	2	0	0	2

MN25103 Yoga

COURSE INFORMATION SHEET

Course code: MN25103
Course title: Yoga
Nature of course: Lecture
Pre-requisite(s): NIL
Co-requisite(s): NIL
Credits: 2 L:1 T:0 P:2
Class schedule per week: 03
Class: B. Sc. (Business Analytics)
Semester / Level: I-II/ 1
Branch: Business Analytics
Name of Teacher:

COURSE OBJECTIVES

This course enables the students:

1	To provide the knowledge of Yoga
2	To provide the knowledge of various Asanas
3	To envelop the understanding and knowledge of Origin of yoga
4	Understand, appreciate, and apply yoga practices in daily life
5	To understand historical development of yoga in India

COURSE OUTCOMES

After the completion of this course, students will able to:

CO1	To learn about various Yoga Asanas, Sat karmas and Pranayams
CO2	To understand the importance of yoga in physical education and other Fields.
CO3	To clearly understand, appreciate and carry out the improvements needed to ensure a sustainable life
CO4	To justify the practical considerations involving yogic culture.
CO5	To be proficient enough to develop and modify asana into a healthy lifestyle.

SYLLABUS

Module 1: (6 Lectures)

Origin of Yoga, definition and scope of yoga, limitations and misconceptions, importance of yoga in physical education and other fields.

Module 2: (5 Lectures)

Historical development of yoga in India. Types of Yoga: Hatha yoga, Laya yoga, Mantra yoga, Bhakti yoga, Karma yoga, Jnana yoga, Raj yoga.

Module 3: (6 Lectures)

Patanjali Yoga Sutras: Yama, Niyama, Asana, Pranayama, Pratyahar – Benefits and utilities of these.
Ashtanga Yoga**:** Definition, objectives, Dharna, Dhyan, Samadhi and their psychological impact.

Module 4: (7 Lectures)

Asanas: Types, importance of asanas in special reference to Physical Education and Sports. Differentiate between asanas and exercise.

Module 5: (6 Lectures)

Pranayama and the importance of pranayama in special reference to physiological effects. Importance of vegetarianism in yogic diet. Bandhas, Mudras and their physiological effects.

Text Books

Day, P. (1986). *Yoga Illustrated Dictionary*. Jaico Pub. House, New Delhi.
Debnath, M. (2007). *Basic Core Fitness Through Yoga and Naturopathy*. Sports Publication, New Delhi.

Reference Books:

Kumar, E. R. (1988). *Heal Yourself with Yoga: Specific Disease*. Taraporevala, Bombay.

Gaps in the Syllabus (to meet Industry/Profession Requirements):

POs met through Gaps in the Syllabus

Topics Beyond Syllabus / Advanced Topics / Design:

POs met through Topics beyond Syllabus / Advanced Topics / Design

Course Delivery methods
Lecture by use of boards/ LCD projectors/ OHP projectors
Tutorials/Assignments
Seminars
Mini projects/ Projects
Laboratory experiments/teaching aids
Industrial/guest lectures
Industrial visits/in-plant training
Self-learning such as use of NPTEL materials and internets
Simulation

Course Outcome (CO) Attainment Assessment tools & Evaluation procedure

Direct Assessment

Assessment Tool	% Contribution during CO Assessment
End Sem Examination Marks	50
Mid Sem Examination Marks	25
Quiz(s)	20
Independent Teaching Assessment	5

Indirect Assessment–

Student Feedback on Faculty

Student Feedback on Course Outcome

Mapping between Objectives and Outcomes

Mapping of Course Outcomes on to Program Outcomes

Course Outcome	Program Outcomes			
	A	B	C	D
1	L	M	M	L
2	H	L	H	M
3	H	M	M	M
4	H	H	H	M
5	M	H	M	H

Mapping Between Cos and Course Delivery (CD) Methods

CD	Course Delivery methods	Course Outcome	Course Delivery Method
CD1	Lecture by use of boards/LCD projectors/OHP projectors	CO1	CD1
CD2	Tutorials/Assignments	CO2	CD1,CD2,CD4
CD3	Seminars	CO3	CD1,CD2,CD4
CD4	Mini projects/Projects	CO4	CD1,CD2,CD3,CD4
CD5	Laboratory experiments/ teaching aids		
CD6	Industrial/guest lectures		
CD7	Industrial visits/in-plant training		
CD8	Self-learning such as use of NPTEL materials and internets		
CD9	Simulation		

MN25104 Physical Education

COURSE INFORMATION SHEET

Course code: MN25104
Course title: Physical Education
Nature of course: Lecture
Pre-requisite(s): NIL
Co-requisite(s): NIL
Credits:2 L:1 T:0 P: 2
Class schedule per week: 03
Class: B. Sc. (Business Analytics)
Semester / Level: I / 1
Branch: Business Analytics
Name of Teacher:

COURSE OBJECTIVES

This course enables the students:

1	To understand the basic concepts of Physical Education and changing trends in Physical Education.
2	To have an insight into Meaning and Importance of Wellness, Health, and Physical Fitness
3	To know the Importance of Test, Measurements and Evaluation in Sports
4	To have an idea about management of sporting events and making of various committee to manage the sports events.
5	To know about the importance of balanced diet and nutrition inhuman life.

COURSE OUTCOMES

After the completion of this course, students will be able to:

CO1	To understand the importance of physical education in human life.
CO2	To analyse wellness, Health and physical fitness.
CO3	To know various test, measurement, and evaluation techniques in sports
CO4	To apply various leadership role in managing sporting events.
CO5	To demonstrate he importance of balanced diet and nutrition.

SYLLABUS

Module-1: Introduction to Physical Education (7 Lectures)
Meaning, concepts, Aims & Objectives of Physical Education, Development of Physical Education in India – Post Independence, Changing Trends in Sports - playing surface, wearable gears and sports equipment, technological advancements, Career Options in Physical Education.

