Mahatma Education Society's

Pillai HOC College of Arts, Science and Commerce

Pillai HOCL Educational Campus, Rasayani

NAAC Accredited with A+ Grade in Cycle 2

(ISO 9001: 2015 Certified)

2.6.1. QIM.

PROGRAMME OUTCOMES & COURSE OUTCOMES

(A.Y. 2023-24)

PILLAI'S HOC COLLEGE OF ARTS, SCIENCE & COMMERCE * RASAYANI *

Principal
Mahatma Education Society's
Pillai's HOC College of Arts,
Science and Commerce
HOC Educational Campus,
Rasayani, Tal. Khalapur,
Dist. Raigad, PIN-410 207.

INDEX	
Sr. No	**Programme Outcomes and Course Outcomes of following Programme**
1.	Bachelor of Science in Information Technology
2.	Bachelor of Science in Computer Science
3.	Bachelor of Science (Physics, Chemistry and Mathematics)
4.	Bachelor of Science in Data Science
5.	Bachelor of Science in Hospitality Science
6.	Bachelor of Commerce
7.	Bachelor of Commerce in Accounting & Finance (B.A.F.)
8.	Bachelor of Management Studies
9.	Bachelor of Arts (B.A.)
10.	Bachelor of Arts in Mass Media Communication
11.	Masters of Science in Information Technology
12.	Masters of Science(Organic Chemistry)
13.	Masters of Science(Physics))
14.	Masters of Commerce in Advanced Accountancy

Mahatma Education Society's
Pillai HOC College of Arts, Science and Commerce
Pillai HOCL Educational Campus, Rasayani
NAAC Accredited with A+ Grade in Cycle II
(ISO 9001: 2015 Certified)

Course Outcomes & Programme Outcomes

Programme: Bachelor of Arts (B.A)

Programme Outcomes

PO 1: The learners are expected to understand how cultural, historical, linguistic and environmental factors shape and influence the world.

PO 2: Students must be able to develop analytical and research skills.

PO 3: Students are expected to think critically and write creatively.

PO 4: Students must be able to extract and convey information accurately in a variety of formats and demonstrate social interaction.

PO 5: Students are expected to indulge in scholarly inquiry to identify and investigate questions of theoretical or applied nature.

PO 6: The programme enables the learners to demonstrate a detailed knowledge in one more disciplines and integrate knowledge and perspectives.

PO 7: Students must be able to appreciate literary text and analyse the social, economic and political factors behind the production and reception of the texts.

COURSE OUTCOMES

Semester: I

Course: Communication Skills in English

CO 1: The students will be able to understand and interpret any text they are reading from different perspectives
CO 2: The interest of students in listening to and watching good quality audio and visual media will be aroused.
CO 3: The students will acquire proficiency in the skills of listening, speaking, reading and writing that will help them meet the challenges of the world.
CO 4: The learners will develop good oral and written skills of communication in English language.

Course: Introduction to Literature- I

CO 1: Students must be able to comprehend and appreciate literature
CO 2: Students must get familiarized with types of novels and short stories
CO 3: Students will be able to write clearly, coherently and effectively about various genres of literature
CO 4:Students should develop the ability to recognize the culture and context of the work of literature
CO 5: Students must develop sensitivity to nature and fellow human beings

Course: Microeconomics

CO 1: Students are able to learn the concepts of microeconomics
CO 2: Students will able to learn different principles and develop the skills of application in microeconomics concepts to analysis
CO 3: Students will able to understand the market and their competition and can apply to real life situation
CO 4: students can understand the different concept of Consumer Behaviour
CO 5: To develop analytical thinking with help of statistical tools and application of microeconomics concepts in real life situations

Course: History

CO I. To understand the growth of Political Awakening with regards to the Revolt of 1857, Contributions of Political Association and the foundation of Indian National Congress
CO2. To understand the rising Nationalism in India through special reference to Moderates, Extremists and Revolutionary Nationalists

CO3. To appreciate the Gandhian Movements in the light of the Non Cooperation, Civil Disobedience and Quit India
CO4. To appreciate India's march towards Independence and Partition with special references to India Act of 1935, the Cripps Mission, the Cabinet Mission Plan and the Mountbatten Plan.

Course: Foundation Course

CO 1. To create social awareness at a preliminary level for students across the board
CO 2. To help the students to upgrade their knowledge on current challenges and issues of Indian society
CO3. To sensitize students about social problems plaguing Indian society and to emphasize the role of educated youth to address the same
CO4. To create awareness about growing social problems in India

Course: Hindi

CO 1. To enhance language proficiency in Hindi by providing adequate exposure to the works of prominent authors
CO 2. To strengthen the skills of debate, letter writing and discussions
CO 3. To increase the range of Hindi vocabulary

Semester: II

Course : Communication Skills in English- II

CO 1: To enhance English language proficiency of students by familiarizing them with the skills of Listening, Speaking, Reading and Writing (LSRW)
CO 2: To introduce learners to different perspectives of looking at a text or passage
CO 3: To equip learners in the functional aspects of English so that they use the acquired language skills correctly and confidently
CO 4: To guide learners in the effective use of the digital medium of communication.

Course: Introduction to Literature- II

CO 1: Students must be able to comprehend and appreciate literature
CO 2: Students must get familiarized with types poems and drama
CO 3: Students will be able to write clearly, coherently and effectively about various genres of literature especially poetry and drama
CO 4:Students should develop the ability to recognize the culture and context of the work of literature
CO 5: Students must develop sensitivity to nature and fellow human beings

Course: Microeconomics-II

CO 1: Students will understand the Production Function and different concepts
CO 2: students will understand the different types of cost and revenue anayalis and their Interrelationship
CO 3: students will learn classical and modern theory of rent
CO 4:students will also learn the loanable theory of Interest
CO 5 :students will understand equilibrium of different markets structure

Course: History

CO I. To comprehend various Socio-Religious Reform Movements in India
CO2. To make the learners aware of the Education, Press and Transport mode in India
CO3. To make the learners aware of the impact of British rule
CO4. To make the learners aware of various social groups

Course: Foundation Course

CO 1. To understand the impact of globalization on Indian society
CO 2. To introduce the concept of Human Rights and fundamental rights
CO3. To understand the importance of environment and sustainable development
CO4 : To recognize factors that cause stress and conflict in present times

Course: Hindi

CO 1. To enhance language proficiency in Hindi by providing adequate exposure to the works of prominent authors.
CO2. To increase the range of Hindi vocabulary.
CO3. To strengthen the skills of debate, letter writing and discussions.

Semester-III

Course: Foundation Course -II

CO 1: Students will be able to develop a basic understanding about issues related to Human Rights of weaker sections, ecology, science and technology
CO2: Students will be able to gain an overview of significant skills required to address competition in career choices
CO3: Students will be able to gain an overview of significant skills required to excel in a pluralistic society
CO4: Students will be able to improve their interpersonal skills
CO 5: Students will be able to improve their listening skills

Course: Business Communication

CO 1:• To develop awareness of the complexity of the communication process.
CO 2• To develop listening skills and become a critical listener
CO 3• To develop effective oral skills
CO 4 • To develop effective writing skills
CO 5• To develop ability to communicate effectively with the help of electronic media

Course: Introduction to Drama

CO 1: To develop interest and passion for drama and theatre.
CO 2: To be familiarized with the salient elements and characteristics of drama
CO 3: To be able to identify the different forms and types of drama
CO 4: To be capable to identify the various trends and characteristics of significant dramatic movements through the representative dramas
CO 5: To be equipped with the tools and techniques to critically appreciate drama
CO 6: To imbibe human values reflected in the selected plays
CO 7: To justify that drama is reflection / representation of life.
CO 8: To develop analytical skills and critical thinking through close reading of the representative dramas

Course: Introduction to Poetry- I

CO 1: Students should develop the ability to identify different genres and forms of poetry.
CO 2: Students must be able to identify poetic technique, style and rhetorical devices used in poetry
CO 3: Students will be able to critically appreciate poems by separating component part and investigating the relationship of the parts to the whole
CO 4: Students will develop the ability to demonstrate understanding of a wide range of poems from different historical periods, written in a wide range of forms, styles and subject matter.
CO 5: To identify the major poets of world literature and define the importance of their works.
CO 6: Students must be able to enhance their cultural sensitivity through reading of representative poems from diverse cultural contexts.

Course: Macroeconomics-I

CO 1: students will learn Macroeconomics and National Income concepts.
CO 2: Students will also the different forms of open and closed circular flow of income.
CO 3: students will learn the about consumption and investment functions.
CO 4: Students will acquaint the knowledge of Demand and supply of Money.

Course: Public Finance

CO 1: students will understand difference between Public finance and Private finance
CO 2: Students will understand the concepts of budget and taxation
CO 3: Students will understand the classification of Public expenditure and debt
CO 4 : Students will understand FRBM act 2004

Course: History II

CO 1: To enable the students to comprehend the transition of Europe from medieval to modern times and its impact on the rest of the world
CO 2: To acquaint the students with the growth of various political movements that shaped the modern world.
CO 3: To highlight the rise and growth of nationalism as a movement in different parts of the world
CO 4: To equip the students with an ability to understand and assess the contribution of world personalities

Course: History III

CO 1: To enable students to understand the Applied Social Sciences like Archaeology, Numismatics, Epigraphy etc. to hone their abilities to appreciate the true nature of History i.e. Sources.
CO 2: To acquaint the students with the importance of the Indus Valley Civilization as the first Urban Civilization in India
CO 3: To highlight the rise and growth of the Vedic Age along with its Polity, Economy, Socio-religious life, and education system
CO 4: To acquaint students with the knowledge of the rise of Janapadas, Jainism and Buddhism

Semester-IV

Course: Foundation Course -II

CO 1: Students will be able to understand and acquire knowledge about the various rights of consumers, Right to Information and various other rights in India
CO 2: To be able to understand the various approaches to understanding ecology like Anthropocentrism, Eco feminism, Sustainability Principle, Polluters Pay Principle, etc.
CO 3: Students will be able to grasp information on various soft skills required for competitive exams like motivation theories, goal setting, time management
CO 4: Students will be able to understand the various competitive exams and their requirements
CO 5: To expose them to the world of competitive Examinations (UPSC. SSC and Banking Sector)

Course: Business Communication

CO 1 Students should be able to understand the concept and importance of presentation
CO 2 Students should be able to understand group communication
CO 3 Students should be able to improve writing skills through business correspondence
CO 4 Students should be able to improve their language and writing skills

Course: Introduction to Drama- II

CO 1: To develop interest and passion for drama and theatre.
CO 2: To be familiarized with the salient elements and characteristics of drama.
CO 3: To be able to identify the different forms and types of drama.
CO 4: To be capable to identify the various trends and characteristics of significant dramatic movements through the representative dramas

CO 5: To be equipped with the tools and techniques to critically appreciate drama
CO 6: To imbibe human values reflected in the selected plays.
CO 7: To justify that drama is reflection / representation of life.
CO 8: To develop analytical skills and critical thinking through close reading of the representative dramas

Course: Introduction to Poetry- II

CO 1: Students should develop the ability to identify different genres and forms of poetry
CO 2: Students must be able to identify poetic technique, style and rhetorical devices used in poetry
CO 3: Students will be able to critically appreciate poems by separating component part and investigating the relationship of the parts to the whole
CO 4: Students will develop the ability to demonstrate understanding of a wide range of poems from different historical periods, written in a wide range of forms, styles and subject matter.
CO 5: To identify the major poets of world literature and define the importance of their works.
CO 6: Students must be able to enhance their cultural sensitivity through reading of

representative poems from diverse cultural contexts.

Course: Macroeconomics-II

CO 1: Students will able to understand the concepts of inflation, hyperinflation and stagflation
CO 2: Students will learn the Economic policy- functions of monetary policy and fiscal Policy
CO 3: students will understand the Integration of Commodity and Money Market
CO 4: Students will understand the structure of balance of payments and its disequilibrium and correction of it.

Course: **Indian Economy**

CO 1: Students will learn Structural Changes In Indian Economy
CO 2: Students will understand Role of Agriculture in Economic Development
CO 3: students will understand Infrastructure for Industrial Development sector.
CO 4: Students will acquire the knowledge of Role of Service Sector in Indian Economy, Growth and Performance of Healthcare

Course: History II

CO1. To comprehend the forces that led industrialized imperialistic Europe to conflict and cause the Great War.
CO2. To trace the rise of dictatorship Europe and understand its consequences
CO3. To locate important leaders in Asia and in the Middle East and study their programs
CO 4 To discuss the events and course of the Second World War and describe its consequences
CO 5. To critique the landmark developments of the 20thc with a view to understand the present

Course: History III

CO1. To acquaint the students with the emergence of the dynasties like Mauryan,

Shunga and Satavahanas and their Administrative structure.
CO 2. To enable the students to understand the Rise of Imperial Guptas and their Administrative structure
CO3. To enable students to understand the situation in India during the Post Gupta period with reference to Harshavardhana, Rajput's and Arab Invasion of Sind
CO4. To inspire students to appreciate the rich political history of South India which includes the rule of Pallavas, Chalukyas, Rashtrakutas and Cholas?

Semester-V
English Specialization

Course: 16th to 18th Century English Literature- I

CO 1: Students must be able to comprehend the evolution of literary genres like drama and poetry from the Elizabethan Age to the Jacobean Age
CO:2 Students must develop an ability to appreciate different forms drama and poetry
CO 3: Students will be able to understand how literature is embedded in socio political context
CO 4: Students must familiarize with the major writers and important literary texts
CO 5: Students will be able to analyse and interpret literary texts in specific socio political and cultural contexts.

Course: Literary Criticism- I

CO 1: To introduce the basic tenets of literary criticism and critical terms
CO 2: Students must aware of the nature and functions of literary criticism
CO 3: Students must be able to understand the evolution of literary criticism and theory
CO 4: To introduce the fundamental concepts of practical criticism and techniques of close reading
CO 5: To develop critical thinking, critical analysis and creative writing skills

Course: Grammar and Art of Writing- I

CO 1: Students will develop and demonstrate knowledge, understanding and competence in grammar and writing
CO 2: Students must be able to understand the basics of Phonetics, Morphology and Word Formation.
CO 3: Students must be able to gain adequate knowledge of the rules of grammar, grammatical analysis and sentence transformation.
CO 4: Students must be able to develop their skills in paragraph writing in various domains.
CO 5: Students are expected to apply the rules of grammar in constructing sentences and paragraphs.

Course: 19th Century English Literature- I

CO 1: To view literary works in their dynamic interface with the background
CO 2: To understand the literature of the 19th century as a complex outcome of artistic, intellectual and socio-political cross-currents
CO 3: To appreciate poetry as mirroring private personality, protest and subsequently, public concerns
CO 4: To view the development of the Victorian Novel as informed by Victorian morality as well as by larger democratic processes
CO 5: To contextualize the impulses behind the significant emergence of women writing in the 19th century

Course: 20th Century British Literature- I

CO 1: Students are expected to comprehend the trends and movements in 20th Century British Literature
CO 2: Students must be able to appreciate the plays and poetry written in 20th Century British Literature

CO 3: Students must be able to appreciate 20th Century British poetry and drama
CO 4: Students must be able to analyse literary a text being a reflective and imaginative thinker
CO 5: Students must be able to demonstrate competence in comprehending valuable correlations between the socio-cultural, economical and historical contexts in the production of literary text

Course: Drama and Theatre- I

CO 1: Analyze the social and artistic movements that have shaped theatre and drama.
CO 2: Apply discipline-specific skills to the creation of drama.
CO 3: Analyze the difference between the concepts of drama and theatre.
CO 4: Demonstrate knowledge of the history of drama and theatre as a literature and Performing art.

Semester-V
Economics Specialization

Course: Economics of Development

CO 1: Students will learn Concepts of Economic Growth and Development
CO 2: students will learn Structural Issues in Development Process with help different theory
CO 3:students will about Inequality, Poverty and Development and measures to alleviate the poverty
CO 4: students will understand Role of Infrastructure in economic development

Course: Environmental Economics

CO 1:Students will be able to understand the concept of environmental degradation
CO 2:Students will be able to understand the concept of green GDP, green consumer and green business
CO 3: Students will be able to understand the Smart Cities Mission.
CO 4:Students will be able understand the different sustainable goals
CO 5:Students will be able to understand the Pradhan Mantri Ujjwala Yojana

Course: History of Economics

CO 1: Students will learn about the classical Economist- Adam smith and David Ricardo
CO 2: Students will understand the journey Marginalist : Marshall To Schumpeter

CO 3:S students will learn about the Keynesian Ideas and his theory
CO 4: Students will learn about the noble Prize winner economist

Course: **Advanced Macroeconomics-I**

CO 1: Able to get knowledge on new market structure
CO 2:Able to understand the basic tools of economic theory
CO 3:Able to analyze the market behaviour with economic way of thinking
CO 4: Able to use the concepts of business economics in your day to day life.

Course: Indian Financial System-I

CO 1: Complete knowledge of the Financial System of India.
CO 2: Clarity about the basic concepts of money, money supply and money creation.
CO 3: Understanding of technical terms relating to Financial System like Derivatives, Stock etc.,
CO 4: Development of basic understanding relating to Life Insurance and General Insurance.

Course: Economics of Agriculture and Cooperation-I

CO 1: students will understand different Cropping Pattern Agricultural Productivity
CO 2: students will learn about Institutional and Non-Institutional Sources agriculture Credit
CO 3: Students will understand Types of agricultural Marketing and also about National Agricultural Market
CO 4: students will learn New Agricultural Policy – 2007

Course: Research Methodology

CO 1: understand and inculcate research in Economics
CO 2: exchange ideas and application of results of economic research
CO 3: help in formulation of problems in social science research
CO 4: understand data collection and presentation for quality research in social sciences.

Semester-V
History Specialization

Course: History VII - History of the Marathas

CO 1: To study different sources of Maratha History
CO 2: To understand the importance of Marathi sources, especially the Bakhar literature and its reliability as a source of Maratha History.
CO 3: To study the importance of Persian Sources
CO 4: To study the importance of European Sources of History of Marathas

Course: History V - History of Modern Maharashtra

CO 1: To acquaint students with regional history
CO 2: To understand political and socio-economic developments during the 19th and 20th centuries
CO 3: To create understanding of the movement that led to the formation of Maharashtra.

Course: History IV: History of Medieval India (1000 C.E-1526 C.E)

CO 1: To acquaint students with the history of early Medieval India that laid the foundation of Delhi Sultanate
CO 2: To understand the Administrative Structure of Delhi Sultanate
CO 3: To study the contribution of the Vijayanagara and Bahamani Kingdoms to Medieval India
CO 4: To examine the Socio-Economic, Religion and Cultural aspects of Medieval India

Course: VI-A: Introduction to Archaeology

CO 1: To understand the basic facets of Archaeology
CO 2: To understand Prehistoric, Proto-Historic and Early Historical Periods
CO 3: To evaluate the importance of Epigraphy
CO 4: To study the importance of Numismatics as an important source of History

Course: VIII: History of Contemporary World (1945-2000 C.E)

CO 1: To understand the Cold War period
CO 2: To analyse Europe, U.S.S.R and the U.S from 1985 to 2000
CO 3: To understand various Movements for equal rights and challenging the Bipolar World from 1945-2000 C.E
CO 4: To analyze various trends that set in and its significance in the 20th Century

Course: IX A: Research Methodology and Sources of History

CO 1: To understand the definition and Scope of Research Methodology in the field of History
CO 2: To analyse the different Sources of History
CO 3: To interpret various Research Methodologies in the field of History
CO 4: To analyse various Sources for Writing Indian History

Semester-VI

English Specialization

Course: 16th to 18th Century English Literature- II

CO 1: Students must be able to comprehend the evolution of literary genres like drama and poetry from the Restoration to the Neo- Classical Age
CO 2: Students must develop an ability to appreciate different forms drama and poetry
CO 3: Students will be able to understand how literature is embedded in socio political context
CO 4: Students must familiarize with the major writers and important literary texts in the Restoration and Neo- classical period.
CO 5: Students will be able to analyze and interpret literary texts in specific socio political and cultural contexts.

Course: Literary Criticism- II

CO 1: To introduce the basic tenets of literary criticism and critical terms
CO 2: To familiarize students about major literary movements and critical approaches
CO 3: Students must be able to understand the evolution of literary criticism and theory
CO 4: To introduce the fundamental concepts of practical criticism and techniques of close reading
CO 5: To develop critical thinking, critical analysis and creative writing skills

Course: Grammar and Art of Writing- II

CO 1: Students will develop and demonstrate knowledge, understanding and competence in grammar and writing.
CO 2: Students must be able to understand the basics of Phonetics, Morphology and Word Formation.

CO 3: Students must be able to gain adequate knowledge of the rules of grammar, grammatical analysis and sentence transformation.
CO 4: Students must be able to develop their skills in paragraph writing in various domains.
CO 5: Students are expected to apply the rules of grammar in constructing sentences and paragraphs.

Course: 19th Century English Literature- II

CO 1: To view literary works in their dynamic interface with the background
CO 2: To understand the literature of the 19th century as a complex outcome of artistic, intellectual and socio-political cross-currents.
CO 3: To appreciate poetry as mirroring private personality, protest and subsequently, public concerns.
CO 4: To view the development of the Victorian Novel as informed by Victorian morality as well as by larger democratic processes.
CO 5: To contextualize the impulses behind the significant emergence of women writing in the 19th century.

Course: 20th Century British Literature- II

CO 1: Students are expected to comprehend the trends and movements in 20th Century British Literature
CO 2: Students must be able to appreciate the plays and poetry written in 20th Century British Literature
CO 3: Students must be able to analyse and appreciate the socio-historic factors in the production of novels and short stories
CO 4: Students must be able to analyse literary a text being a reflective and imaginative thinker
CO 5: Students must be able to demonstrate competence in comprehending valuable correlations between the socio-cultural, economical and historical contexts in the production of literary texts

Course: Drama and Theatre- II

CO 1: Analyse the social and artistic movements that have shaped theatre and drama.
CO 2: Apply discipline-specific skills to the creation of drama.
CO 3:Analyze the difference between the concepts of drama and theatre
CO 4: Demonstrate knowledge of the history of drama and theatre as a literature and performing art.

Semester-VI

Economics Specialization

Course: Advanced Macroeconomics

CO 1:Able to get knowledge on new market structure
CO 2: Able to understand the basic tools of economic theory
CO 3:Able to analyze the market behaviour with economic way of thinking
CO 4:Able to use the concepts of business economics in your day to day life

Course: Environmental Economics

CO 1:Students will be able to understand the concept of environmental degradation
CO 2:Students will be able to understand the concept of green GDP, green consumer and green business
CO 3:Students will be able to understand Smart Cities Mission
CO 4:Students will be able understand the different sustainable goals
CO 5:Students will be able to understand the Pradhan Mantri Ujjwala Yojana

Course: History of Economics-II

CO 1: students will understand Indian Economic Thought-Kautilya on welfare state
CO 2: student will understand Economic Thought of Mahatma Phule and Gandhi
CO 3: To understand Economic Thought of Dr. B.R. Ambedkar, G.K. Gokhale and Dr. Manmohan Singh
CO 4: Students will understand the contribution Nobel Prize Winners in Economics

Course: International Economics

CO 1:Students will be able to understand the Ricardo's trade theory
CO 2:Students will be able to understand the purchasing power parity theory
CO 3:Students will be able to understand the meaning and functions of foreign exchange market
CO 4:Students will be able understand WTO, ASEAN
CO 5:Students will be able to understand the different types of terms of trade

Course: Indian Financial System

CO 1: Complete knowledge of the Financial System of India.

CO 2: Clarity about the basic concepts of money, money supply and money creation.
CO 3:.Understanding of technical terms relating to Financial System like Derivatives, Stock etc.
CO 4: Development of basic understanding relating to Life Insurance and General Insurance.

Course: Economics of Agriculture and Cooperation-I

CO 1: To understand Role of Agriculture Co-operation in Economic development
CO 2: To understand Need, Structure, Progress and Problems-operative Finance in India
CO 3: To understand Role and Types of Agro-Industries, Problems and Measures of Agro-Industries
CO 4: To understand Consumer Co-operatives and Co-Operative Marketing

Course: Research Methodology

CO 1: Understand and inculcate research in Economics
CO 2: Exchange ideas and application of results of economic research
CO 3: Help in formulation of problems in social science research
CO 4: Understand data collection and presentation for quality research in social sciences.

Semester-VI

History Specialization

Course: History IV - History of Medieval India (1526-1707)

CO 1: To acquaint students with the history of India since the emergence of Mughal rule
CO 2: To inform the students about the Administrative structure of Mughals
CO 3: To understand the rise of Maratha power
CO4: To analyse the Socio-Economic, Religion and Culture of Mughal rule in India

Course: History V- History of Contemporary India (1947-2000 C.E)

CO 1: To understand the Nehru Era with context to the Indian Constitution, Political, social and economic development as well as the reforms in the socio-economic and Foreign Policy
CO 2: To understand various Political, Social and Economic developments from 1964-1984 C.E

CO 3: To acquaint students with various Political, Social and Economic developments from 1984-2000 C.E
CO4: To analyse the emerging trends in the field of Communalism, Separatism, Women Empowerment, Reservation, Education and Science & Technology

Course: VI-A: Introduction to Museology and Archival Science

CO 1: To make students aware of the Field of Museology
CO 2: To inform students about the role of Museums in the preservation of Heritage
CO 3: To make students understand about the importance of Archival Science in the study of History
CO 4: To acquaint the students with the Management of Archives for coming generations in the form of Conservation and Preservation of Records

Course: VII: History of the Marathas (1707-1818 C.E)

CO 1: To understand the expansion of Maratha Power
CO 2: To analyse the Consolidation of Maratha Power
CO 3: To account for the Post -Panipat revival and later downfall of the Maratha Power
CO 4: To analyse and understand the Administrative and Socio-Cultural developments during Maratha period

Course: VIII- History of Asia (1945-2000 C.E)

CO 1: To analyse the transformation of China from 1945-2000 C.E
CO 2: To make students acquaint students with the Reconstruction of Japan in the post WWII period
CO 3: To study of political developments in South-East Asia in the post WWII period
CO 4: To analyse the conflicts in West Asia in the post WWII period

Course: IX A: Research Methodology and Sources of History

CO 1: To analyse Methods and Presentation in Historical Research
CO 2: To analyse New Trends in History
CO 3: To understand various Approaches to History like Subaltern, Feminist and Post Modern
CO 4: To study different shades of Indian Historiography like Imperialist, Nationalist and Marxist

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Pillai HOC College of Arts, Science and Commerce

Pillai HOCL Educational Campus, Rasayani

NAAC Accredited with A+ Grade in Cycle II

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Programme: BAMMC -Bachelor of Arts Mass Media Communication

Programme: Bachelor of Arts in Mass Media and Communication(BAMMC)

PROGRAM OUTCOME (PO)

1. The program considers media industries and their relationship to culture and society, and the understanding of how communication works. The program emphasizes the development of critical thinking, professional writing skills and effective oral communication.
2. The Communication and Media Studies major prepares students for a wide variety of careers in business and industry, advertising, public relations and journalism, or advanced study.
3. This program will equip the learners with professional skills essential for making a career in the Entertainment industry, Cinema, Television, OTT Platforms, social media platforms etc.
4. Students would demonstrate the ability to apply rhetorical principles in a variety of creative, cinematic, organizational, professional and journalistic venues.
5. Knowledge, skills, and values that prepare them for future careers in our interconnected society, whether in mass media or advanced study.
6. Learners would develop a global awareness of political, social and corporate issues influenced by communication sensitivity and skills.
7. Learners will understand mass media as a system of interrelated forces, including historical foundations, technological advances, economic dynamics, regulatory constraints, and ethical concerns.
8. This programme will also give them an improved sense of self-confidence and self-efficacy and an awareness of their responsibilities as professionals in their field
9. Learners will be able to create and design emerging media products, including blogs, digital audio, digital video, social media, digital photography, and multimedia.
10. They will be better equipped to grasp the complex relationship between communication/media theories and a diverse set of individual, social, and professional practices.
11. Learners will understand the underlying philosophical assumptions of, and be able to apply, communication research methods to address a range of media texts and audiences, production and technological practices, and relevant social issues.
12. Learners will comprehend the foundations, process, and practices of writing for and about the media, and demonstrate proficiency in writing across platforms.

13. Learners will be able to conceptualize, design, and produce one or more works in media based on effective principles and practices of media aesthetics for a target audience.
14. Learners will acquire the knowledge and skills required to pursue a career in the specialization of their choice.

COURSE OUTCOMES (CO)

FYBAMMC_ Semester I

COURSE 1.1 – Effective Communications Skills – I

CO 1:To make the students aware of functional and operational use of language in media.
CO 2 :To equip or enhance students with structural and analytical reading, writing and thinking skills.
CO 3 : To introduce key concepts of communications.

COURSE 1.2 – Foundation Course – I

CO 1.To introduce students to the overview of the Indian Society.
CO 2. To help them understand the constitution of India.
CO 3.To acquaint them with the socio-political problems of India.

COURSE 1.3 – Visual Communication

CO 1:To provide students with tools that would help them visualize and communicate.
CO 2:Understanding Visual communication as part of Mass Communication
CO 3:To acquire basic knowledge to be able to carry out a project in the field of visual communication
CO 4:To acquire basic knowledge in theories and languages of Visual Communication
CO 5:The ability to understand and analyze visual communication from a critical perspective

COURSE 1.4 – Fundamentals of Mass Communication

CO 1:To introduce students to the history, evolution and the development of Mass Communication in the world with special reference to India
CO 2:To study the evolution of Mass Media as an important social institution.
CO 3:To understand the development of Mass Communication models.
CO 4:To develop a critical understanding of Mass Media.
CO 5:To understand the concept of New Media and Media Convergence and its implications.

COURSE 1. 5 – Current Affairs

CO 1:To provide learners with overview on current developments in various fields.
CO 2:To generate interest among the learners about burning issues covered in the media
CO 3:To equip them with basic understanding of politics, economics, environment and technology so that students can grasp the relevance of related news.
CO 4:Twenty minutes of newspaper reading and discussion is mandatory in every lecture

COURSE 1. 6 – History of Media

CO 1:Learner will be able to understand Media history through key events in the cultural history
CO 2:To enable the learner to understand the major developments in media history.
CO 3:To understand the history and role of professionals in shaping communications
CO 4:To understand the values that shaped and continues to influence Indian mass media
CO 5:Learners will develop the ability to think and analyze about the media.
CO 6:"To sharpen the reading, writing, speaking and listening skills that will help the students to understand the development of Media"

FY BAMMC - Semester II

COURSE 2. 1 – Effective Communications Skills – II

CO 1:To make the students aware of use of language in media and organization
CO 2:To equip or enhance students with structural and analytical reading, writing and thinking skills.
CO 3:To introduce key concepts of communications.

COURSE 2. 2 – Foundation Course – II

CO 1:To introduce students to the overview of the Indian Society.
CO 2:To help them understand the constitution of India.
CO 3:To acquaint them with the socio-political problems of India.

COURSE 2. 3 – Introduction to Journalism

CO 1:To help media students to acquaint themselves with an influential medium of journalism that holds the key to opinion formation & to create awareness.

COURSE 2. 4 – Introduction to Advertising

CO 1:To provide the students with basic understanding of advertising, growth, importance and types.
CO 2:To understand effective advertisement campaigns, tools, models etc.
CO 3:To comprehend the role of advertising , various departments, careers and creativity
CO 4:To provide students with various advertising trends, and future.

COURSE 2. 5 – Content Writing

CO 1:To provide students with tools that would help them communicate effectively.

CO 2:Understanding crisp writing as part of Mass Communication
CO 3:The ability to draw the essence of situations and develop clarity of thought.

COURSE 2. 6 – Media, Gender and Culture

CO 1:To discuss the significance of culture and the media industry.
CO 2:To understand the association between the media, gender and culture in the society.
CO 3:To stress on the changing perspectives of media, gender and culture in the globalized era

SYBAMMC_ Semester III

COURSE 3. 1 – Theater and Mass Communication-I

CO 1:Individual and team understanding on theatrical Arts
CO 2:Taking ownership of space, time, story-telling, characterization and kinesthetic
CO 3:Shaping young students' minds through expression of their perception, creating awareness of their role and place in society, their responsibilities and possibilities

COURSE 3. 2 – Corporate Communication and Public Relations

CO 1: To provide the students with basic understanding of the concepts of corporate communication and public relations.
CO 2: To introduce the various elements of corporate communication and consider their roles in managing media organizations.
CO 3: To examine how various elements of corporate communication must be coordinated to communicate effectively in today's competitive world.
CO 4: To develop critical understanding of the different practices associated with corporate communication with the latest trends and social media tools.