Module-2: Physical Fitness, Health and Wellness (5 Lectures)
Meaning and Importance of Wellness, Health and Physical Fitness, Components/Dimensions of Wellness, Health and Physical Fitness, Traditional Sports & Regional Games for promoting wellness, Leadership through Physical Activity and Sports.

Module-3: Test, Measurement & Evaluation (6 Lectures)
Define Test, Measurements and Evaluation, Importance of Test, Measurements and Evaluation in Sports, Calculation of BMI, Waist–Hip Ratio, Skinfold measurement (3-site), Classification of Test in Physical Education and Sports, Measurements of health-related fitness.

Module-4: Management of Sporting Events (6 Lectures)
Functions of Sports Events Management (Planning, Organising, Staffing, Directing & Controlling), Various Committees & their Responsibilities (pre, during & post), Fixtures and their Procedures – Knock-Out (Bye & Seeding) & League (Staircase, Cyclic, Tabular method) and Combination tournaments, Intramural & Extramural tournaments – Meaning, Objectives & Its Significance in sports.

Module-5: Sports & Nutrition (6 Lectures)
Concept of balanced diet and nutrition, Macro and Micro Nutrients: Food sources & functions, Nutritive & Non-Nutritive Components of Diet, Eating for Weight control – A Healthy Weight, The Pitfalls of Dieting, Food Intolerance, and Food Myths, Importance of Diet in Sports - Pre, During and Post competition Requirement.

Text Books
Dr. V. K. Sharma, *Health and Physical Education* (New Saraswati House, New Delhi). Revised edition - 2022.

Reference Books
Vinod Pillai R, Vinod M. L, *Physical Education*, Oswal Publishers, 2023
Dr. Loveleena Nadir, Dr. Anil Nadir, *Essentials of Physical Education*, Sultan Chand and Sons, 2023.

Course Delivery Methods

Lecture by use of boards/LCD projectors/OHP projectors
Tutorials/Assignments
Seminars
Simulation
Mini projects/Projects
On the field training
Guest lectures
Demonstrating sports events
Self-learning such as use of NPTEL materials and internet

Gaps in the Syllabus (to meet Industry/Profession requirements)
POs met through Gaps in the Syllabus
Topics beyond syllabus / Advanced topics / Design
POs met through Topics beyond syllabus / Advanced topics / Design

Course Outcome (CO) Attainment Assessment Tools & Evaluation Procedure:

Direct Assessment

Assessment Tool	% Contribution during CO Assessment
First Quiz	10
Mid Semester Examination	25
Second Quiz	10
Teacher's Assessment	05
End Semester Examination	50

Indirect Assessment

Student Feedback on Course Outcome.

Mapping of Course Outcomes on to Program Outcomes:

Course Outcome	Program Outcomes (POs)			
	A	B	C	D
CO1	H	L	H	H
CO2	H	H	H	M
CO3	H	M	L	H
CO4	H	M	H	H
CO5	H	L	H	M

Correlation Levels L, M or H as defined below:

L: Slight (Low)

M: Moderate (Medium)

H: Substantial (High)

Mapping Between Cos and Course Delivery (CD) methods

CD Code	Course Delivery Methods	Course Outcome	Course Delivery Method Used
CD1	Lecture by use of Boards/LCD Projectors	CO1	CD1,CD5,CD3
CD2	Tutorials/Assignments	CO2	CD1,CD2,CD4
CD3	Seminars	CO3	CD1,CD5,CD6,CD7
CD4	Mini Projects/Projects	CO4	CD1,CD2,CD5,CD8
CD5	On the field training	CO5	CD1, CD2, CD3, CD4, CD6, CD8, CD9
CD6	Guest Lectures		
CD7	Demonstrating sports events		
CD8	Self-learning such as use of NPTEL Materials and Internets		
CD9	Simulation		

MN25111 Digital Empowerment

COURSE INFORMATION SHEET

Course code: MN25111
Course title: Digital Empowerment
Nature of course: Lecture
Pre-requisite(s): NIL
Co- requisite(s): NIL
Credits: 2 L:2 T:0 P:0
Class schedule per week: 02
Class: B.Sc. (Business Analytics)
Semester / Level: I-II / 1
Branch: Business Analytics
Name of Teacher:

COURSE OBJECTIVES

This course enables the students:

1	To gain understandings of need for digital empowerment and the digital world
2	To create awareness about Digital India.
3	To get the knowledge of cyber space
4	To understand the concept of cyber security and cyber safety

COURSE OUTCOMES

After the completion of this course, students will able to:

CO1	Gaining an insight of the concepts of digital services
CO2	Awareness about cyber space
CO3	Awareness about of cyber security
CO4	Ethics in digital Technology
CO5	Knowledge of Digital India

SYLLABUS

Module- 1: Concept of Digital Empowerment (6 Lectures)

Introduction to digital empowerment, examples, benefits and features of digital empowerment, digital inclusion, elements of digital inclusion, main goal of empowermentTechnology

Module- 2: Cyber space (6 Lectures)

Definition, examples, types, characteristics, layers and uses of cyberspace, difference between cyber and cyberspace, 5 W's of cyberspace, cybercrime concept, red cyberspace, cyberspace And physical world.

Module-3: Cyber security (4 Lectures)

Online security and privacy, importance and benefits of cyber security, cyber security and its role, types of cyber security, cyber security threats, different apps for cyber security, Security Initiatives by the Govt of India

Module-4: Ethics in digital Technology (4 Lectures)

Introduction to ethics in digital technology, importance, types and main parts of digital ethics, Impact of technologies in ethics, Examples, and scope of digital ethics

Module-5: Digital India (6 Lectures)

Digital India, uses of digital India, broadband highways, universal connectivity with mobile phones, public internet access program, IT for jobs, early harvest programs public utility portals of Govt. of India such as RTI, Health, Finance, Income Tax filing and Education

Text Books/ Reference Books:

David Sutton. "Cyber security: A practitioner's guide", BCS Learning & DevelopmentLimited, UK, 2017.
Rodney Jones and Christoph Hafner. "Understanding digital literacies: practical Introduction". Routledge Books, 2nd edition, 2021.