COURSE 3. 3 – Media studies

CO 1: To provide an understanding of media theories
CO 2: To understand the relationship of media with culture and society
CO 3: To understand Media Studies in the context of trends in Global Media

COURSE 3. 4 – Introduction to Photography

CO 1: To introduce to media learners the ability of image into effective communication.
CO 2:To help the learner understand that media photography is a language of visual communication and is far beyond just point and shoot fun moments.
CO 3: To practice how a picture speaks thousand words by enlightening the learner on how.
CO 4: To develop the base of visualisation among learners in using pictures in practical projects.
CO 5: To help learner work on given theme or the subject into making a relevant picture or photo feature"

COURSE 3. 5 – Film Communication

CO 1:To inculcate liking and understanding of good cinema.
CO 2:To make students aware with a brief history of movies; the major cinema movements
CO 3:Understanding the power of visuals and sound and the ability to make use of them in effective communication
CO 4:Insight into film techniques and aesthetics

COURSE 3. 6 – Computer and Multimedia - I

CO 1:To help learners make media industry-ready. This will help learners to be aware of the minimum requirement of the software when stepping out in the industry.
CO 2:To introduce the media software to make the learners understand what goes behind the scene and help them choose their stream.
CO 3:To prepare learners skilled enough for independency during project papers in TY semester VI.
CO 4:To help learners work on small-scale projects during the academic period.

SYBAMMC_ Semester IV

COURSE 4.1 – Theatre and Mass Communication II

CO 1:Direction and the works, developing an eye for details
CO 2:A deeper understanding of theatre and how it has evolved to create human connections
CO 3:Understanding the role theatre plays as a medium of mass communication in development of society.

COURSE 4.2 – Writing and Editing for Media

CO 1:Provide the ability to understand writing styles that fit various media platforms.
CO 2:It would help the learner acquire information-gathering skills and techniques.
CO 3:On completion of this course, students will be able to understand similarities and differences in writing for all forms of media including the internet and digital.
CO 4:The learner will gather knowledge of different news and copy formats along with appropriate style-sheets and layout.
CO 5:The learner will imbibe the importance of writing clearly, precisely, and accurately for different types of audiences
CO 6:Provide basic proficiency in proofreading and editing.

COURSE 4.3 – Media Law and Ethics

CO 1: To provide the learners with an understanding of laws those impact the media.
CO 2: To sensitize them towards the social and ethical responsibility of the media.

COURSE 4.4 – Mass Media Research

CO 1: To introduce students to debates in Research approaches and equip them with tools to carry on research
CO 2: To understand the scope and techniques of media research, their utility and limitations

COURSE 4.5 – Film Communication - II

CO 1:Awareness of cinema in different regions.

CO 2:Understand the contribution of cinema in society.
CO 3:How to make technically and grammatically good films.
CO 4:From making to the marketing of films.
CO 5:Economic aspects of the film.
CO 6:Careers in films.

COURSE 4.6 – Computer Multimedia - II

CO 1:To help learners be media industry-ready. This will help learners to be aware of the minimum requirement of the software when stepping in the industry.
CO 2:To introduce the media softwares to make the learner understand what goes behind the scene and help them choose their stream.
CO 3:To prepare learners skilled enough for independency during project papers in TY sem.VI.
CO 4:To help learners work on small-scale projects during the academic period.

TYBAMMC (Advertising)_ Semester V

COURSE 5.1 – Copy Writing

CO 1: To familiarize the students with the concept of copywriting as selling through writing
CO 2:To learn the process of creating original, strategic, compelling copy for various mediums
CO 3:To train students to generate, develop and express ideas effectively
CO 4:To learn the rudimentary techniques of advertising headline and body copywriting, the economy of words and thought peculiar to this type of writing, and the necessity of creative thinking in written expression.
CO 5: In an ad agency, as a copywriter, one cannot “Just be creative and express self” – here one is a ‘creative professional’, and have to be able to use the power of creativity for a commercial/business reason – as someone is paying you to get a problem solved, using your creativity
CO 6: There are two basic disciplines through which we make our communication -

verbal/written and visual, and both need different skills-sets to master them. The structure of the syllabus is designed to hone the necessary skills required for these two diverse disciplines.

COURSE 5.2 – Advertising and Marketing Research

CO 1: The course is designed to inculcate analytical abilities and research skills among the student.
CO 2:To understand research methodologies – Qualitative Vs Quantitative
CO 3:To discuss the foundations of Research and audience analysis that is imperative to successful advertising.
CO 4:To understand the scope and techniques of Advertising and Marketing research and their utility

COURSE 5.3 – Globalization and International Advertising

CO 1:To introduce to media students the concept of Globalization and its impact on Global Media and International Advertising.
CO 2:To help the student understand and practice Global Communication.
CO 3:To develop media students' understanding of Global Brands.
CO 4:To introduce to media students about the concept and process of international advertising.
CO 5:To help students formulate international advertising campaigns by identifying strategies, barriers, challenges, and steps to create international advertising.
CO 6: Career opportunities: As Global Brand manager, Global Content Writer for Ads and Ad Campaigns, Global Market Communicators in Digital Media, a career in ad agencies for Global Market

COURSE 5.4 – Agency Management

CO 1: To acquaint the students with concepts, techniques and give experience in the application of concepts for developing an effective advertising campaign.
CO 2: How an ad agency works and what opportunities exist
CO 3: To familiarize students with the different aspects of running an ad agency
CO 4: To inculcate competencies thereby enabling to undertake professional work with the advertising industry.

COURSE 5.5 – Brand Building

CO 1:To understand the awareness and the growing importance of Brand Building
CO 2:To know how to build, sustain and grow brands
CO 3:To know the various new way of building brands
CO 4:To know about the global perspective of brand building

COURSE 5.6 – Documentary and Add Film Making

CO 1:Understanding the planning involved in making audio visual communication effectively.
CO 2:To prepare students for effective and ethical public communication.
CO 3:To help students acquire basic skills in the practical aspects of Documentary and Ad Film making.
CO 4:Equip students with skills to write and shoot effective Documentary and Ad film

TYBAMMC (Journalism)_ Semester V

COURSE 5.1 – Reporting

CO 1:To enable students to become Reporters which is supposed to be a prerequisite while entering into the field of Journalism.
CO 2:To make them understand the basic ethos of the news and news-gathering.
CO 3:To prepare them to write or present the copy in the format of news.
CO 4:To develop a nose for news.
CO 5:To train them to acquire the skills of news-gathering with traditional as well as modern tools.
CO 6:To inculcate the skills for investigative journalism.
CO 7:To make them understand the basic structure/ essential knowledge for various beats.
CO 8: To make them responsible reporters and the face of the media.

COURSE 5.2 – Investigative Journalism

CO 1:Understand the role of investigative reporting in modern journalism
CO 2:To learn to conduct investigative research in an ethical manner.
CO 3:To create and write excellent investigative stories for the media.
CO 4:To acquire advanced investigative journalistic skills
CO 5:Learners will acquire the ability to understand and analyze the key areas of investigative journalism even with limited resources.

COURSE 5.3 - Mobile Journalism And New Media

CO 1:This course was arranged as a preparation program for Media Students, who have an enthusiasm for finding out about the nuts and bolts of versatile news-casting. You needn't bother with any past involvement with the ideas, apparatuses, or assets of portable news coverage. Towards the end of the course, you will leave with information about the Global adoption of mobile and its versatility that has influenced and changed journalism in New Age Media.
CO 2:M-Learning, in the Era of New Media, is the most effective method to get ready for the eventual fate of the media and life in a portable first world.
CO 3:Step-by-step instructions to report and connect with crowds utilizing cell phones.
CO 4:Step-by-step instructions to utilize the accepted procedures for ease of use and item plan when constructing your portable encounters in Journalism.
CO 5:The most effective method to settle on educated choices about the structure of portable news items crosswise over stages. The most effective method to get ready for the eventual fate of wearable different patterns that may change the course of portable media and news-casting

COURSE 5.4 - Journalism and Public Opinion

CO 1:To understand the role of the media in influencing and impacting public opinion.
CO 2:To analyse the formation of public opinion through digital and social media.
CO 3:To analyse the impact of the media on public opinion on socio-economic issues.

CO 4:To make students aware of the theoretical framework of research on media and society.

COURSE 5.5 - Media Laws and Ethics

CO 1: To help students understand the laws that impact the media
CO 2: To develop an understanding of the ethical responsibilities of the media
CO 3: To help students appreciate the challenges of fake news and misinformation in a new changing ecosystem of news and information.

TYBAMMC (Advertising)_ Semester VI

COURSE 6.1 - Digital Media

CO 1:Understand digital marketing platform.
CO 2:Understand the key goals and stages of digital campaigns.
CO 3:Understand the of use key digital marketing tools
CO 4:Learn to develop digital marketing plans.

COURSE 6.2 - Newspaper and Magazine Design (Project Paper)

CO 1:The learner is required to understand the process of print media production since the content collection to the final print ready layout.
CO 2:This includes news weightage as well as article relevancy and the visual treatment to the text block. The appearance of the various text blocks matters in layout.
CO 3:The learner should be able to reconstruct headlines suitable for the space keeping the core meaning and intensity intact.
CO 4:Learners are expected to develop software skills to be employable in the industry.
CO 5: Learners shall develop the aesthetic vision and understand the discipline behind a layout.

COURSE 6.3 - Advertising in Contemporary Society

CO 1: To understand the environment of Advertising in Contemporary Society
CO 2: To understand the Liberalization and its impact on the economy and other areas of the Indian society
CO 3: To understand the Effects of Advertising, Criticism of Advertising and Social implication of advertising
CO 4: To understand the concept of Internet Advertising and Digital Advertising

COURSE 6.4 - Advertising & Sales Promotion

CO 1:Students should be able to demonstrate a thorough understanding of the major sales promotion concepts.
CO 2:Use a framework to make effective sales promotion decisions.
CO 3:Adopt the necessary skills and point of view of an effective sales promotion campaign.

COURSE 6.5 - Entertainment & Media Marketing

CO 1:To equip students with an understanding of marketing practices,frameworks, and trends in the Entertainment Sector
CO 2: Introducing the students to the television industry and film industry.
CO 3:Will make students go through different case studies regarding radio marketing skills, Social media marketing skills etc. .
CO 4:It will help to know the impact of the media industry on the viewers, and understand its characteristics

COURSE 6.6 -Television Program Production

CO 1:Making Understanding of Indian Television History.
CO 2:Will help to analyse the cultural impact of television on the audience.
CO 3:Understating Television Journalism.
CO 4:Introducing the Contemporary Trends of Television programming to students.
CO 5:Help the students to gain knowledge regarding the various measurement formats and reporting skills of television.

COURSE 6.7 - Advertising Design

CO 1: Learners shall understand the process of planning & production of the advertisement..
CO 2: To highlight the importance of visual language as an effective way of communication.
CO 3: To provide practical training in the field of advertising & make learner industry ready

TYBAMMC (Journalism)_ Semester VI

COURSE 6.1 - Digital Media

CO 1:Understand digital marketing platform
CO 2:Understand the key goals and stages of digital campaigns
CO 3: Understand the of use key digital marketing tools
CO 4:Learn to develop digital marketing plans

COURSE 6.2 - Newspaper and Magazine Design (Project Paper)

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CO 3:Learner should be able to reconstruct headlines suitable for the space keeping the core meaning and intensity intact.
CO 4:Learners are expected to develop software skills to be employable in industry.
CO 5:Learners shall develop the aesthetic vision and understand the discipline behind a layout.

COURSE 6.3 - Contemporary Issues

CO 1: To stress the importance of social economic political aspects of the society as a media professional.
CO 2: To understand the role of media as a strategy to create awareness on various issues and mobilise to bring social progress.

COURSE 6.4 - Lifestyle Journalism

CO 1: Acquire a conceptual overview of lifestyle journalism and its function in the media industry
CO 2: Acquire an ability to report on lifestyle journalism stories or events in a clear, concise, factual and meaningful way
CO 3: It is a combination of practical skills and conceptual understanding of how this form of journalism is increasingly relevant for the 21st century. This course will help the learner acquire an ability to understand audiences and markets in which the lifestyle journalists provide information.
CO 4: It will teach students how to do lifestyle journalism with integrity, exploring the broader lifestyle field while focusing on a variety of sub-fields such as travel, music, movies, arts and food, along with students' special interests

COURSE 6.5 - Crime Reporting

CO 1: Students will be able to understand the ethics of crime and justice coverage.
CO 2: Students can understand the different Law Enforcement machinery, Policing system as well as procedures of registering a crime.
CO 3: Students can comprehend the Police Investigating techniques, principles of Crime Reporting and its sources too.
CO 4:Students can understand the different types of Courts and its working.
CO 5: Students can lay stress on contemporary crime journalism and the important case studies pertaining to it.

COURSE 6.6 - Digital Media

CO 1: Understand digital marketing platform
CO 2: Understand the key goals and stages of digital campaigns
CO 3: Understand the of use key digital marketing tools.
CO 4: Learn to develop digital marketing plans

COURSE 6.7 - Fake News and Fact Checking

CO 1: To give media students the understanding of the differentiation between real news and

fake news.
CO 2: To make media students aware of information disorder.
CO 3: To give students a thorough knowledge of information literacy and media.
CO 4: To give students a hand on knowledge on fact checking.
CO 5: To give students a practical overview of social media verification.

Mahatma Education Society's

Pillai HOC College of Arts , Science & Commerce ,Rasayani

(Accredited by NAAC)
(ISO 1990:2015 Certified)
Program: Bachelor of Information Technology
Pillai HOCL Educational Campus, Rasayani Taluka
-Khalapur Dist. Raigad -410207 Maharashtra ,India

Programme -B.S.c(Regular)- Bachelor of Science (Physics, Chemistry & Mathematics)

Programme -B.S.c(Regular)- Bachelor of Science (Physics, Chemistry & Mathematics)

PROGRAM OUTCOME (PO)

1. Acquired the knowledge with facts and figures related to various subjects in pure sciences such as Physics, Chemistry and Mathematics
2. Understood the basic concepts, fundamental principles, and the scientific theories related to various scientific phenomena and their relevance in day-to-day life.
3. Acquired the skills in handling scientific instruments, planning and performing in laboratory experiments
4. The skills of observations and drawing logical inferences from scientific experiments.
5. Analyzed the given scientific data critically and systematically and the ability to draw the objective conclusions
6. Been able to think creatively (divergent and convergent) to propose novel ideas in explaining facts and figures or providing new solutions to the problems.
7. Realized how developments in any science subject helps in the development of other science subjects and vice-versa and how interdisciplinary approach helps in providing better solutions and new ideas for sustainable developments.
8. Developed scientific outlook not only with respect to science subjects but also in all aspects related to life
9. Imbibed ethical, moral and social values in personal and social life leading to highly cultured and civilized personality.
10. Developed various communication skills such as reading, listening, speaking, etc., which we will help in expressing ideas and views clearly and effectively
11. Realized that pursuit of knowledge is a lifelong activity and in combination with untiring efforts and positive attitude and other necessary qualities leads towards a successful life.

COURSE OUTCOMES (CO)

Semester –I

COURSE 1- Classical Physics (Physics-I)

CO 1. Apply Newton's laws for the calculations of the motion of simple systems.
CO 2. Use Work and Energy equivalence and its applications through suitable numerical.
CO 3. Use Elasticity, Viscosity and Fluid dynamics in daily life.
CO 4. Understand Real gases and validity of the laws of thermodynamics.
CO 5. Demonstrate quantitative problem solving skills in all the topics covered

COURSE 2 - Modern Physics(Physics-II)

CO 1. Understand nuclear properties, nuclear behavior and various types of nuclear reactions
CO 2.Understand the concept of radioactivity, its applications and different types of equilibria in radioactive elements
CO 3. Understand various types of nuclear detectors and their applications
CO 4. Demonstrate and understand the quantum mechanical concepts.
CO 5.Demonstrate quantitative problem solving skills in all the topics covered.

COURSE 3 - Chemistry-I

CO 1. Students will be able to understand the basics of chemical thermodynamics and the relationship between work, energy, heat .
CO 2. Students will be able to express and calculate concentration of solutions.
CO 3. Students will be able to classify elements in metals ,non metals, transition metals, inner transition metals .
CO 4. Students will be able to understand the concepts of shells, subshells, and electron spin .
CO 5. Students will be able to understand IUPAC nomenclature for organic compounds

COURSE 4 - Chemistry-II

CO 1. Students should understand basic concept of kinetics of reaction
CO 2. Students should understand the basics of stereochemistry of organic reactions.
CO3. Students should be able to understand the terms Surface tension, Viscosity, Refractive index, Liquid crystals.
CO4. Students should know the oxides of carbon, oxides and oxyacids of sulphur and nitrogen with respect to environmental aspects.

COURSE 5 – Calculus-I

CO 1. Students understand the basic concepts of Real number system and its applications
CO 2. Students should understand the basic concepts of sequences.
CO 3. Students understand the concept of convergence and divergence of sequences
CO 4. Students understand the concept of First Order First Degree Differential Equations

COURSE 6 - Algebra-I

CO 01. Students understand the basic concepts of integers and divisibility
CO 02. Students should be able to solve problems based on integer theorems and divisors.
CO 03. Understand the concept of functions, matrices and equivalence relations.
CO 04. Students are able to calculate problems of functions.
CO 05. Students understand the basic concept of polynomials

COURSE 7 FC-I

CO 1.To understand the pluralistic nature of Indian society
CO 2.To sensitize about the gender disparity in society.
CO 3. To understand diversity as difference and disparity as inequality.
CO 4. To understand the philosophy and structure of the Constitution of India and government bodies working at different levels of government administration
CO 5. To create awareness about growing social problems in India

CO 6. To help the students to upgrade their knowledge on current challenges and issues of Indian society
CO 7. To sensitize students about social problems plaguing Indian society and to emphasize the role of educated youth to address the same

Semester –II

COURSE 1 - Optics I (Physics-I)

CO 1. Understand the concept of lens, lens defects and their minimization.
CO 2. Significance of combination of lenses implied to eyepiece of optical instrument.
CO 3. Understand interference of light with few well known daily life examples.
CO 4. Understand Lasers and Optical fibers, their applications in day to day life.

COURSE 2 –Electricity and Electronics(Physics-II)

CO 1. Understand the basic concepts of Alternating current theory, AC bridges and Circuit Theorems
CO 2. Understand the basics of Analog and Digital Electronics and apply them in real life situations
CO 3. Demonstrate quantitative problem solving skills in all the topics covered

COURSE 3 –Chemistry-I

CO 1. Students will able to understand gaseous laws,
CO 2. Students will be able to understand the concept of entropy, relationship between equilibrium constants.
CO 3. Students will be able to understand the concept of common ion effect, concept of qualitative analysis
CO 4. Students will able to understand theories acids and bases
CO 5. Students will be able to understand reactions to aliphatic hydrocarbons .

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COURSE 4 –Chemistry-II

CO1. Students should understand the concept of ionic equilibria, molecular spectroscopy and photochemistry.
CO2. Students should understand the concept of chemical bond and reactivity.
CO3. Students should understand the concept of oxidation reduction reactions.
CO4. Students should understand the concept of stereochemistry.
CO5. Students should know the concept of aromatic hydrocarbons.

COURSE 5 – Calculus-II

CO 01: Students understand the basic concepts of Series.
CO 02: Students should be able to solve problems based on sequences and series.
CO 03: Students understand the concepts of differentiability
CO 04: Students able to solve problems based on mean value theorem, Rolle ’s Theorem, Taylor’s theorem etc.

COURSE 6 -Discrete Mathematics

CO 01. Solve problems using recurrence relations and recursion to analyse algorithms and programs such as finding Fibonacci numbers and Tower of Hanoi problem.
CO 02. Apply the operations of sets and use Venn diagrams to solve applied problems; solve problems using the principle of inclusion-exclusion.
CO 03. Solve counting problems by applying elementary counting techniques using the product and sum rules, permutations, combinations, the pigeon-hole principle, and binomial expansion.
CO 04. Understand permutation and recurrence relation.

COURSE 7 – FC-II

CO 1. Students understand basic knowledge on Globalisation, Privatization, Liberalisation and their impact on World Economics.
CO 2. Students get aware of various Human Rights protected under UDHR and its foundation by United Nations Organisation
CO 3. They indulge in activities like group discussions, presentations, debates, etc as a part of the teaching -learning process.
CO 4. They acquire awareness of forest preservation, importance of various species (flora & fauna) and its protection for sustainable lifestyle
CO5. They understand ecology and the importance of the environment.

Semester –III

COURSE 1 – Vector calculus, Analog Electronics (Physics-II)

CO 1. Understand the basic concepts of mathematical physics and their applications in physical situations.
CO 2. Understand the basic laws of electrodynamics and be able to perform calculations using them.
CO 3. Understand the basics of transistor biasing, operational amplifiers, their application
CO 4. Understand the basic concepts of oscillators and be able to perform calculations using them.
CO 5. Demonstrate quantitative problem solving skill in all the topics covered

COURSE 2 – Quantum Physics (Physics-II)

CO 1. Understand the postulates of quantum mechanics and to understand its importance in explaining significant phenomena in Physics.
CO 2. Demonstrate quantitative problem solving skills in all the topics covered..

COURSE 3- Applied Physics - I(Physics-III)

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CO1. Students will be exposed to contextual real life situations.
CO 2. Students will appreciate the role of Physics in interdisciplinary areas related to materials, Bio Physics, Acoustics etc.
CO 3. The learner will understand the scope of the subject in Industry & Research.

CO 4. Experiential learning opportunities will faster creative thinking & a spirit of inquiry.

COURSE 4 - Chemistry-I

CO 1. Students will understand Free Energy Functions: Helmholtz Free Energy, Gibb's Free Energy,Variation of Gibb's free energy with Pressure and Temperature.
CO 2. Students will able to understand basic concepts of electrochemistry
CO 3. Students will learn Molecular Orbital Theory
CO 4. Students will be able to understand the chemistry of many organic reactions.
CO 5. Students will be able to identify, formulate And Solve carboxylic acid reactions.

COURSE 5 - Chemistry-II

CO 1. Types of Complex Chemical reactions: Reversible or opposing, consecutive and parallel reactions Thermal chain reactions: H. and Br. reaction.
CO 2. Thermodynamics of ideal solutions: Ideal solutions and Raoult's law, deviations from Raoult's law–non-ideal solutions
CO 3. Students are able to understand chemistry of carbonyl compounds
CO 4. Students are able to understand the chemistry of p-block elements4.

COURSE 6 - Chemistry-III

CO 1. Students able to understand Sampling, method of analysis of substance and procedure for analysis
CO 2. Students should understand errors and sources of errors in chemical analysis..
CO 3. .Students should know the various classical methods of analysis.
CO 4. Students should Know the various instrumental methods of analysis
CO 5. Students should Know the relationship between absorbance (and its variations) and concentration of the analyte

COURSE 4 -Calculus III

CO 01: Students understand the basic concepts of Riemann integration and its applications.
CO 02: Students should be able to solve problems based on Riemann sums and Riemann integrability.
CO 03: Students understand the concepts of indefinite integrals and improper integrals.

CO 04: Students understand the basic concept of Beta functions, Gamma functions and its applications

COURSE 5 - Linear Algebra I

CO 01. Students understand the concepts Homogeneous and Non-homogeneous linear equations and their solutions.
CO 02. Students should be able to solve problems based on Elementary row and column transformation of a matrix and to solve systems of linear equations.
CO 03. Students understand the concept of vector space ,subspace ,basis and dimension of a vector space.
CO 04. Students understand the concept of properties of Determinants.
CO 05. Students are able to solve systems of linear equations using Determinant.

COURSE 6 -Ordinary Differential Equations

CO 1. Solve basic application problems described by first order differential equations
CO 2. Relate the solution set of a consistent inhomogeneous linear system to the solution set of its associated homogeneous equation "
CO 3. Solve basic application problems described by second order linear differential equations with constant coefficients.
CO 4. Solve a non-homogeneous linear system by variation of parameters

COURSE 7 FC-III

CO 01. Student understand issues related to human rights of weaker sections, their constitutional and legal rights, redressed mechanism
CO 02. Understand the overview of significant skills required to address competition in career choices.
CO 03.Students understand the importance of developing a scientific temper towards technology and its use in everyday life

Semester –IV

COURSE 1 - Optics and Digital Electronics (Physics-I)

CO 1. Understand the diffraction and polarization processes and applications of them in physical situations.
CO 2. Understand the applications of interference in design and working of interferometers.
CO 3. Understand the resolving power of different optical instruments.
CO 4 .Understand the working of digital circuits.
CO 5. Use IC 555 time for various timing applications.
CO6. Demonstrate quantitative problem solving skills in all the topics covered.

COURSE 2 - Quantum Physics (Physics-II)

CO 1. Understand the postulates of quantum mechanics and to understand its importance in explaining significant phenomena in Physics.
CO 2. Demonstrate quantitative problem solving skills in all the topics covered..

COURSE 3 - Applied Physics -II(Physics-III)

CO 1. Students will be exposed to contextual real life situations.
CO 2. Students will appreciate the role of Physics in interdisciplinary areas related to materials, Bio Physics, Acoustics etc.
CO 3. The learner will understand the scope of the subject in Industry & Research.
CO 4. Experiential learning opportunities will faster creative thinking & a spirit of inquiry.

COURSE 4 - Chemistry-I

CO 1. Students will be able to understand basic knowledge of Electrochemistry.
CO 2: Students will be able to understand the concept of vapour pressure and equations associated with it.
CO 3.Students will be able to identify & classify all periodic properties of transition metals.
CO 4. Students will be able to understand Application of coordination compounds.
CO 5. Students will be able to identify, formulate And Solve carboxylic acid reactions.

COURSE 5–Chemistry-II

CO 1. Understand concepts about structure of atoms ,Distribution of electrons etc.
CO 2. Able to understand reactivity of amines and heterocyclic compounds.
CO 3. Able to understand uses and environmental chemistry of oxides.

COURSE 6 –Chemistry-III

CO1: Students should be able to understand Various methods of separations.
CO2: Students should know principle and applications of solvent extraction and chromatography.
CO3: Students should know the various instrumental methods like Potentiometry, pH me try and Conductometry.
CO4: Students should be able to understand Statistical Treatment of analytical data .

COURSE 4– Multivariable Calculus -I

CO 01. Students understand the basic concepts of functions and several variables.
CO 02. Students should be able to solve problems based on differentiation and its applications.
CO 03. Understand the concept of limits and continuity.
CO 04. Students are able to solve problems based on mean value theorem, Cauchy's theorem etc.

COURSE 5 – Linear Algebra II

CO 01. Students understand the concept of Linear transformation, Kernel, Rank-Nullity theorem
CO 02. Students understand the concept of Linear Isomorphism, Matrix associated with linear Transformation.
CO 03. Student understand the concept of Orthogonal, Orthogonal set, Gram schmidt Orthogonalization Process
CO 04. Students understand the concept of Eigenvalues, Eigen vectors, Characteristic polynomial
CO 05. Students understand the concept of Similar matrix, Diagonalization of matrix, orthogonal diagonalisation.

COURSE 6 –Numerical Methods

CO 1. Students understand and apply the concept of Solution of Algebraic and Transcendental Equations.
CO 2. Students understand and apply the concepts of Interpolation and Curve Fitting.
CO 3. Students will be able to solve Integrals by different methods Like Trapezoidal Rule, Simpson's One/Third Rule and Three/ Eight Rule
CO 4. Students will be able to solve the Linear System of Equations.
CO 5. Student will be able to solve the Eigenvalue problems of arbitrary matrice.

COURSE 7 FC-IV

CO 1. Student should be able to understand significant and contemporary Rights of Citizens
CO 2. Students should be able to understand the ecology.
CO 3. Students should be able to understand science and technology.
CO 4.Student should be able to understand the various competitive examinations and Soft skills required for competitive examinations.

Chemistry Specialization

Semester –V

COURSE 1 - Physical Chemistry

CO 1. Students will be able to Understand the concept of electrochemistry and electrochemical cells.
CO 2. Students will be able to Understand types of polymers and different applications of polymers in different areas.
CO 3. Students will able to understand Basic idea of quantum mechanics and nuclear magnetic spectroscopy made inquisitive about the various renewable sources of energy.

COURSE 2 –Inorganic Chemistry

CO 1. Students will be able to understand Concepts of Molecular Symmetry and Chemical Bonding, Molecular Orbital Theory for hetero nuclear diatomic molecules and polyatomic species.
CO 2. They will understand solid state chemistry, Structures of Solids concepts of Superconductivity

COURSE 3 - Organic Chemistry

CO 1. Students are able to understand synthesis and mechanisms of organic reactions.
CO 2. Students able to understand photochemical phenomena occur in organic compounds.
CO 3. Students are able to understand IUPAC nomenclature of organic compounds.
CO 4. Students are able to understand the use of UV-visible and mass spectrometry in structure determination
CO 5. Students able to understand chemistry of natural products

COURSE 4- Analytical Chemistry

CO 1. Students will able to understand Quality in Analytical Chemistry ,sampling and can do Chemical Calculations.
CO 2. Know the classical methods of analysis like complexometric titration ,redox titrations .
CO 3. To study various Optical methods of analysis like Atomic Spectroscopy: Flame Emission spectroscopy(FES) and Atomic Absorption Spectroscopy(AAS), Molecular Fluorescence and Phosphorescence Spectroscopy.
CO 4. Students will able to understand methods of separation technique like Solvent Extraction, High Performance Liquid chromatography (HPLC), High Performance Thin Layer Chromatography (HPTLC)
CO5. Understand the methods like Turbidimetry and Nephelometry.

COURSE 5 - Applied Component (Drugs and Dyes)

CO 1. Able to understand about Drug Discovery, Design and Development, Drug Metabolism.
CO 2. To understand Concepts of Classification of Dyes based on Chemical Constitution and Synthesis of Selected Dyes.
CO 3. To understand various unit processes and operations involved in synthesis of dyes.

Semester –VI

COURSE 1–Physical Chemistry

CO1.Understand the concept of electrochemistry and electrochemical cells.
CO 2. Understand types of polymers and different applications of polymers in different areas.
CO3.Basic idea of quantum mechanics and nuclear magnetic spectroscopy made inquisitive about the various renewable sources of energy.

COURSE 2– Inorganic Chemistry

CO 1. They will understand the chemistry of inner transition elements, Theories of the metal-ligand bond (I), Molecular orbital Theory for coordination compounds.
CO 2. They will understand the concepts of Organometallic Compounds of main group metal. Some selected topics like Metallurgy, Chemistry of Group 18, and Introduction to Bioinorganic Chemistry.

COURSE 3– Organic Chemistry

CO 1. Students are able to understand the structure of the organic compound from spectral data
CO 2. Students are able to understand various organic reactions from reagents and catalysts.
CO 3. Students are able to understand structures and use Polymers and Nucleic acids.
CO 4. Students are able to understand molecular rearrangements and stereochemistry.
CO5. Students are able to understand the chemistry of carbohydrates.

COURSE 4 – Analytical Chemistry

CO 1. Students should understand the principles and applications of electroanalytical techniques.
CO 2. Students should understand various methods of separation like GC, Ion Exchange Chromatography and its applications.
CO 3. Students should know the various aspects of food processing and cosmetics analysis **CO4.** Students should know the various thermal methods of analysis.
CO5. Students should understand the Analytical Method of Validation.

COURSE 5 – Applied Component (Drugs and Dyes)

CO 1. Students are able to understand the Health and Environmental Hazards of Synthetic Dyes and their Remediation Processes.
CO 2. Students are able to understand effluent Treatment Strategies, Non-textile uses of dyes, Dyes used in food and cosmetics.
CO 3. Students are able to understand types and applications of Paper and leather dyes, Miscellaneous dyes, pigments.
CO4. Students are able to understand drug development and use of chemotherapeutic agents.

Physics Specialization

Semester –V

COURSE 1 – Mathematical, Thermal and Statistical Physics

CO 1. To learn some mathematical techniques required to understand the physical phenomena at the undergraduate level and get exposure to important ideas of statistical mechanics.
CO 2. To be able to solve simple problems in probability, understand the concept of independent events and work with standard continuous distributions.
CO 3. Will have an idea of the functions of complex variables; solve nonhomogeneous differential equations and partial differential equations using simple methods.

COURSE 2– Solid state Physics

CO 1. Understand the basics of crystallography, Electrical properties of metals, Band Theory of solids, demarcation among the types of materials, Semiconductor Physics and Superconductivity.
CO 2. Understand the basic concepts of Fermi probability distribution function, Density of states, conduction in semiconductors and BCS theory of superconductivity.
CO 3. Demonstrate quantitative problem solving skills in all the topics covered.

COURSE 3– Atomic and Molecular Physics

CO 1. Able to realise the application of quantum mechanics in atomic physics

CO 2. Understand the .the importance of electron spin, symmetric and antisymmetric wave functions and vector atom model
CO 3. Effect of magnetic field on atoms and its application
CO 4. Learn Molecular physics and its applications.
CO 5. This course will be useful to get an insight into spectroscopy.

COURSE 4 – Electrodynamics

CO 1. Understand the laws of electrodynamics and be able to perform calculations using them.
CO 2. Understand Maxwell's electrodynamics and its relation to relativity.
CO 3. Understand how optical laws can be derived from electromagnetic principles.
CO 4. Develop quantitative problem solving skills.