Online Resources

https://www.cybersafeindia.in
https://www.cybercrime.gov.in
https://www.digilocker.gov.in

https://www.digitalindia.gov.in
Gaps in the syllabus (to meet Industry/ Profession requirements)

Pos met through Gapsin the Syllabus

Topics beyond syllabus/Advanced topics /Design

POs met through Topics beyond syllabus/ Advanced topics /Design

Course Delivery methods
Lecture by use of boards /LCDprojectors/OHP projectors
Tutorials/Assignments
Seminars
Mini projects/Projects
Laboratory experiments/teaching aids
Industrial/guest lecture
Industrial visits/in-plant training
Self-learning on Government portals
Simulation

Course Outcome (CO) Attainment Assessment tools & Evaluation procedure

Direct Assessment

Assessment Tool	% Contribution during CO Assessment
End Sem Examination Marks	50
Mid Sem Examination Marks	25
Quiz(s)	20
Independent Teaching Assessment	5

Indirect Assessment–

Student Feedback on Faculty

Student Feedback on Course Outcome

Mapping between Objectives and Outcomes Mapping of Course Outcomes on to Program Outcomes

Course Outcome	Program Outcomes			
	A	B	C	D
CO1	H	M	M	L
CO2	H	M	H	M
CO3	H	M	M	M
CO4	H	H	H	M
CO5	H	M	H	M

Mapping Between Cos and Course Delivery (CD) methods			
CD	Course Delivery methods	Course Outcome	Course Delivery Method
CD1	Lecture by use of boards/LCD projectors/OHP projectors	CO1	CD1
CD2	Tutorials/Assignments	CO2	CD1,CD2,CD4
CD3	Seminars	CO3	CD1,CD2,CD4
CD4	Mini projects/Projects	CO4	CD1, CD2,CD3,CD4
CD5	Laboratory experiments/teaching aids		
CD6	Industrial/guest lectures		
CD7	Industrial visits/in-plant training		
CD8	Self-learning on internets		
CD9	Simulation		

MN25112 Emotional Intelligence

COURSE INFORMATION SHEET

Course code: MN25112
Course title: Emotional Intelligence
Nature of course: Lecture
Pre-requisite(s): NIL
Co- requisite(s): NIL
Credits: 2 L:2 T:0 P:0
Class schedule per week: 02
Class: B.Sc. (Business Analytics)
Semester / Level: I-II / 1
Branch: Business Analytics
Name of Teacher:

COURSE OBJECTIVES

This course enables the students:

1.	To acquaint the student with conceptual knowledge of emotional intelligence.
2.	To Foster the ability to identify and manage one's own emotions.
3.	To enable the students to acquire the necessary knowledge of emotionalintelligence necessary for work place and efficient human relations
4.	To train them in application of emotional intelligence techniques.
5.	To examine the applications of emotional intelligence in work place

COURSE OUTCOMES

After the completion of this course, students will able to:

CO1	Understanding of the theoretical concept of emotional intelligence.
CO2	Fostering the ability to identify and manage one's own emotions, as well as the emotions of others.
CO3	To understand and deal with negative emotional states and promote morepositive emotions in its place.
CO4	Evaluate own potential as future business leaders and construct an individualaction plan.
CO5	To understand the application of emotional intelligence in myriad settings,such as the workplace, relationships etc.

SYLLABUS

Module 1: Introduction to emotional intelligence (6 Lectures)

Concept of emotional intelligence: Concept, Historical development and components of emotional intelligence, Emotional intelligence competencies: Self –awareness, self-management,empathy, interpersonal skills, social awareness, and relationship management, Importance of emotional intelligence.

Module 2: Emotions and Emotional Education (6 Lectures)

Emotions, emotional education, Models of emotional intelligence: Ability, Trait and Mixed, Applications of models.

Module 3: Emotional competences (6 Lectures)

Stress, frustration, relaxation, conflict management, levels of emotional awareness, recognizing emotions in oneself, the universality of emotional expression, perceiving emotions accurately in others.

Module 4: Personal competence (6 Lectures)

Self-Awareness: Observing and recognizing one's own feelings, Knowing one's strengths and areas of development, Self-Management: Managing emotions, anxiety, fear, and anger, therelationship between thought and behaviour, techniques of managing emotions, strategies to improve EI.

Module 5: Measurement and Development (6 Lectures)

Measures of emotional intelligence, Strategies to develop and enhance emotional intelligence, Social Awareness: Others' Perspectives, Empathy and Compassion, Relationship Management: Effective communication, Collaboration, Teamwork and Conflict management, leadership and motivation, work environment, team building, group dynamisation, application of EI in various contexts .

Text Books

Singh. D (2003) emotional intelligence at work, New Delhi: Response Book.
Goleman, D (1998) working with emotional intelligence ,New York ,Bantam Books
Goleman, D (1995) Emotional Intelligence, New York ,Bantam Books

Reference Books:

Anand, P (2017) Emotional Intelligence: Journey to self-Positive, New Delhi: Thereaders Paradise.
Bar-On,R, & Parker ,J.D.A(Eds) (2000) the handbook of emotional intelligence, SanFrancisco, California: Jossey Bros.