COURSE 5– Applied component (Advanced 8085 Programing, Introduction to Microcontrollers & Python Programming)

CO 1. Understand the advanced 8085 Microprocessor Programming.
CO 2. Understand the introduction to 8051 microcontroller , Instruction set & Programming
CO 3. Understand the Basics of Python and Functions in Python.
CO 4. Understands the basics of Conditional statements in Python.
CO 5. Understand the Iterations , Strings & Lists in Python.

Semester –VI

COURSE 1 –Classical Mechanics

CO 1. It introduces the students to different aspects of classical mechanics

CO 2. They would understand the kinds of motions that can occur under a central potential and their applications to planetary orbits
CO 3. Appreciate the effect of moving coordinate system, rectilinear as well as rotating. The students are expected to learn the concepts needed for the important formalism of Lagrange's equations and derive the equations using D'Alembert's principle.
CO 4. The introduction to simple concepts from fluid mechanics and understanding of the dynamics of rigid bodies is also expected.

COURSE 2 – Electronics

CO 1. Understand the basics of semiconductor devices and their applications.
CO 2. Understand the basic concepts of an operational amplifier: its prototype and applications as instrumentation amplifier, active filters, comparators and waveform generation.
CO 3. Understand the basic concepts of timing pulse generation and regulated power supplies
CO 4. Understand the basic electronic circuits for universal logic building blocks and basic concepts of digital communication.
CO 5. Develop quantitative problem solving skills in all the topics covered.

COURSE 3 – Nuclear Physics

CO 1. The fundamental principles and concepts governing classical nuclear and particle physics
CO 2. Will have knowledge of their applications interactions of ionizing radiation with matter
CO 3. Understand the key techniques for particle accelerators and the physical processes involved in nuclear power generation.
CO 4. Knowledge on elementary particles will help students to understand the fundamental constituents of matter and lay the foundation for the understanding of unsolved questions about dark matter, antimatter and other research oriented topics.

COURSE 4 – Special Theory of Relativity

CO 1. Understand the significance of Michelson Morley experiment and failure of the existing theories to explain the null result.

CO 2. Understand the importance of postulates of special relativity, Lorentz transformation equations and how it changed the way we look at space and time, Absolutism and relativity, Common sense versus Einstein concept of Space and time.
CO 3. Understand the transformation equations for: Space and time, velocity, frequency, mass, momentum, force, Energy, Charge and current density, electric and magnetic fields.
CO 4. Solve problems based on length contraction, time dilation, velocity addition, Doppler effect, mass energy relation and resolve paradoxes in relativity like twin paradox etc.

COURSE 5 – Applied component (Microcontrollers & Python Programming)

CO 1. Understand the 8051 microcontroller: Timer/Counters, Serial Communication, Interrupts
CO 2.Understand the dictionaries, Tuples, File & Exception Handling in Python.
CO 3. Understand the Object Oriented Programming , Modules & Multithreading in Python.
CO 4.Understand the GUI & Database in Python Creating the GUI Form and Adding Widgets:

Mathematics Specialization

SEMESTER-V

Course I: Multivariable Calculus-II

CO 01: Understand the multivariable functions and generalization of integration over a general region.
CO 02: Understand the parametrization of surfaces.
CO 03: Evaluation of Line Integral, Surface and Multiple integrals.
CO 04:Understanding the application of Green's, Gauss and Stokes theorem.
CO 05: Application of Integration in Real Life.

Course II: Group Theory

CO 01:Students will have a working knowledge edge of important mathematical concepts in abstract algebra such as group ,sub group ,order of group etc

CO 02: Students understand the concept of group homomorphism and isomorphism
CO 03: Students understand the concept of Normal subgroup,Direct Product and Caley;s Theorem.
CO 04: Students understand the concept of cyclic groups and cyclic subgroup’

Course III: Topology of Metric Spaces

CO 01 Students understand the concept of Metric Spaces
CO 02 Students understand and apply the concepts of Open Sets, Closed set and their properties.
CO 03 Students understand the concept of Sequence and its properties.
CO 04 Students understand the basic concept of Complete Metric Spaces and its properties.
CO 05 Students understand the concept of Compact Sets.

Course IV: Partial Differential Equations

CO1: Students will able to understand the various analytical methods for solving first order partial differential equations.
CO2: Students will able to understand the classification of first order partial differential equations.
CO3: Students will able to grasp the linear and non-linear partial differential equations.
CO4: Students will able to understand the concept of Initial value problem

Course V:Computer Programming and System Analysis-I

CO 01: Introduction to Database Concepts and Overview of database management system.
CO 02: Introduction to Fundamentals of PL/SQL.
CO 03: Introduction to PL/SQL Data Types.
CO 04: Introduction to JAVA programming.
CO 05: Understanding of Inheritance, Exception Handling and packages.

SEMESTER-VI

Course I: Complex Analysis

CO 01: Students understand the concept of Complex Analysis.
CO 02: Students understand and apply the concepts of Cauchy Integral Formula.
CO 03: Students understand the concept of Hyperbolic Function, Analytic Function and Mobius Transformations.
CO 04: Students understand the basic concept of Power Series and Laurent Series.
CO 05: Students understand the concept of Singularities.

Course II: Ring Theory

CO 01: Understand the concept of ring and elementary properties of rings.
CO 02: Introduction to unit rings and its properties.
CO 03: Introduction to Ideals and special rings.
CO 04: Introduction to factorization of irreducible polynomials.

Course III: Topology of Metric Spaces and Real Analysis

CO 01: Introduction to functions defined on various metric spaces.
CO 02: Properties and behaviour of functions over compact and complete metric spaces.
CO 03: Understanding of Connected and Compact Spaces.
CO 04: Introduction to Sequences and Series of real valued functions.
CO 05: Understanding the behaviour and properties of Sequences and series of functions.

Course IV: Integral Transforms

CO 1.Students will be able to understand the concept of The Laplace Transform.
CO 2. Students will be able to understand the concept of the Fourier Transform.
CO 3. Students will be able to understand the concept of integral transforms and their corresponding inversion techniques.
CO 4. Students will be able to understand the various applications of integral transforms.

Course V: Computer Programming and System Analysis-II

CO 1. Able to create an applet and give different graphics, fonts and colors to applets.
CO 2. Able to understand the basics of python programming.
CO 3. Able to use strings, lists and tuples to design functions in python.
CO 4. Able to do math using python programming.
CO 5. Able to use simply to solve mathematical equations.

Mahatma Education Society's

Pillai HOC College of Arts, Science and Commerce

Pillai HOCL Educational Campus, Rasayani

NAAC Accredited with A+ Grade in Cycle II

(ISO 9001: 2015 Certified)

Department of B. Sc. I. T.- Bachelor of Information Technology

PROGRAMME OUTCOME (PO)

1.To think analytically, creatively and critically in developing robust, extensible and highly maintainable technological solutions to simple and complex problems.

2.To apply their knowledge and skills to be employed and excel in IT professional careers and/or to continue their education in IT and/or related postgraduate programmes.

3.To be capable of managing complex IT projects with consideration of the human, financial and environmental factors.

4.To work effectively as a part of a team to achieve a common stated goal.

5.To adhere to the highest standards of ethics, including relevant industry and organizational codes of conduct.

6.To communicate effectively with a range of audiences both technical and non-technical.

7.To develop an aptitude to engage in continuing professional development.

8. To acquire the ability to survive in the environment of rapid technological changes through dynamic learning.

9. Learning information Technology emphasizing the knowledge of programming, hardware organization, operating systems, theory of computation and principles of programming language

10. To understand the impact of the professional software engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

11. To create, select, and apply appropriate techniques, resources, and modern computing and IT tools including prediction and modeling to complex scientific activities with an understanding of the limitations.

COURSE OUTCOMES (CO)

F.Y. B.Sc. I.T - Semester I

COURSE -Programming Principles with C

CO 1. Learn the basic principles of programming.
CO 2. Develop logic using algorithms and flowchart.
CO 3. Acquire the information about data types.
CO 4. Understanding of input and output functions.
CO 5. Enhance advanced concepts using program.

COURSE -Digital Logic and Applications

CO 1. Apply number conversion techniques in real digital systems
CO 2. Solve Boolean algebra expressions
CO 3. Derive and design logic circuits by applying minimization in SOP and POS forms
CO 4. Design and develop Combinational and Sequential circuits
CO 5. Understand and develop digital applications

COURSE - Fundamentals of Database Management Systems

CO 1. Define and describe the fundamental elements of relational database management systems.
CO 2. To relate the basic concepts of relational data model, entity-relationship model, relational database design, relational algebra and SQL.
CO 3. Design ER-models to represent simple database application scenarios.
CO 4. Transform the ER-model to relational tables, populate relational databases and formulate SQL queries on data.
CO 5. Improve the database design by normalization.

COURSE - Computational Logic and Discrete Structures

CO 1. Use logical notation and Perform logical proof
CO 2. Apply recursive functions and solve recurrence relations
CO 3. Use graphs and trees and apply basic and advanced principles of counting
CO 4. Define sets and Relations
CO 5. Calculate discrete probabilities

COURSE -Technical Communication Skills

CO 1. Analyze, synthesize and utilize the process and strategies from delivery to solving communication problem.
CO 2. Learn the communication methodologies at workplace and learning about importance of team collaboration.
CO 3. Learn about different technical communication such as presentations and interviews.
CO 4. Understand and apply the art of written communication in writing reports, proposals.
CO 5. Ground rules of ethical communication and MIS.

F.Y. B.Sc. I.T- Semester II

COURSE - Object Oriented Programming with C++

CO 1. Understand the concept of OOPs, feature of C++ language.

CO 2. Understand and apply various types of Datatypes, Operators, Conversions while designing the program.

CO 3. Understand and apply the concepts of Classes &Objects, friend function, constructors & destructors in program design.

CO 4. Design & implement various forms of inheritance, String class, calling base class constructors.

CO 5. Analyze and explore various Stream classes, I/O operations and exception handling.

COURSE - Fundamentals of Microprocessor and Microcontrollers

CO 1. Understand the basic concepts of Micro Computer Systems
CO 2. Understand the architecture and hardware aspects of 8085
CO 3. Write assembly language programs in 8085
CO 4. Design elementary aspects of Micro Controller based systems
CO 5. Interfacing peripherals using Microcontroller

COURSE - Web Applications Development

CO 1.Design static web pages using Hyper Text Markup Language (HTML)

CO 2.Enhance the look of web pages by implementing CSS.

CO 3.Collect information from the user with HTML Forms.

CO 4.Design interactive web pages and Document Object Model and events in web pages using JavaScript.

CO 5. Write and deploy basic PHP code.

COURSE - Numerical Methods

CO 1: Understand numerical techniques to find the roots of non-linear equations
CO 2: Understand numerical techniques to find solutions to system of linear equations.
CO 3: Understand the difference operators and the use of interpolation.
CO 4: Understand numerical differentiation and integration
CO 5: Understand numerical solutions of ordinary and partial differential equations.

COURSE -Green IT

CO 1.Understand the concept of Green IT and problems related to it.
CO 2.Know different standards for Green IT.
CO 3.Understand the how power usage can be minimized in Technology.
CO 4.Understand the concept of recycling.
CO 5.Know how information system can stay Green Information system.

S.Y. B.Sc. I.T- Semester III

COURSE -Python Programming

CO1: Aware of the variables, expressions, looping and conditions used in Python programming.

CO2: Implement functions, strings, lists, tuples and directories

CO3: Create GUI forms and add widgets.

CO4: Use MySQL to store data.

CO5: Apply the programming skill set learnt here into various domains by having advance programming skill set of Python and usage of libraries.

COURSE - Data Structures

CO1: Identify and distinguish data structure classification, data types, their complexities

CO2: Implement array, linked list, stack and queue.

CO3: Implement trees, various hashing techniques and graph for various applications

CO4: Compare various sorting and searching techniques

CO5: Are you able to choose appropriate algorithm design techniques for solving problems?

COURSE - Computer Networks

CO1: Identify various data communication standards, topologies and terminologies.
CO2: Describe how signals are used to transfer data and communication aspects between nodes.
CO3: Configure IP addresses using TCP/IP protocol suite.
CO4: Use different application layer protocols.
CO5: Are you able to understand Networking Layer Protocol?

COURSE - Operating System

CO1: Role of Operating System Computer System.
CO2: Use the different types of Operating System and their services.
CO3: configure process scheduling algorithms and synchronization techniques to achieve better performance of a computer system.
CO4: Apply virtual memory concepts.
CO5: Effectively use and manage secondary memory.

COURSE -Applied Mathematics

CO 1: Students should be able to solve the matrix operations, identify the linear dependence and independence of a vector and familiarize themselves with the various forms and operations of a complex number.
CO 2: Students should be able to find the Laplace transform of a function and Inverse Laplace transform of a function using definition and also solve ordinary differential equations using Laplace transform.
CO 3: Students should be able to evaluate the multiple integrals in Cartesian, Polar coordinates, and change the order of the integral.
CO 4: Students should be able to apply integration methods to calculate the areas and volumes of solids.
CO 5:Students should be able to evaluate the Beta, Gamma, Differentiation Under integral sign and error functions.

SYIT - Semester IV

COURSE- Core Java

CO 1. Knowledge of input, its processing and getting suitable output.
CO 2. Object oriented programming concepts using Java.
CO 3. Understand the use of Advanced Features like Multi-Threading, File Handling, Server-Client Model and Collection Framework.
CO 4. Understand, design, implement and evaluate classes and applets.
CO 5. Knowledge and implementation of AWT package.

COURSE - Introduction to Embedded Systems

CO1. Differentiate between general purpose and embedded systems
CO 2. characteristics and quality attributes of embedded systems
CO 3. different types of sensors for appropriately.
CO 4. Design and develop embedded systems.
CO 5. Basic concepts in the embedded computing systems area.

COURSE - Computer Oriented Statistical Techniques

CO 1: Understand the concepts of central of measure tendencies and measure of dispersion.
CO 2: Understand the concepts of Probability theory.
CO 3: Understand the sampling, estimation and decision theories.

CO 4: Understand the statistical tests like Chi Square, Z-Test.
CO 5: Understand the concept of correlation and regression.

COURSE - Software Engineering

CO 1. Acquire strong fundamental knowledge in science, mathematics, fundamentals of computer science, software engineering and multidisciplinary engineering to begin in practice as a software engineer.
CO 2. Design applicable solutions in one or more application domains using software engineering approaches that integrate ethical, social, legal and economic concerns.
CO 3. Deliver quality software products by possessing the leadership skills as an individual or contributing to the team development and demonstrating effective and modern working strategies by applying both communication and negotiation management skill.
CO 4. Apply new software models, techniques and technologies to bring out innovative and novelistic solutions for the growth of the society in all aspects and evolving into their continuous professional development.
CO 5. Discuss data models, object models, context models and behavioural models

COURSE -Computer Graphics and Animation

CO 1. Basics of computer graphics, different graphics systems and applications of computer graphics
CO 2. Compare various algorithms for scan conversion and filling of basic objects
CO 3.Explore projections and visible surface detection techniques for display of 3D scene on 2D screen
CO 4. Overview of different modeling approaches and methods
CO 5. Analyze and apply clipping algorithms and transformation on 2D images

T.Y. B.Sc. I.T- Semester V

COURSE -Software Project Management

CO 1. Manage the scope, cost, timing, and quality of the project, at all times focused on project success as defined by project stakeholders.
CO 2. Align the project to the organization's strategic plans and business justification throughout its lifecycle.
CO 3. Identify project goals, constraints, deliverables, performance criteria, control needs, and resource requirements in consultation with stakeholders.
CO 4. Implement project management knowledge, processes, lifecycle and the embodied concepts, tools and techniques in order to achieve project success.
CO 5. Adapt projects in response to issues that arise internally and externally.

COURSE –Next Generation Technologies

CO 1. To know information related to Big Data and MongoDB
CO 2. To understand the MongoDB architecture, data model and process of using MongoDB shell
CO 3. To learn in detail about MongoDb storage engine, use cases, practices and limitations.
CO 4. To study Jquery, SSD and in memory Databases
CO 5. To obtain data about JSON and its function

COURSE – Internet Of Things

CO 1. After the completion of the course, the students will be able design some IOT based prototypes.
CO 2. Identify the requirements for the real world problems
CO 3. Enhance software & hardware skills.
CO 4. Able to understand the basic concepts of programming, hardware & emulator for Raspberry Pi or Arduino.
CO 5. Able to Understand PCB Boards, Prototyping, & Design Phase of Embedded Devices.

COURSE -Artificial Intelligence

CO 1.Demonstrate fundamental understanding of the history of artificial intelligence (AI) and its foundations.
CO 2. Apply basic principles of AI in solutions that require problem solving, inference, perception, knowledge representation, and learning.
CO 3.Demonstrate awareness and a fundamental understanding of various applications of AI techniques in intelligent agents, expert systems, artificial neural networks and other machine learning models.
CO 4.Demonstrate proficiency developing applications in an 'AI language', expert system shell, or data mining tool.
CO 5. Demonstrate an ability to share in discussions of AI, its current scope and limitations, and societal implications

COURSE -Advanced Web Programming

CO 1. Students are able to understand client-side concepts and compare and contrast client-side versus server-side scripting.
CO 2. Students able to write well-structured, easily maintained JavaScript code following accepted good practice.
CO 3. Students are able to understand the use of event handlers to handle user-triggered events.
CO 4. Students are able to understand necessary skills for designing and developing web applications.
CO 5. Students are able to develop a fully functioning website and deploy on a web server.

T.Y. B.Sc. I.T- Semester VI

COURSE - Software Quality Assurance

CO 1. Critically evaluate alternative standards, models and techniques aimed at achieving quality assurance in a variety of software development environments;
CO 2. Propose and defend innovative solutions to software quality assurance and measurement problems in the context of various software development environments;
CO 3. Critically evaluate leading edge approaches in software development and attendant quality assurance methodologies, presenting the research using Harvard referencing.
CO 4. Understand test strategies, software engineering processes, methods, activities and work items are monitored and comply against the defined standards
CO 5. Understand the concept of different types of testing strategies and solutions.

COURSE 2.2 -Business Intelligence

CO 1.Understand what is meant by the term "business intelligence".
CO 2. Understand what is expected from a business analyst in the context of BI and how business analysis for BI differs from traditional business analysis.
CO 3. Understand where business analysis fits into the project life cycle.
CO 4. Manage data and deal with data quality related issues.
CO 5. Apply basic business analysis techniques.

COURSE -Principles of Geographic Information Systems

CO 1 To learn computer based problem solving, the development of GI science, its impact on the geographic discipline.
CO 2. To know how to represent geographical data via Data Models
CO 3. To learn about spatial Analysis and Geographic Decision Making
CO 4. Exploring the role of Remote Sensing in monitoring at the global scale
CO 5. To learn Data Capture Technologies and Data Quality.

COURSE -Security in computing

CO 1. To be able explain the concepts of confidentiality, availability and integrity (CIA) in context of Information Assurance.
CO 2. To articulate the threats to confidentiality, availability and integrity (CIA).
CO 3. To be able to analyse a given architecture, discern vulnerabilities and recommend physical, logical or administrative controls to mitigate the threat.
CO 4. To Comprehend and execute risk management processes, risk treatment methods, and key risk and performance indicators.
CO 5. To be able to explain the concepts of Data integrity, Authentication, Digital Signatures.

COURSE -Cyber law

CO 1. Students identify and analyse statutory, regulatory, constitutional, and organizational laws that affect the information technology professional.
CO 2. Students locate and apply case law and common law to current legal dilemmas in the technology field.

CO 3. Students apply diverse viewpoints to ethical dilemmas in the information technology field and recommend appropriate actions.
CO 4. Students distinguish enforceable contracts from non-enforceable contracts.
CO 5. Adhere to cyber law rules and regulation in handling security issues

Mahatma Education Society's
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NAAC Accredited with A+ Grade in Cycle II
(ISO 9001: 2015 Certified)

Programme- B.Sc.C.S - Bachelor of Computer Science

A.Y. 2023-24

PROGRAM OUTCOME (PO) :

To formulate, to model, to design solutions, procedure and to use software tools to solve real world problems.

• To design and develop computer programs/computer -based systems in the areas such as networking, web design, security, cloud computing, IoT, data science and other emerging technologies.

• To familiarize with the modern-day trends in industry and research based settings and thereby innovate novel solutions to existing problems.

• To apply concepts, principles, and theories relating to computer science to new situations.

• To use current techniques, skills, and tools necessary for computing practice

• To apply standard Software Engineering practices and strategies in real-time software

project development

• To pursue higher studies of specialization and to take up technical employment.

• To work independently or collaboratively as an effective team member on a substantial software project.

• To communicate and present their work effectively and coherently.

• To display ethical code of conduct in usage of Internet and Cyber systems.

• To engage in independent and life-long learning in the background of rapid changing IT industry.

F.Y. B.Sc. C.S- Semester I

COURSE - Introduction to Programming with Python

CO 1. Understand how to design and program Python applications.
CO 2. Understand how to explore the innards of Python Programming and understand components of Python Program.
CO 3. Understand how to define the structure and components of a Python program.
CO 4. Understand how to learn how to write loops and decision statements in Python.
CO 5. Understand how to learn about inbuilt input/output operations and compound data types in Python.

COURSE - Digital Systems & Architecture

CO 1. To learn about how computer systems work and underlying principles
CO 2. To understand the basics of digital electronics needed for computers
CO 3. To understand the basics of instruction set architecture for reduced and complex instruction sets
CO 4. To understand the basics of processor structure and operation
CO 5. To understand how data is transferred between the processor and I/O devices

COURSE -Linux Operating System

CO 1. To learn how to work with Linux file system structure, Linux Environment
CO 2. To learn to handle shell commands for scripting, with features of regular expressions,redirections
CO 3. To learn to implement file security permissions
CO 4. To learn to work with vi, sed and awk editors for shell scripting using various control structures
CO 5. To learn how to install softwares like compilers and develop programs in C and Python programming languages on Linux Platform

COURSE - Open Source Technologies

CO 1: Understand the difference between open-source software and commercial software.
CO 2: Understand the policies, licensing procedures and ethics of FOSS.
CO 3: Awareness with Open-Source Technologies.

COURSE - Discrete Mathematics

CO 1. Define mathematical structures (relations, functions, graphs) and use them to

model real life situations.

CO2. Understand, construct and solve simple mathematical problems.

Solve puzzles based on counting principles.

CO3. Provide basic knowledge about models of automata theory and the corresponding formal languages.

CO4. Develop an attitude to solve problems based on graphs and trees, which are widely used is software

COURSE - Descriptive Statistics

CO 01: Organize, manage and present data.
CO 02:. Analyze Statistical data using measures of central tendency and dispersion.
CO 03:. Analyze Statistical data using basics techniques of R.
CO 04: Study the relationship between variables using techniques of correlation and regression.

COURSE - Soft Skills

CO 1. Learners will be able to understand the importance and types softskills
CO 2. Learners will develop skills for Academic and Professional Presentations.
CO3. Learners will able to understand Leadership Qualities and Ethics.
CO 4. Ability to understand the importance of stress management in their academic & professional life.

F.Y. B.Sc. C.S- Semester II COURSE

COURSE - Design & Analysis of Algorithms

CO 1. Students should be able to understand and evaluate efficiency of the programs that they write based on performance of the algorithms used.
CO 2. Students should be able to appreciate the use of various data structures as per need.
CO 3. To select, decide and apply appropriate design principle by understanding the requirements of any real life problems

COURSE - Advanced Python Programming.

CO1. The student should be able to implement OOP concepts in Python including Inheritance and Polymorphism.
CO2. The student should be able to work with files and perform operations on it using

Python.
CO 3. The student should be able to implement regular expression and concept of threads for developing efficient programs.
CO 04. The student should be able to implement exception handling in Python applications for error handling.
CO 05. The student should have Knowledge of working with databases, designing GUI in Python and implementing networking in Python.

COURSE - Introduction to OOPs using C++

CO 1.Work with numeric, character and textual data and arrays.
CO 2.Understand the importance of OOP approach over procedural language.
CO 3.Understand how to model classes and relationships using UML.
CO 4.Apply the concepts of OOPS like encapsulation, inheritance and polymorphism.
CO 5. Handle basic file operations.

COURSE - Database Systems

CO 1. To appreciate the importance of database design.
CO 2. Analyze database requirements and determine the entities involved in the system and their relationship to one another.
CO 3. Write simple queries to MySQL related to String, Maths and Date Functions.
CO 4. Create tables and insert/update/delete data, and query data in a relational DBMS using MySQL commands.
CO 5. Understand the normalization and its role in the database design process.
CO 6. Handle data permissions.
CO 7. Create indexes and understands the role of Indexes in optimization search.

COURSE - Calculus

CO 1. Understanding of Mathematical concepts like limit, continuity, derivative and its applications.
CO 2. Understanding of Mathematical concepts of integration and its applications and mathematical modelling with Differential Equations.
CO 3. Understanding of Mathematical concepts partial derivative and its applications.

COURSE - Statistical Methods and Testing of Hypothesis

CO 01: Enable learners to know concepts of probability of random variables.
CO 02 : Enable study of probability concept required for Hypothesis testing
CO 03 : To familiarize students with the basics of Statistics and non-parametric tests.

COURSE - E-Commerce & Digital Marketing

CO 1. Understand the core concepts of E-Commerce.
CO 2. Understand the various online payment techniques
CO 3. Understand the core concepts of digital marketing and the role of digital marketing in business.
CO 4. Apply digital marketing strategies to increase sales and growth of business
CO 5.Understand the significance of Web Analytics and Google Analytics and apply the same.

S.Y. B.Sc. C.S- Semester III

COURSE - Principles of Operating Systems

CO 1.To understand basic concepts and structure of operating systems
CO 2.To Learn about process and synchronization in operating system level
CO 3.To understand CPU scheduling algorithms
CO 4.To understand Memory and File system management

COURSE - Linear Algebra

CO1.To offer the learner the relevant Linear Algebra concepts through Computer Science applications.
CO 2.To interpret existence and analyze the solution set of a system of linear equations
CO3 .To formulate, solve, apply, and interpret properties of linear systems.
CO 4.To learn about the concept of linear independence of vectors over a field, and the dimension of a vector space.
CO 5.To interpret basic concepts of linear transformations, dimension, matrix representation of a linear transformation, and the change of coordinate matrix.

COURSE -Data Structures

CO 1.To understand data abstraction and data representation in memory
CO 2.To understand , design and use of elementary data structures such as stack, queue, linked list, tree and graph
CO 3. To understand ,How and why different data structures are used for different types of problems.
CO 4. To apply combined knowledge of algorithms and data structures to write highly effective programs in various domains.

COURSE - Advanced Database Concepts

CO 1. Master concepts of stored procedure, functions, cursors and triggers and its use.
CO 2. Learn about using PL/SQL for data management.
CO 3. Use efficiently Collections and records.
CO 4. Understand concepts and implementations of transaction management and crash recovery.

COURSE -Java based Application Development

CO 1.To understand java based applications using OOP concepts.
CO 2.To understand developing GUI based desktop applications in java.
CO 3.To understand web based applications through servlet and JSP.
CO 4.To understand implementation of basic JSON

COURSE - Web Technologies

CO 1.To understand the concepts of HyperText Mark-up Language and Cascading Style Sheets.
CO 2.To understand JavaScript for creating dynamic websites.
CO 3. To understand various operations performed on data among web applications using XML
CO 4.To understand Server-Side Programming using PHP

COURSE -Green Technologies

CO 1.To understand Green IT Fundamentals: Business, IT, and the Environment
CO 2.To understand Green IT Strategies and Significance of Green IT Strategies
CO 3.To understand Green Enterprise Architecture and Green Information Systems
CO 4.To understand Sociocultural Aspects of Green IT and Green Compliance

S.Y. B.Sc. C.S- Semester IV

COURSE - Theory of Computation

CO 1. Understand Grammar and Languages
CO 2. Learn about Automata theory and its application in Language Design
CO 3. Learn about Turing Machines and Pushdown Automata
CO 4. Understand Linear Bound Automata and its applications

COURSE - Computer Networks

CO 1.Learn basic networking concepts and layered architecture.
CO 2 Understand the concepts of networking, which are important for them to be known as a networking professionals'.
CO 3 To Learn Practical Implementation of Basic Routing Algorithms.

COURSE - Software Engineering

CO 1. Plan a software engineering process life cycle, including the specification, design, implementation, and testing of software systems that meet specification, performance,

maintenance and quality requirements
CO 2. Analyze and translate a specification into a design, and then realize that design practically, using an appropriate software engineering methodology.
CO 3. Know how to develop the code from the design and effectively apply relevant standards and perform testing, and quality management and practice
CO 4. Able to use modern engineering tools necessary for software project management, time management and software reuse.

COURSE - IoT Technologies

CO 1. To Understand Concepts of SoC and IoT
CO 2.To Understand Various types of IoT platforms
CO 3.To Understand Various types of devices using different protocols with IoT
CO 4.To Understand practical applications of IoT in real life world

COURSE -Android Application Development

CO 1.To Understand Kotlin Programming Language for application development
CO 2.To Understand Creating robust mobile applications on simulators and physical devices
CO 3.To Understand, Creating intuitive, reliable mobile apps using the android services and components
CO 4.To Understand Handling data local and remote data storage
CO 5.To Understand Creating a seamless user interface that works with different mobile screens

COURSE - Advanced Application Development

CO 1.Store the data in NoSQL, a document-oriented MongoDB database that brings performance and scalability.
CO 2.Use Node.js and Express Framework for building fast, scalable network applications
CO 3.Use AngularJS framework that offers declarative, two-way data binding for web applications.
CO 4.Integrate the front-end and back-end components of the MEAN stack.
CO 5.Develop robust mobile applications using Flutter.

COURSE -Research Methodology

CO 1.To understand the research methodology course is proposed to assist students in planning and carrying out research projects.
CO 2.To understand procedures and techniques of implementing research project.
CO 3.To understand research and carries through the various methodologies involved.

CO 4.To understand basic statistics required for research and finally report writing.

T.Y. B.Sc. C.S- Semester V

COURSE -Artificial Intelligence

CO1.Demonstrate knowledge of the foundations and key concepts in the field of AI.
CO2.Analyze and design intelligent agents for specific environments.
CO3.Apply problem-solving techniques and algorithms to find solutions to different types of problems.
CO4.Construct knowledge representation models and use reasoning techniques to derive new knowledge.
CO5.Implement machine-learning algorithms and evaluate their performance for classification and regression tasks.

COURSE - Information and Network Security

C01. Analyze and evaluate security trends, attacks, and mechanisms, and propose effective security solutions based on the OSI security architecture.
CO2. Apply classical encryption techniques, such as substitution and transposition ciphers, to encrypt and decrypt messages and analyze their security implications.
CO3. Implement public-key cryptography algorithms, including RSA, and demonstrate the ability to securely exchange keys and establish secure communication channels.
CO4. Design and implement secure authentication mechanisms, including message authentication codes and digital signatures, to ensure data integrity and non-repudiation.
CO5. Evaluate and implement various security measures, such as IP security, web security protocols (e.g., SSL/TLS), intrusion detection systems, and firewall configurations, to protect networks and systems from unauthorized access and attacks.

COURSE - Project Management

CO1. Apply project management principles, processes, and best practices to plan, execute, and control projects effectively.
CO2. Develop project charters, define project scopes, and create work breakdown structures (WBS) to establish project objectives and deliverables.
CO3. Create project schedules, estimate resource requirements, and monitor project progress using appropriate project management techniques.
CO4. Employ quality assurance and control measures to ensure project deliverables meet stakeholder expectations and industry standards.

CO5. Demonstrate effective leadership and teamwork skills, as well as the ability to manage
stakeholders, resolve conflicts, and make ethical decisions in project management settings.

COURSE - Cyber Forensic

CO1. Demonstrate a solid understanding of the principles and techniques used in computer forensics investigations.
CO2. Apply systematic approaches to acquire, preserve, and analyze digital evidence from various sources.
CO3. Utilize specialized tools and software for conducting effective computer forensics analysis.
CO4. Develop strong skills in investigating network-related incidents, including live acquisitions and network forensics.
CO5. Generate comprehensive and well-written reports that accurately document the findings of computer forensic investigations.

COURSE - Software Testing and Quality Assurance

CO1. Explain the importance of software testing and its impact on software quality.
CO2. Apply appropriate software testing techniques to identify and mitigate software defects.
CO3. Design and execute test cases to verify the functionality and performance of software systems.
CO4. Understand the principles of verification and validation and their application in software testing.
CO5. Utilize software testing tools and frameworks to automate testing processes and improve efficiency.

T.Y. B.Sc. C.S- Semester VI COURSE

COURSE-Cloud Computing and Webservices

CO1. Demonstrate a comprehensive understanding of cloud computing concepts, including different types of clouds and their characteristics.
CO2. Implement and utilize web service technologies, such as SOAP and REST, to develop distributed and parallel computing applications.
CO3. Design, deploy, and manage cloud-based applications and services using popular cloud computing platforms such as OpenStack and AWS.
CO4. Apply secure development practices and implement cloud security policies to ensure the confidentiality, integrity, and availability of cloud software solutions.