Gaps in the syllabus (to meet Industry/Profession requirements)POs met through Gaps in the Syllabus

Topics beyond syllabus/Advanced topics/Design

POs met through Topics beyond syllabus/Advanced topics/Design

Programme Outcome (PO) Attainment Assessment tools & EvaluationProcedure for Direct Assessment

Assessment Tool	% Contribution during CO Assessment
End Sem Examination Marks	50
Mid sem Examination Marks	25
Quiz(s)	20
Independent teaching Assessment	05

Indirect Assessment

Student Feedback on Faculty

Student Feedback on Programme Outcome

Mapping of Course Outcomes onto Programme Outcome

Course	Program Outcomes			
Outcome	A	B	C	D
1	H	L	M	L
2	H	H	H	M
3	H	H	H	H
4	H	L	H	L
5	H	M	H	M

Course Delivery methods
Lecture by use of boards/ LCD projectors/OHP projectors
Tutorials/Assignments
Seminars
Mini projects/Projects
Laboratory experiments/teaching aids
Industrial/guest lectures
Industrial visits/in-plant training
Self-learning such as use of NPTEL materials and internet
Simulation

Mapping between Cos and Course Delivery (CD) methods

CD	Course Delivery methods	Course Outcome	Course Delivery Method
CD1	Projectors	CO1	CD1,CD2,CD3
CD2	Tutorials/Assignments	CO2	CD1,CD2,CD3
CD3	Seminars	CO3	CD1,CD2,CD3
CD4	Mini projects/Projects	CO4	CD1,CD2,CD3,CD4
CD5	Laboratory experiments/teaching aids		
CD6	Industrial/guest lectures	CO5	CD1,CD2,CD3,CD4,CD 5
CD7	Industrial visits/in-plant training Self-learning such as use of NPTELmaterials and		
CD8	Internets		
CD9	Simulation		

VOCATIONAL COURSE GROUP: VOC*

Level	Course Code	Name of the Vocational Course (VOC)	L	T	P	C
1	MN25120	Event Management	3	0	0	3
1	CA25133	Fundamentals of Multimedia	3	0	0	3
1	MN25121	Office Management and Secretarial Practice	3	0	0	3
2	MN25214	Basics of Financial Markets and Equity Research	3	0	0	3
2	CA25225	Business Intelligence	3	0	0	3

MN25120 Event Management

COURSE INFORMATION SHEET

Course Code: MN25120

Course Title: Event Management

Pre-requisite(s): NIL

Co-requisite(s): NIL

Credits: 03 L-T-P: 3-0-0

Class Schedule per Week: 03

Class: B. Sc. (Business Analytics)

Semester / Level: 1

Branch: Business Analytics

Name of Teacher:

COURSE OBJECTIVES

This course enables the students:

1	To understand the fundamentals and types of events and their importance in the service
2	To develop planning, budgeting and management skills required to organize events.
3	To gain practical knowledge about MICE, exhibitions and trade fairs.
4	To learn about logistical, legal and operational aspects of managing events.
5	To explore modern event technology, human resource planning and risk management.

COURSE OUTCOMES

After the completion of this course, students will able to:

CO1	Understand the core concepts, characteristics and classification of events.
CO2	Explain the components, evolution and significance of MICE (Meetings, Incentives, Conferences, and Exhibitions).
CO3	Identify various event venues and understand planning, logistics and requirements related to them.
CO4	Evaluate trade shows and exhibitions in terms of their types, benefits and stakeholder negotiations.
CO5	Demonstrate knowledge of incentive tours, modern event technologies and human resource needs in the event industry.

SYLLABUS

Module 1: Introduction to Event Management (9 Lectures)

Overview of event management: definition, scope and relevance in the service sector. Classification and characteristics of events. Role of events in branding, communication, and marketing. Key principles and components of successful event planning.

Module 2: MICE – Meetings, Incentives, Conferences, and Exhibitions (7 Lectures)

Understanding the concept and historical development of the MICE industry. Significance of MICE in tourism and business. Steps involved in designing and planning MICE events. Prominent MICE destinations in India and their infrastructure.

Module 3: Event Venues and Operations (7 Lectures)

Types and categories of event venues. Criteria for venue selection, site design and space planning. Operational requirements including logistics, equipment and support services. Legal permissions and regulatory compliances for event execution.

Module 4: Trade Fairs and Exhibitions (9 Lectures)

Introduction to exhibitions and trade fairs: types and classifications. Objectives and strategic importance for businesses. Promotion strategies and marketing approaches. Stakeholder engagement, negotiation techniques and managing contracts.

Module 5: Incentive Tours and Event Technology (8 Lectures)

Concept and purpose of incentive travel. Emerging trends in event technologies and their applications. Human resource planning, staffing and team roles in event management. Essentials of budgeting, cost estimation, and risk assessment.

Text Books

1. Singh, R., Meeting Conference Association, Event and Destination Management, Kanishka Publishers and Distributors, 2006
2. Hoyle, L. H., Dorf, D.C., & Jones, T. J. A., Convention Management and Service. Educational institute of AH & MA., 1995
3. Montgomery, R. & Strick S .K., Meetings, Conventions, and Expositions: An Introduction to the Industry, John Wiley & Sons Inc., 1995

Reference Books

1. Berridge, G. (2006) Events design and experience. Oxford: Butterworth Heinemann. Bowdin, G. A. J. (2011) Events management. 3rd ed. London: Butterworth-Heinemann.
2. Columbus, G. and Goldblatt, J. J. (2010) The complete guide to careers in special events: step

toward success! New York: Wiley.
3. Davidson, R. and Rogers, T. (2006) Marketing destinations and venues for conferences, conventions and business events: a convention and event perspective. Oxford: Butterworth-Heinemann.