CO5. Utilize virtualization technologies to create and manage virtualized environments, considering the benefits and drawbacks of virtualization.

COURSE -Cyber Law and IPR

CO1.Demonstrate a comprehensive understanding of cyber laws and their application in the digital age.

CO2. Evaluate legal frameworks and regulations governing cyber laws.

CO3. Identify and assess key issues in cyber laws, such as e-commerce, e-governance, and electronic records and contracts.

CO4. Understand cyber crimes, enforcement mechanisms, and the role of the Cyber Appellate Tribunal.

CO5.Analyze emerging issues in cyber laws, including liability of ISPs, privacy concerns, and jurisdictional complexities.

COURSE -Information Retrieval

CO1. Explain the key components and principles of information retrieval systems.
CO2. Apply indexing, storage, and retrieval techniques to efficiently retrieve relevant documents.
CO3. Compare and contrast different retrieval models and select appropriate models for specific search scenarios.
CO4. Develop practical skills in implementing and evaluating information retrieval systems.
CO5. Demonstrate an understanding of advanced topics in information retrieval, including web search and machine learning techniques.

COURSE - Data Science

CO1. Apply data preprocessing techniques to clean and transform raw data, handle missing values and outliers, and merge datasets.
CO2. Implement machine-learning algorithms to perform tasks such as regression, classification, clustering, and ensemble learning.
CO3. Evaluate and compare different machine learning models using appropriate evaluation metrics and cross-validation techniques.
CO4. Create informative and visually appealing data visualizations to communicate insights and patterns in data.
CO5. Understand the principles and practices of data management, including data governance, data quality assurance, and data privacy considerations.

COURSE -Ethical Hacking

CO1. Apply ethical hacking methodologies to conduct comprehensive security assessments and penetration tests.
CO2. Perform effective footprinting and reconnaissance techniques to gather critical information about target systems.
CO3. Identify and exploit vulnerabilities in various network and system components using appropriate tools and techniques.
CO4. Evaluate the security posture of web servers, web applications, and wireless networks, and recommend appropriate countermeasures.
CO5. Demonstrate an understanding of ethical and legal considerations in conducting ethical hacking activities and adhere to professional codes of conduct.

Mahatma Education Society's

Pillai HOC College of Arts, Science & Commerce, Rasayani

(Accredited by NAAC)
(ISO 9001: 2015 Certified)

Program: Bachelor of Data Science
Pillai HOCL Educational Campus, Rasayani
Taluka -Khalapur Dist. Raigad - 410207
Maharashtra, India

Programme - B.Sc. Data Science

PROGRAM OUTCOME (PO)

1. To demonstrate proficiency with **statistical analysis** of data.
2. To demonstrate skill in **data management.**
3. To apply data science concepts and methods to **solve problems in real-world** contexts and will communicate these solutions effectively.
4. To explore, sort and analyse mega data from various sources in order to take advantage of them and reach **conclusions** to **optimise business processes**.
5. To strengthen **analytical** and **problem-solving** skills by developing real–time applications.
6. To gain **practical experience** in programming tools for data sciences, **database systems, machine learning** and **big data tools.**
7. To integrate fields within computer science, optimization, and statistics to create **adept** and **well-rounded** data scientists.
8. To provide **strong core training** so that graduates can adapt easily to the changes and **new demands** from the industry.

PROGRAM SPECIFIC OUTCOME (PSO)

1. Build a strong foundation of statistics for data science.
2. Use all the features and new updates of Python and R for data science.
3. Perform scientific and technical computing using the Python SciPy package and its sub-packages Integrate, Optimise, Statistics, IO, and Weave.
4. Gain expertise in mathematical computing using the NumPy and Scikit-Learn package
5. Gain an in-depth understanding of data structure and data manipulation
6. Understand and use linear and non-linear regression models and classification techniques for data analysis
7. Obtain a comprehensive knowledge of supervised and unsupervised learning models such as linear regression, logistic regression, clustering, dimensionality reduction, K- NN and pipeline
8. Master the concepts recommendation engine, time series modelling, gain practical mastery over principles, algorithms, and applications of Machine Learning
9. Learn to analyse data using Tableau and Power BI and become proficient in building interactive dashboards
10. Understand deep reinforcement learning techniques applied in Natural Language Processing
11. Understand the different components of the Hadoop ecosystem and learn to work with HBase, its architecture and data storage, learning the difference between HBase and RDBMS, and use Hive and Impala for partitioning
12. Understand MapReduce and its characteristics and learn how to ingest data using Sqoop and Flume

Semester I

Course : Descriptive Statistics

CO 1: To understand the use and importance of statistical data by tabulating and implementing sampling methods.
CO 2: Able to compute the level of measures and apply as well as interpret data into graphs.
CO 3: Apply a measure of central tendency to minimise the sum of squared deviation.
CO 4: Able to understand the basic assumption behind regression analysis and determine the model's significance as well as able to apply various techniques for the modelling.
CO 5: To understand the concept of time series.

Course : Introduction to Programming

CO 1: Proficiency in using and applying various data types including, string, array list, tuple and dictionary.
CO 2: Ability to use regular expressions to perform complex operations in less code.
CO 3: Learning to make use of date and time in Python for various applications.
CO 4: Proficiency in using IPython architecture for Data Science Applications.
CO 5: Knowledge about use of various data science tools

Course : Web Technology

CO 1: Understand the meaning of the basic terminologies of web technology and explore, use the HTML5 concepts. Understand the basic requirements of web design.

CO 2: Understand and use the Page layout, Navigation, Tables, Forms and Media features of HTML5.
CO 3: Understand and use Cascading Style sheets for beautifying the web pages.
CO 4: Understand and use the Java Script for validation of user forms in web pages.
CO 5: Understand and use the technique of transmitting data between a server and web application using JSON.

Course : Business Communication and Information Ethics

CO 1: Communicate effectively in non-verbal way, draft and write effective business letters.
CO 2: Effectively carryout communication activities of business by following email etiquettes, drafting memos
CO 3: Write elegant business reports and prepare user instruction manual.
CO 4: Apply the information ethics in all walks of life.
CO 5: Become a good communicator in life.

Course : Precalculus

CO 1: Apply the knowledge of numbers, graphs and functions in real life.
CO 2: Apply trigonometry in modelling real life problems.
CO 3: Use analytic trigonometry and inverse circular functions to solve a variety of problems.

CO 4: Apply complex numbers theory to different domains, use vectors and matrices to solve real life problems.
CO 5: Identify different types of conics from equations, understand sequences and series.

Semester II

Course : Probability and Distributions

CO 1: Analyse statistical data graphically using frequency distributions and cumulative frequency distributions
CO 2: Use the basic probability rules, including additive and multiplicative laws, using the terms, independent and mutually exclusive events.
CO 3: Translate real-world problems into probability models.
CO 4: Derive the probability density function of transformation of random variables.
CO 5: Calculate probabilities and derive the marginal and conditional distributions of bivariate random variables.

Course : Database Management

CO 1: Students should be able to evaluate business information problems and find the requirements of a problem in terms of data.
CO 2: Students should be able to draw database design in logical structure and can identify the entities which exist in a system.
CO 3: Students should be able to construct normalised database and functional dependencies between attributes and relational algebra queries.
CO 4: Students should be able to design the database schema with the use of appropriate data types for storage of data in the database.

CO 5: Students should be able to create, manipulate, query and back up the databases with features of SQL.

Course : R Programming

CO 1: To use R Studio and explore the features for R programming.
CO 2: To use R functions and graphics within R programming for solving problems.
CO 3: To work with advanced graphics of R, import and use the data and represent the data into tables.
CO 4: To apply formatting on table, use Pipelines in application and use strings, factors in the R programme.
CO 5: To manipulate Data Frames and make use of Dates in R application.

Course : Environmental Science

CO 1: Ability to recognise explain important of environment and its resources
CO 2: Knowledge about insights of ecology and biodiversity
CO 3: Recognise the cause and effects of environmental pollution and other social issues
CO 4: Knowledge about population and its impact on environment
CO 5: Insight into environment management and sustainable development.

Course : Calculus

CO 1: Quickly and easily find the derivative of a function.

CO 2: Perform integration of functions with ease.
CO 3: Apply the knowledge of derivatives and integration to different domains and obtain the results.
CO 4: Apply the knowledge of multiple integrals and polar coordinates to solve real life problems with ease.
CO 5: Use partial derivatives and differential equations to solve a variety of problems.

Semester III

Course : Research Methods and Ethics

CO 1: Learner understands the reasons for doing research, the applications of research, characteristics and requirements of the research process, types of research and Research paradigms.
CO 2: Learner is applying major approaches to information gathering, the relationship between attitudinal and measurement scales Methods for exploring attitudes in research.
CO 3: Learner is able to analyse data in qualitative and quantitative studies, application of IT in data analysis.
CO 4: Learner is able to write a research report and use Information Technology in Research
CO 5: Learners practising ethical codes and practices of conduct research.

Course : Data Structures and Algorithms using Python

CO 1: Learner is capable of choosing appropriate data structure in Python for specified problems and algorithms.
CO 2: Learner is able to implement Linked list and Stack data structure in various domains.
CO 3: Learner is able to implement Tree and Queue data structures and use their operation.
CO 4: Learner has ability to apply Hashing techniques, Symbol Table and Graph Algorithms appropriately.
CO 5: Learner has skills to handle sorting, searching and pattern matching on various data structures.

Course : Economics

CO1: Learner understands the basic economic decisions that underline the economic process: What and how to produce goods and services and how they are distributed.
CO2: Learner is able to apply the concepts of scarcity, choice and opportunity cost to analyse the workings of a market economy.
CO3: Learners able to demonstrate a firm knowledge of the interrelationships among consumers, government, business and the rest of the world in the U.S. macroeconomy.
CO4: Learner is able to identify the process of how the nation‘s output of goods and services is measured through the national income and product accounts; clearly comprehend the income and expenditure approaches to measuring national output and national income.
CO5: Learner is capable to clearly illustrate the specific roles and functions of monetary and fiscal policy in the economy and explain how these are applied to the process of shaping economic policy and stabilising the economy, specifically regarding controlling inflation, promoting full employment and facilitating economic growth.

Course : Data Warehousing and Mining

CO1: Learner is able to demonstrate knowledge of business intelligence, data warehouse with clear understanding of architectural types and will be able to establish the relationship between architectural building blocks.
CO2: Learner is able to elaborate changing dimensions with respect to current trends & using aggregate tables.
CO3: Learner is able to handle the processes of data preprocessing, data transformation and data reduction.
CO4: Learner has knowledge of using various Data Mining techniques for classification and clustering.
CO5: Learner is able to align the Data Mining techniques for analysing the datasets using tools like Weka, R or Python

Course : Linear Algebra and Discrete Mathematics

CO 1: Learner is able to perform common matrix operations such as addition, scalar multiplication, multiplication, and transposition.
CO 2: Learner is able to describe how the determinant of a product of matrices relates to the determinant of the individual matrices.
CO 3: Learner can find eigenvalues and eigenvectors for matrices.
CO 4: Learner is able to test for positive definiteness for matrices.
CO 5: Learner expresses clear understanding of the concept of a solution to a game' and also the limitations on the applicability of the theory.

Semester IV

Course : Testing of Hypothesis

CO 1: Learner is developing null and alternative hypotheses to test for a given situation.
CO 2: Learner is able to differentiate one- and two-tailed hypothesis tests.
CO 3: Learner is able to do sampling a normal distribution and random sampling.
CO 4: Learner is using statistical models and their associations in performing hypothesis testing.
CO 5: Learner is writing the reports and interpreting the data using the various programming languages and packages.

Course : Big Data

CO 1: Learner understands the key issues in big data management and its associated applications in intelligent business and scientific computing.
CO 2: Lerner is acquiring fundamental techniques and algorithms like Hadoop, Map Reduce and NO SQL in big data analytics.
CO 3: Learner is able to interpret business models and scientific computing paradigms, and apply software tools for big data analytics.
CO 4: Learner understands adequate perspectives of big data analytics in various applications like recommender systems, social media applications etc.
CO 5: Learner understands how to develop Successful Data Analytics Solution

Course : Fundamentals of Accounting

CO 1: Learner understands the laws governing the business, typical business administration schemes, and the ethics of accountancy, statistics, and accounting theory.

CO 2: Learner understands the record keeping of financial transactions and further implementations in relevant areas
CO 3: Learners will understand Merchandising Operations
CO 4: Learners will understand Accounting for Receivables
CO 5: Learners will understand Current Liabilities and Payroll Accounting

Course : Artificial Intelligence

CO 1: Learner understands building blocks of AI.
CO 2: Learner is analysing a problem and solving it by implementing suitable techniques.
CO 3: Learner is applying logic based techniques to solve examples.
CO 4: Learner is able to implement Bayesian approaches.
CO 5: Learner is using machine learning concepts for solving problems

Course : Numerical Methods

CO 1: Learner implementing Numerical Methods To solve the problems.
CO 2: Learner is computing the numerical results using raw data.
CO 3: Learner will learn numerical difference and integration .
CO 4: Learner will learn Numerical Solution of Initial-Value
CO 5: Learner will learn Matrix Eigenvalue

Semester V

Course : Computer Vision

CO1 : Understand the fundamentals of image formation.
CO2 : Use and Demonstrate operations of Image Processing.
CO3 : Relate and Explain various features of Image.
CO4 : Understand, Identify and Examine various image patterns.
CO5 : Design and develop practical and innovative image processing and computer vision applications or systems

Course : Data Engineering

CO1 : To remember and explain the Data Engineering basics and Lifecycle.
CO2 : To apply the Data Architecture Design with various options available.
CO3 : To create the Data from source and make use of Storage.
CO4 : To understand the Ingestion process and know about Queries, Modeling, and Transformation.
CO5 : To Illustrate Data Analytics, Machine Learning and to Explain the importance of Security and Privacy.

Course : Robotic Process Automation

CO1 : Understand and implement the mechanism of business process and can provide the solution in an optimised way.
CO2 : Apply the features used for interacting with database plugins.
CO3 : Apply and Use the plug-ins and other controls used for process automation.
CO4 : Implement and handle the different events, debugging and managing the errors.
CO5 : Test and deploy the automated process

Course : Campus to Corporate

CO1 : Apply active listening techniques and overcome barriers to become a better listener.
CO2 : Demonstrate improved speaking skills with clarity, confidence, and fluency.
CO3 : Utilise interview techniques to enhance job interview performance and create impactful résumés.
CO4 : Apply interpersonal communication skills to build effective relationships and manage conflicts in professional settings.
CO5 : Effectively deliver negative news messages, develop crisis communication plans, and handle press conferences in challenging situations

Course : Social Media Analytics

CO1 : Demonstrate a comprehensive understanding of social media analytics concepts, theories, and tools.
CO2 : Apply various social media analytics techniques to extract insights and make informed decisions.
CO3 : Perform social network analysis to uncover patterns, relationships, and influential nodes within social networks.
CO4 : Utilise text analytics methods to extract meaningful information from social media text data.
CO5 : Design and implement recommender systems for social media platforms, considering user preferences and item similarities to enhance user experiences.

Semester VI

Course : Machine Learning

CO1 : Understand the foundational concepts and principles of Machine Learning
CO2 : Apply supervised and unsupervised learning techniques, including classification algorithms and clustering algorithms
CO3 : Evaluate the performance of Machine Learning models using classification metrics, ROC/AUC curve analysis, and cross-validation techniques.
CO4 : Implement regression models (such as linear regression and logistic regression) and understand their applications in predictive analysis.
CO5 : Utilize dimensionality reduction techniques (Like PCA) for feature reduction and selection, and apply association rule mining algorithms (such as the Apriori algorithm) for discovering meaningful patterns in datasets

Course : Exploratory Data Analysis

CO1 : Understand importance of data and its types in Exploratory Data Analysis.
CO2 : Classify EDA and summary statistics in context of interpretation.
CO3 : Understand the significance of missing value imputations in better EDA interpretations.
CO4 : Analyse the measure of central tendency in describing the quick view of data set.
CO5 : Categorize measure of dispersion and its interpretation in spread ness of data.

Course : Internet of Things

CO1 : Describe what IoT is and how it works today and Recognise the factors that contributed to the emergence of IoT
CO2 : Design and program IoT devices and Use real IoT protocols for communication
CO3 : Secure the elements of an IoT device

CO4 : Design an IoT device to work with a Cloud Computing infrastructure.
CO5 : Transfer IoT data to the cloud and in between cloud providers and Define the infrastructure for supporting IoT deployments

Course : Applied Business Analytics

CO1 : Understand basics of statistical concepts like probability distribution, hypothesis testing etc.
CO2 : Experiment with Business Intelligence Tools for Data Analysis.
CO3 : Make use of the business analytics methods for discovering the knowledge
CO4 : Apply Regression Analysis with Time Series Analysis and forecasting
CO5 : Apply and Construct various modelling techniques for Optimization and simulation.