Gaps in the Syllabus (to meet Industry/Profession requirements) POs met through Gaps in the Syllabus

Topics beyond syllabus / Advanced topics / Design

POs met through Topics beyond syllabus / Advanced topics / Design

Course Delivery Methods
Lecture by use of boards / LCD projectors / OHP projectors
Tutorials / Assignments
Seminars
Mini-projects / Projects
Laboratory experiments / Teaching aids
Industrial / Guest lectures
Industrial visits / In-plant training
Self-learning such as use of NPTEL materials and internet
Simulation

Course Outcome (CO)Attainment Assessment tools & Evaluation procedure

Direct Assessment

Assessment Tool	% Contribution during CO Assessment
End Sem Examination Marks	50
Mid Sem Examination Marks	25
Quiz(s)	20
Independent Teaching Assessment	5

Indirect Assessment–

1. Student Feedback on Faculty

2. Student Feedback on Course Outcome

Mapping of Course Outcomes on to Program Outcomes

Course Outcome #	Program Outcomes			
	A	B	C	D
CO1	M	L	H	M
CO2	H	M	M	M
CO3	M	M	H	H
CO4	H	H	H	H
CO5	H	H	H	H

Course Delivery methods	**Course Outcome**	**Course Delivery Methods**
Lecture by use of boards / LCD projectors / OHP projectors	CO1	CD1
Tutorials / Assignments	CO2	CD1, CD2
Seminars	CO3	CD1, CD3
Mini-projects / Projects	CO4	CD1, CD2, CD4
Laboratory experiments / Teaching aids	CO5	CD1, CD2, CD3, CD4,
Industrial/guest lectures		
Industrial visits/in-plant training		
Self learning such as use of NPTEL materials and inte		
Simulation		

CA25133 Fundamentals of Multimedia

COURSE INFORMATION SHEET

Course Code: CA25133
Course Title: Fundamentals of Multimedia
Pre-requisite(s): None
Co-requisite(s): None
Credits:3 L:3 T:0 P:3
Class schedule per week: 3
Class: B. Sc. (Business Analytics)
Semester/Level: 1
Branch: Business Analytics

COURSE OBJECTIVES

This course enables the students to:

1	Understand multimedia concepts and terminologies.
2	Explain various components of multimedia systems.
3	Recognize the hardware and software used in multimedia development.
4	Analyze compression techniques, file formats, and standards used in multimedia.
5	Apply multimedia principles in real-world applications such as education, entertainment, and advertising.

COURSE OUTCOMES

After the completion of this course, students will be able to:

CO1	Define and explain key concepts, types, and applications of multimedia.
CO2	Describe multimedia elements like text, images, audio, video, and animation and their working principles.
CO3	Identify multimedia tools and hardware components used in system design and authoring.
CO4	Explain multimedia file formats and apply compression techniques.
CO5	Analyze multimedia applications in real-life scenarios and suggest basic project solutions.

SYLLABUS

MODULE	(NO. OF LECTURE HOURS)
Module 1: Introduction to Multimedia Definition and types of multimedia, Multimedia vs traditional media, Components of multimedia Applications: Education, Entertainment, Advertising, Virtual Reality, Web	**6**
Module 2: Multimedia Elements Text: Fonts, Unicode, text compression Image: Bitmap and vector graphics, color models (RGB, CMYK) Audio: Sampling, MIDI, digital audio, audio file formats Video: Frame rate, resolution, standards (PAL, NTSC), video file formats Animation: Types, techniques, and principles of animation	**6**
Module 3: Multimedia Hardware and Software Input and output devices: Scanners, cameras, microphones, speakers Storage devices: CD/DVD, SSD, Flash Display devices: Monitors, projectors Authoring tools: Types (Icon-based, Timeline-based)	**7**

Module 4: Compression and File Formats Need for compression Lossless vs Lossy compression Image compression (JPEG, PNG), Audio (MP3, WAV), Video (MPEG, AVI) Codecs and containers Multimedia file standards and compatibility	**7**
Module 5: Multimedia Systems and Applications Multimedia communication systems Multimedia in web design Multimedia databases and streaming Case studies: e-learning platforms, gaming, social media Ethical and legal issues in multimedia (copyrights, licenses)	**7**

TEXTBOOKS:

1. Introduction to Multimedia (O2.R0) by Satish Jain [BPB Publication]

REFERENCE BOOKS:

1. Adobe Photoshop Classroom in a Book by Conrad Chavez
2. Adobe Premiere Pro Classroom in a Book by Maxim Jago

Gaps in the Syllabus (to meet Industry/Profession requirements)

POs met through Gaps in the Syllabus

Topics beyond syllabus/Advanced topics/Design

POs met through Topics beyond syllabus/Advanced topics/Design

Course Outcome(CO) Attainment Assessment Tools & Evaluation Procedure

Direct Assessment

Assessment Tool	% Contribution during CO Assessment
First Quiz	10
Mid Semester Examination	25
Second Quiz	10
Teacher's Assessment	5
End Semester Examination	50

Indirect Assessment

1. Student Feedback on Faculty
2. Student Feedback on Course Outcome

Mapping between Cos and Program Outcomes

Course outcome	Program Outcomes (POs)												Program Specific Outcomes		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CO1	3	2	1	1	1	1	1	2	1	2	1	1	3	2	2
CO2	3	2	2	1	1	1	1	2	1	2	1	1	2	3	2
CO3	3	2	2	3	1	1	1	2	1	1	2	2	3	3	2
CO4	3	2	2	3	1	1	1	2	1	1	2	2	2	3	2
CO5	2	3	3	2	2	2	2	3	2	3	2	3	2	2	3

Correlation Levels 1, 2, or 3 as defined below: 1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

Mapping Between Cos and Course Delivery (CD) methods

CD Code	Course Delivery Methods	Course Outcome	Course Delivery Method Used
CD1	Lecture by use of Boards/LCD Projectors	CO1	CD1, CD2
CD2	Tutorials/Assignments	CO2	CD1, CD2
CD3	Seminars	CO3	CD1, CD2
CD4	Mini Projects/Projects	CO4	CD1, CD2
CD5	Laboratory Experiments/Teaching Aids	CO5	CD1, CD2
CD6	Industrial/Guest Lectures		
CD7	Industrial Visits/In-plant Training		
CD8	Self-learning such as use of NPTEL Materials and Internet		
CD9	Simulation		

MN25121 Office Management and Secretarial Practice

COURSE INFORMATION SHEET

Course code: MN25121
Course title: Office Management and Secretarial Practice
Pre-requisite(s): NIL
Co-requisite(s): NIL
Credits:3 L:3 T:0 P: 0
Nature of course: Lecture
Class schedule per week:03
Class: B. Sc. (Business Analytics)
Semester:
Level: I / 1
Branch: Business Analytics
Name of Teacher:

COURSE OBJECTIVES

This course aims to enable the students:

1.	To understand the basics of Office Management.
2.	To understand Filing, Indexing and Publishing.
3.	To understand Mailing Procedures and Forms Used in Office.
4.	To understand Budget and Audit.
5.	To understand the Secretarial Practice.

COURSE OUTCOMES

After the completion of this course, students will be able:

CO1	To apply the basic knowledge of Office Management.
CO2	To apply the Filing, Indexing and Publishing in offices.
CO3	To understand Mailing Procedures and design forms used in offices.
CO4	To apply various concepts linked with Budgeting and Auditing.
CO5	To understand and apply Secretarial Practice.

SYLLABUS

Module 1: Office Management (8 lectures)

Office Management: Introduction, Objectives, Importance, Functions of Office Management, Activities of Office
Duties And Responsibilities of Office Manager: Introduction, Roles of Office Manager, Duties of Office Manager, Qualities of a Good Office Manager, Functions of Office Manager, Skills required to be an Office Manager

Module2: Filing, Indexing and Publishing (8 lectures)

Filing of Documents: Introduction, Importance of Filing, Essentials of Good Filing System, Office Filing Procedure, Centralized v/s Decentralized filing, System of Classification, Concept of Paperless Office Methods of Filing, Steps of Filing Procedure, Digitalization and Retrieval of Records, Weeding of Old Records
Indexing Documents: Introduction, Significance of Indexing, Essentials of a Good Indexing System, Advantages of a Good Indexing System, Types of indexing, Impact of Indexing in Office Management
Publishing Documents: Introduction, Publishing Platforms, Published Annual Reports

Module 3: Mailing Procedures and Forms Used in Office (9 lectures)

Office Forms: Introduction, Designing of Office Forms, Forms used in an Office, Internal Office Forms, External Contract Forms, Advantages and Disadvantages of using Forms, Form Control
Office Stationery: Introduction, Types of Stationery Used in Office, Importance of Managing Stationery, Selection of Stationery, Purchasing Principles, Purchase Procedure, Standardization of Stationery
Mailing Procedures: Introduction, Centralization of Mail Handling Work, Mailing through Posts/ Couriers/ Emails

Module 4: Budget and Audit (7 lectures)

Budget: Introduction, Budget, Types of Budgets, Advantages of Budget, Limitations of Budget, Process of Preparing the Budget, Heads of Expenditure, Recurring Expenditure, Non-Recurring Expenditure
Audit Process: Introduction, Audit, Importance of Audit, Types of Audits, Vouching, Importance of vouching, Principles of vouching, Verification of Assets and liabilities, Objectives of Verification, Importance of Verification, Difference between Vouching and Verification, Consumable/Stock register, Asset Register

Module5: Secretarial Practice (8 lectures)

Nature and Scope of Secretarial Work: Introduction, Definition of the Secretary, Importance of a

Secretary, Role of a Secretary, Duties of a Secretary, Qualifications of a Secretary, Importance of Secretarial work, Types of Secretaries General Principles of Meetings: Introduction, Classification of Meetings, Rules Governing Meetings, Preparation for and Conduct of Meetings Conduct of Meeting: Introduction, Rules Governing Discussion and Debate in Meetings, Order of Business, Motions, Amendments and Resolutions, Voting Procedures and Methods, Minutes of Meetings, Secretary Duties

Text Books

P.K. Ghosh, "Office Management", Sultan Chand & Sons. New Delhi
R.K. Chopra, Office Management, Himalaya Publishing House

Reference Books

B.R. Duggal, Office Management, Kitab Mahal, New Delhi.
S.P. Arora, Office Organisation and Management, Vikas Publishing House.
R.K. Chopra, Administrative Office Management, Himalaya Publishing House.

Web Resource:

eGyanKosh (https://egyankosh.ac.in/handle/123456789/85012)

Gaps in the syllabus (to meet Industry/Profession requirements)

POs met through Topics beyond syllabus/Advanced topics/Design

Course Delivery methods
Lecture by use of boards/LCD projectors/OHP projectors
Tutorials/Assignments
Seminars
Mini projects/Projects
Laboratory experiments/teaching aids
Industrial/guest lectures
Industrial visits/in-plant training
Self-learning such as use of NPTEL materials and internet
Simulation
Case Studies

Course Outcome (CO) Attainment Assessment tools & Evaluation procedure

Direct Assessment:

Assessment Tool	**% Contribution during CO Assessment**
End Sem Examination Marks	50
Mid Sem Examination Marks	25
Quiz(s)	20
Independent Teaching Assessment	5

Indirect Assessment–

Student Feedback on Faculty Student Feedback on Course Outcome

Mapping between Objectives and Outcomes

Mapping of Course Outcomes on to Program Outcomes

Course Outcomes	**Programme Outcomes**			
	A	**B**	**C**	**D**
CO1	H	L	H	H
CO2	H	M	H	M
CO3	H	M	L	H
CO4	H	M	H	H
CO5	H	L	H	M

CD	Course Delivery methods	Course Outcome	Course Delivery Method
CD1	Lecture by use of boards/Projectors	CO1	CD1
CD2	Tutorials/Assignments	CO2	CD1,CD2, CD4
CD3	Seminars	CO3	CD1
CD4	Mini projects/Projects	CO4	CD1, CD2,CD5,CD8
CD5	Laboratory experiments/teaching aids	CO5	CD1,CD2, CD3, CD4,CD6,CD8
CD6	Industrial/guest lectures		
CD7	Industrial visits/in-plant training		
CD8	Self-learning such as use of NPTEL materials and internet		
CD9	Simulation		

MN25214 Basics of Financial Markets and Equity Research

COURSE INFORMATION SHEET

Course Code: MN25214
Course Title: Basics of Financial Markets and Equity Research
Pre-requisite(s): NIL
Co-requisite(s): NIL
Credits: 03
L-T-P: 3-0-0
Class Schedule per Week: 03
Class: B. Sc. (Business Analytics)
Semester / Level 2
Branch: Business Analytics
Name of Teacher:

COURSE OBJECTIVES

This course enables the students:

1	To explain the fundamentals and types of financial markets and their role in the financial sector.
2	To get a clear concept of the long-term and short-term financing options.
3	To understand the methods for valuation of Shares and Weighted Average Cost of Capital.
4	To learn about equity research, fundamental analysis, and technical analysis.
5	To understand the capital market theory.

COURSE OUTCOMES

After the completion of this course, students will able to:

CO1	Understand the core concepts, fundamentals, and types of financial markets.
CO2	Identify the various methods for long-term and short-term financing.
CO3	Explain methods for valuation of Shares and Weighted Average Cost of Capital.
CO4	Evaluate the concept of equity research and comprehend fundamental and technical analysis.
CO5	Demonstrate knowledge of capital market theory and their application.

SYLLABUS

Module 1: Financial Markets- Capital Market and Money market (9 Lectures)

Primary capital market, Public issue, Rights issue, private placement of securities, SEBI guidelines on the book building of shares, SEBI guidelines of issue of debentures, Secondary/Stock market, Floor operations of stock exchanges Types of orders, Trading arrangements and settlement procedure, Limitation of Stock Market, Structure of Money Market in India, Instruments of money market. (9 Lectures)

Module 2: Sources of Long Term and Short-Term Finance (10 Lectures)

A. Long Term Sources:
Shares- Equity Share, Features of equity shares, Advantages of equity shares, Disadvantages of equity shares, Preference Shares - Features of preference shares, advantages of preference shares, disadvantages of preference shares, Debentures- Features of Debentures, advantages of debentures, disadvantages of debentures, extinction of debentures, amortization of debentures, evaluation of role of debentures, Term loans- Features of term loans, Lease Financing- lease agreement or lease deed, types of lease, advantages of leasing for the lessee, evaluation of lease financing, leasing and hire purchasing, IDBI bills rediscounting scheme, Retained Earnings.

B. Short Term Sources:
Treasury Bills, Commercial Papers, Certificates of Deposits, Short term bank loans, Call Money/Notice Money.

Module 3: Valuation of Shares and Weighted Average Cost of Capital *(6 Lectures)*

Methods for Valuation- methods based on valuation of assets, methods based on earning power of the company, methods based on market value, methods based on yield or earnings, weighted average cost of capital- its calculation and relevance.

Module 4: Equity Research- Fundamental and Technical Analysis (8 Lectures)

Equity Research- Meaning and Scope, Fundamental Analysis- Economic, Industry and Company, Technical Analysis- Relative Strength, MACD, Fibonacci Retracement, Bar Chart, Candlestick Chart, Parabolic SAR.

Module 5: Capital Market Theory (9 Lectures)

Markowitz Model and Efficiency Frontier, Evolution of Capital Asset Pricing Model (CAPM), Dominant Portfolio, Separation Theorem, Capital Market Line, CAPM, Security Market Line, Non- Standard Forms of CAPM Application of CML and CAPM.

Text Books

1. Financial Markets, Institutions and Financial Services by Clifford Gomez, PHI.
2. Equity Research and Valuation: Dun and Brad Street- Mc Graw Hills Professional.
3. Damodaran on Valuation: Ashwath Damodaran- Wiley publications.

Reference Books

1. LM Bhole. Financial institutions & markets: Structure, growth & innovations. TMH (5^{th} ed.) Donald, E.F. Ronald. J. Jordan, Security Analysis and Portfolio Management, Prentice Hall of India.
2. Bhalla, V. K., Investment management, S. Chand & Co Publications.
3. Chandra, Prasanna. (2008). Investment analysis and portfolio management. New Delhi: Tata McGraw – Hill Publications.
4. Kevin S. (2008). Security Analysis & Portfolio Management, New Delhi: PHI Learning Pvt Ltd Publications.

Gaps in the Syllabus (to meet Industry/Profession requirements) POs met through Gaps in the Syllabus

Topics beyond syllabus / Advanced topics / Design

POs met through Topics beyond syllabus / Advanced topics / Design

Course Delivery Methods
Lecture by use of boards / LCD projectors / OHP projectors
Tutorials / Assignments
Seminars
Mini-projects / Projects
Laboratory experiments / Teaching aids
Industrial / Guest lectures
Industrial visits / In-plant training
Self-learning such as use of NPTEL materials and internet
Simulation

Course Outcome (CO)Attainment Assessment tools & Evaluation procedure

Direct Assessment

Assessment Tool	% Contribution during CO Assessment
End Sem Examination Marks	50
Mid Sem Examination Marks	25
Quiz(s)	20
Independent Teaching Assessment	5

Indirect Assessment–

1. Student Feedback on Faculty
2. Student Feedback on Course Outcome

Mapping between Objectives and Outcomes

Mapping of Course Outcomes on to Program Outcomes

Course Outcome #	Program Outcomes			
	A	B	C	D
CO1	M	L	H	M
CO2	H	M	M	M
CO3	M	M	H	H
CO4	H	H	H	H
CO5	H	H	H	H

Mapping Between Cos and Course Delivery (CD) methods			
CD	Course Delivery methods	Course Outcome	Course Delivery methods
CD1	Lecture by use of boards / LCD projectors / OHP projectors	**CO1**	CD1
CD2	Tutorials / Assignments	**CO2**	CD1, CD2
CD3	Seminars	**CO3**	CD1, CD3
CD4	Mini-projects / Projects	**CO4**	CD1, CD2, CD4
CD5	Laboratory experiments / Teaching aids	**CO5**	CD1, CD2, CD3, CD4,
CD6	Industrial/guest lectures		
CD7	Industrial visits/in-plant training		
CD8	Self-learning such as use of NPTEL materials and internets		
CD9	Simulation		

CA25225 Business Intelligence

COURSE INFORMATION SHEET

Course Code: CA25225
Course Title: Business Intelligence
Pre-requisite(s): None
Co-requisite(s):
Credits: 3 L:3 T:0 P:0
Class schedule per week: 3
Class: B. Sc. (Business Analytics)
Semester/Level:
Branch: Business Analytics

COURSE OBJECTIVES

This course enables the students to:

1	Understand the fundamental concepts and components of Business Intelligence and its role in decision-making.
2	Gain knowledge of data preparation techniques including cleaning, transformation, and standardization.
3	Apply data mining techniques such as classification, clustering, and association to extract business insights.
4	Develop skills in using BI tools for creating dashboards, reports, and data visualizations.
5	Explore predictive analytics methods and emerging trends in Business Intelligence including real-time and AI-driven analytics.

COURSE OUTCOMES

After the completion of this course, students will be able to:

CO1	Explain the architecture, components, and applications of Business Intelligence systems.
CO2	Perform data cleaning, transformation, and preparation for analysis.
CO3	Apply data mining techniques such as classification, clustering, and association rule mining for business decision-making.
CO4	Design and develop dashboards and visual reports using BI tools.
CO5	Use predictive analytics methods and interpret results to support future business planning.

SYLLABUS

MODULE	(NO. OF LECTURE HOURS)
Module 1: Introduction to Business Intelligence (BI): Definition, scope, and importance of Business Intelligence (BI), BI vs. Business Analytics, Components of BI architecture and BI lifecycle, Applications of BI in various industries, Overview of BI tools and platforms.	4
Module 2: Data Preparation and Transformation: Data collection, integration, and cleaning, Handling missing and inconsistent data, Data standardization and normalization, Data transformation: log, root, square root.	4
Module 3: Data Mining Techniques: Classification, clustering, and association rule mining, Anomaly detection and pattern recognition, Decision trees, k-means clustering, Apriori algorithm, Interpreting mining results for business insights.	4
Module 4: BI Tools and Dashboards: Introduction to BI tools: Power BI, Tableau, Excel, Building dashboards and interactive reports, Key Performance Indicators (KPIs), Data visualization principles and best practices.	4
Module 5: Predictive Analytics and BI Trends: Regression, classification, and time series forecasting, Real-time analytics, and AI in BI.	4

TEXTBOOK

1. Sharda, R., Delen, D., & Turban, E. (2024). Business Intelligence, analytics, data science, and AI, Global edition (5th ed.). Pearson Education Limited.

REFERENCE BOOKS

1. Howson, C. (2013). Successful Business Intelligence (2nd ed.). McGraw-Hill.

2. Shmueli, G., Patel, N. R., & Bruce, P. C. (2017). Data Mining for Business Analytics: Concepts, Techniques, and Applications in R (1st ed.). Wiley.

Gaps in the Syllabus (to meet Industry/Profession requirements) POs

met through Gaps in the Syllabus

Topics beyond syllabus/Advanced topics/Design

POs met through Topics beyond syllabus/Advanced topics/Design

Course Outcome(CO)AttainmentAssessment Tools &Evaluation Procedure

Direct Assessment

Assessment Tool	% Contribution during CO Assessment
First Quiz	10
Mid Semester Examination	25
Second Quiz	10
Teacher's Assessment	5
End Semester Examination	50

Indirect Assessment

1. Student Feedback on Faculty
2. Student Feedback on Course Outcome

Mapping between Cos and Program Outcomes

Course outcome	Program Outcomes (PO)												Program Specific Outcomes (PSO)		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CO1	1	3	1	2	1	1	3	2	3	3	3	2	1	1	2
CO2	2	2	2	1	2	3	1	1	1	1	1	1	3	3	1
CO3	3	1	1	3	3	2	2	2	2	3	3	1	2	1	2
CO4	1	3	2	3	2	1	3	1	1	1	2	3	1	1	1
CO5	3	3	2	3	2	1	2	2	3	3	3	1	2	1	3

Correlation Levels 1,2 or 3 as defined below:

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

Mapping Between Cos and Course Delivery (CD) Methods

CD Code	Course Delivery Methods	Course Outcome	Course Delivery Method Used
CD1	Lecture by use of Boards/LCD Projectors	CO1	CD1,CD2,CD8
CD2	Tutorials/Assignments	CO2	CD1, CD2, CD5,CD8,CD9
CD3	Seminars	CO3	CD1, CD2, CD5,CD8,CD9
CD4	Mini Projects/Projects	CO4	CD1, CD2, CD5,CD8,CD9
CD5	Laboratory Experiments/Teaching Aids	CO5	CD1,CD2,CD8
CD6	Industrial/Guest Lectures		
CD7	Industrial Visits/In-plant Training		
CD8	Self- learning such as use of NPTEL Materials and Internet		
CD9	Simulation		