Course : Sports Analytics

CO1 : To remember and understand the Cricket analytics and its procedures.
CO2 : To apply cricketr package for analysing performances of cricketers.
CO3 : To understand the use of cricketr package template.
CO4 : To analysing performances of cricketers using of Cricpy package.
CO5 : To apply and evaluate Cricket analysis with Machine Learning using Octave

Programme- Bachelor of Hospitality Science (BSc. HS)

Program Outcome (PO's)

A student graduating from BSc Hospitality Studies Program will demonstrate:

PO1: Performs operational activities effectively and efficiently to the standards expected in the operation required in the tourism industry/hospitality sectors.

PO2: Able to apply basic operations knowledge in the operation of the hotels, restaurants, and travel, government and non-government agencies in accordance with the competency standards.

PO3: Analyses situation, identifies problems, formulates solutions and implements corrective and/or mitigating measures and action management into foodservice and lodging operations.

PO4. It aims to produce graduates who will produce innovative solutions to problems, apply research skills to business challenges and communicate effectively.

PO5: Demonstrate the ability to use professional written and oral communication skills and technology to successfully communicate

.

PO6: Demonstrate awareness, understanding and skills necessary to live and work in a diverse world.

PO7: Practice professional ethics, provide leadership, demonstrate personal and global responsibility, and work effectively as a team member.

COURSE OUTCOME
SEMESTER-I

COURSE: FOOD PRODUCTION & PATISSERIE

CO 01 To inculcate the right attitude and the required basic knowledge and technical skills in the art of culinary and the food production department.

CO 02 To introduce the various equipment and utensils used in the kitchen.
CO 03 To provide an overview of the culinary history
CO 04 To emphasize on the aim's objectives of cooking, commodities used in food
CO 05 To learn in detail about different ingredients used in the kitchen and Familiarise about the spices, herbs and all different tastes.

COURSE: COMMUNICATION SKILLS

CO 01 Developing and adapting speaking and achieving listening skills and strategies.
CO 02 Generating, planning and drafting ideas
CO 03 Improving vocabulary for precision and impact
CO 04 Using grammar (French & English) accurately and appropriately.
CO 05 Structuring, organising and presenting texts in a variety of formats.
CO 06 To be able to understand and speak basic French

COURSE: FOOD AND BEVERAGE SERVICE

CO 01 Identify the role of the Food & Beverage Service department and explain its organization structure and importance.
CO 02 Explain how moments of truth affect guests, staff members, and managers and describe the value of guests and staff members to a food service operation.
CO 03 Describe the duties and responsibilities of beverage service staff members, and summarize techniques and procedures for responsible selling and serving cocktails, beer and wine.
CO 04 Identifies the operational and auxiliary areas as well as equipment used in the Food & Beverage department.
CO 05 Understand the various service methods and procedures followed in the department

COURSE: FOOD SAFETY & NUTRITION

CO 01 To learn about the importance of hygiene & sanitation in the catering industry
CO 02 To get acquainted with the food standards.
CO 03 To learn about ways to minimize food poisoning and infections.
CO 04 To understand function, sources & deficiency of nutrients.
CO 05 To gain basic knowledge of nutrition

CO 06 To gain knowledge about maintenance of good health.
CO 07 To understand the changes brought about in food nutrients during processing

COURSE: FRONT OFFICE

CO 01 Introduce the students to the Hotel & Tourism Industry
CO 02 Understand the appropriate organization structures and duties in the Front Office and related departments
CO 03 Develop, prepare guest relations and evaluate practical aspect with guests
CO 04 Understand the role of public relations with the hotel industry.
CO 05 Develop skills required as an efficient and effective receptionist in any hotel (large or Small) and to handle situations and types of guests in the job.
CO 06 Understanding the functioning of the Telecommunication department.

COURSE: HOUSE KEEPING

CO 01 The student will be able to identify the role of the housekeeping department .
CO 02 The student will explain its organization structure and importance.
CO 03 The student will be able to list the basic cleaning equipment, cleaning agents and explain their use.
CO 04 Will be able to perform basic cleaning procedures of various surfaces.

Course – Information Technology

Objective - To equip students with theory inputs with respect to understanding the basics of computers and necessary skills to operate the generic applications and standard OS

CO 01 To understand the basis of computer fundamentals.
CO 02 To understand the basic concepts of hardware.
CO 03 To understand the concept of networking and network security.
CO 04 To understand the basic concepts of internet, VPN, ISP, Bandwidth and search engines.

SEMESTER: II

COURSE: FOOD PRODUCTION & PATISSERIE II

CO 01 To develop a keen interest in food production.

CO 02 To enable students to experiment, innovate and progressively produce a variety of preparation / dishes
CO 03 To gain confidence to adapt to the technical skills and the art of preparing different menus, Indian as well as Continental.
CO 04 Students should be confident enough in their skills which would boost their morale to take up the challenge of Quantity cooking.
CO 05 To inculcate the right attitude and the required basic knowledge and technical skills in the art of culinary and the food production department.

COURSE: COMMUNICATION SKILLS (English & French)

CO 01 Understanding the concept of communication.
CO 02 To know the different types of organizational communication.
CO 03 To know how to put recipes i correct order, and translate into English.
CO 04 To be able to converse in French .
CO 05 To be able to make an effective presentation using visual aids.

COURSE: FOOD AND BEVERAGE SERVICE

CO 01 The different types of Menus and principles of menu planning.
CO 02 Sequence and course in the French classical menu also identify general accompaniments.
CO 03 Types, storage and service of Tobacco and Non-alcoholic beverages.
CO 04 Simple control system followed in a restaurant.

COURSE: FRONT OFFICE

CO 01 The student should be able to understand the concept and functioning of room reservations, Reception and Guest services.
CO 02 Introduce the students to the Hotel & Tourism Industry
CO 03 Develop, prepare guest relations and evaluate practical aspects with guests.
CO 04 To handle guest related services such as guest mail, guest messages, handling of keys, safe deposit lockers, guest room change etc.
CO 05 Develop skills required as an efficient and effective receptionist in any hotel (large or Small) and to handle situations and types of guests in the job.

COURSE: HOUSE KEEPING

CO 01 The student will be able to list and explain the various operational areas, procedures and formats of the housekeeping department.
CO 02 The student will be able to enlist and implement Standard Operating Procedures (SOP's) for routine cleaning procedures of various guest areas.
CO 03 The student will be able to identify the role of the housekeeping department.
CO 04 Will be able to perform basic cleaning procedures of different cleaning areas such as public area, departure room, vacant room.

COURSE: PRINCIPLES OF HOTEL ACCOUNTANCY

CO 01 Apply generally accepted accounting principles to hospitality situations, define the terms debit and credit, explain the basis of the double‑entry accounting system and identify the normal balances of commonly used accounts.
CO 02 Illustrate how to journalize and post accounting entries and prepare trial balance for accounts.
CO 03 Describe the major classes of accounting adjustments and use them to classify adjustments.
CO 04 Explain the purposes of the uniform system of accounts and identify those systems that are relevant to the hospitality industry.
CO 05 Explain the purpose of performing bank reconciliation and prepare bank reconciliation.
CO 06 Describe the terms associated with receivables and payables, outline ways to avoid bad debt losses, and explain methods used to account for bad debt expenses.
CO 07 Identify broad guidelines for controlling inventories and explain the role of inventory in the calculation of profit.
CO 08 Use critical/analytical thinking skills to prepare and interpret the balance sheet, the income statement, the statement of owner's equity, the statement of retained earnings, the statement of cash flows, and ratios analysis and interpret and discuss the purposes of each.
CO 09 Recognize and evaluate ethical considerations in hospitality financial accounting affecting the hospitality industry.

COURSE: PRINCIPLES OF MANAGEMENT

CO 01 Programme activities and lecture to learn about emerging Indian Corporate World and Global Phenomenon with stress upon the hospitality industry.
CO 02 To train the student as future managers and make them understand the working of an organisation.
CO 03 Teaching through PowerPoint presentations, case studies, activities, brainstorming sessions, SWOT/PEST analysis etc.

CO 04 Trying to bridge the gap between management studies and the real corporate world through real time stories from newspapers, journals and business magazines, books.
CO 05 Encouraging students to read more so as to refine their analytical power and sharpen business sense and become more aware of the business environment.
CO 06 Opportunity to participate in business discussions, article/book reviews and presentations

CO for Semester III

Food Production & Patisserie

CO1: To get trained on various aspects of regional Indian cuisine- Quantity Food Production (QFP)
CO2: To introduce the various Equipment and utensils used in the kitchen.
CO3: To gain confidence to adopt to the technical skills and the art of preparing different Indian menus.
CO4: To understand the various aspects of regional Indian cuisine
CO5: To understand The Ingredients used and the different spices and herbs

Food and Beverage Service

CO1: Describe the duties and responsibilities of beverage service, staff members and summarize techniques and procedures for responsibly selling and serving cocktails, beer and wine
CO2: Understanding the production process of Beer, Wine, and Spirits.
CO3: Making cocktails with use of ingredients such as liqueurs and bitters.
CO4: To Understanding the Production process of Beer, Wine, and Spirits.
CO5: To Understand the various service methods and procedures followed in the department

Front Office

CO1: The student is expected to process knowledge and skills with respect to handling Group Reservations, Assigning Rooms, Check-in, Cashiering and Security Systems.
CO2: Develop skills required as an efficient and effective receptionist in any hotel and to Handle situations and types of guests.
CO3: Understand the role of public relations with the hotel industry.

CO4: Understand to Assign Rooms, Check-in, Process
CO5: Understand to use Cashiering and Security Systems

House Keeping

CO1: The student will be able to explain various operational procedures and formats Pertaining to linen, uniforms, and laundry.
CO2: The student will be able to create formats and design layouts of linen room, uniform Room and laundry.
CO3: The student will be able to create Flower Arrangements for various occasions and Location.
CO4: The student will be able to plan and implement décor for special occasions.

Management Information Systems

CO1: To equip the student with the required knowledge to understand the theory and practical aspects of the functioning of the system department of a hotel with focus on skills development in handling Property Management Systems software.
CO2: To understand theory and practical aspects of MIS
CO3: To understand the system department of a hotel.
CO4: To understand Hotel Property Management System
CO5: To understand room management system modules

Hospitality Law & Human Resources Management

CO1: To make students aware of required knowledge of Sources Law
CO2: To understand different laws pertaining to Indian Law
CO3: To understand the system department of a hotel.
CO4: To understand Hotel Property Management System
CO5: To understand room management system modules

Hotel Accountancy & Cost Control

CO1: To Understand how to do Company Accounts work.
CO2: To Understand the concept of Allowances & Visitors Paid outs.

CO3: To Understand how to calculate Food & beverage cost control.
CO4: To Understand standard costing & variance analysis.
CO5: To Understand internal audit, statutory audit & night audit.

SEMESTER: IV

Course Outcome

Internship

CO1: Student Gain valuable work experience and knowledge of the industry how it works
CO2: Get opportunity to explore a career path.
CO3:Students also Develop and refine skills and practical knowledge
CO4: They also get the opportunity to Network with professionals in the field.
CO5: Gain confidence
CO6: Access to a variety of tasks and departments.
CO7:Secure good references and recommendations

CO for Semester V

FOOD PRODUCTION & PATISSERIE

CO - 1: Basic of Food Production, Classical Kitchen Brigade, Cuts of Vegetable, Meat, Fish, Poultry. Basic methods of cooking Stocks, Sauces, Soups, Salads.
CO - 2: Basics of Bakery & Confectionery. Breads, Cakes, Cookies & Pastries.
CO - 3: Modern Cooking Techniques & Processes. Sous Vide Cooking, Cook Chill & Cook Freeze, HACCP, FSSAI Law.
CO - 4: Larder Department Layout, Duties, Tools, Equipments, Requirements & Yield testing.
CO - 5: Charcuterie, Brines – Cures – Marinades - Smoking, Forcemeats, Sausages, Charcuterie Products, Ham – Bacon – Gammon.
CO - 6: Cheese, Manufacturing Process, Types & Uses, International Cheese with Country of origin, Cheese Board (Layout & Presentation).
CO - 7: International cuisine, Geographic Location, Historical Background, Staple Food & Specialties With Recipes, Equipments & Raw Ingredients. Europe Continent, Middle East, Far East, North Central America

CO - 8: Chocolate, Manufacturing and processing of chocolate, Types of chocolates, Tempering of chocolate, Application of cocoa, butter and white chocolate.
CO - 9 : Icings, Varieties of Icing, Uses of Icing

FOOD & BEVERAGE OPERATIONS MANAGEMENT

CO - 1: F & B Outlet Planning, Objective - Steps in planning of layout, Factors & Operational aspects of various F & B Outlets, Menu planning, Planning of staff requirement, Elements of cost.
CO - 2 : Function Catering / Banquets, Organization of Banquet dept., duties and responsibilities, Types of Banquets: Formal, Semiformal & Informal
CO - 3: Banquet Sales, Function contract & Function prospectus, Banquet Menus. Types of service in the banquets, Staffing & Duty allocation, Toast procedure at wedding reception & Protocol.
CO - 4: Outdoor catering.
CO - 5 : Buffet, Types of buffets, Buffet equipment, Banquet layout, Meeting room setups,
CO - 6 : Railway Catering & Airline catering, Marine Catering (offshore & cruise liners), Industrial catering

FRONT OFFICE

CO - 1: Planning Operations, Management Function, Establishing Room Rate, Special Room Rates Offered.
CO - 2: Forecasting Room Availability, Forecast formula, Budgeting for Operations.
CO - 3 : Evaluating FO Operations, Occupancy Ratios, Revenue Per Available Room (RevPAR)
CO - 4: Yield Statistic, Market Share Index/ Fare Market Share, Evaluation of Hotels By Guests.
CO - 5 : Handling Foreign Currency, Foreign Currency Exchange, Foreign Exchange Certificate-Format, Foreign Exchange Settlements using Credit Cards, Export Promotion Capital Goods Scheme (EPCG).

HOUSEKEEPING

CO - 1: Current Trends In Housekeeping, Green housekeeping practices, Guest supplies and amenities, Level of service.
CO - 2: Contract Services / Outsourcing, Types of contract, Advantages and disadvantages of contract service.
CO - 3: Manpower Planning, Determining staff strength, Scheduling staff.
CO - 4: Lighting And Lighting Fixtures, Windows and Window Treatment, Wall and Ceiling Finishes.
CO – 5: Carpets and Floor Coverings, Interior Designing.

CORPORATE ENGLISH

CO - 1: General Business English, Introduction to International English, Grammar, Articles and nouns, Sentence Construction.

CO - 2: Group Discussions, Expanding Arguments, Functional language, Public speaking & Presentation skills, Linguistic techniques, Sign posting language, Body language, Interviews / Group Discussion.
CO - 3: Vocabulary, Power writing, The writing process, Focus on structure & language.
CO - 4: Interpersonal Skills, Academic Writing, Structuring an essay, Paragraph construction.
CO – 5: Topic sentences, Supporting sentences, Paraphrasing & writing effective conclusion, Corporate Communication, Business letters, Emails, Memo, Report, Cross cultural communication.

ENVIRONMENTAL & SUSTAINABLE TOURISM

CO - 1: Environmental Studies, Scope and Importance, Need for public awareness, Consumerism & Waste Products.
CO - 2 : Introduction to Tourism & Travel, Types of Tourism-Pilgrimage, Business Tourism, Health Tourism, Adventure Tourism, Sports Tourism, Culinary & Wine Tourism, Various modes of Transport – Land (Rail and Road), Water (Ferries and Cruises), Air.
CO - 3: Tourism Organizations, National/Domestic Organizations, International Organizations.
CO - 4: Sustainable Development, Rio Summit, Impact of Tourism on the World.
CO - 5: Sustainable Tourism, Sustainable Tourism in India, Impact of Travel on Sustainable Tourism, Impact of Accommodation on Sustainable Tourism.

CO for Semester VI

ORGANIZATION BEHAVIOUR

CO - 1 : Introduction to Organizational Behavior, Management Functions, Roles & Skills, Effective v/s Successful Managerial activities, Individual Behavior, Group Behavior.
CO - 2 : Organizational Structure, Six Elements of organizational structure, Organizational Designs, Common Organizational Designs, New Design options.
CO - 3 : Motivational Concepts, Early Theories of Motivation, Maslow Abraham's Hierarchy of Needs theory, Douglas McGregor's Theory X & Theory Y, Fredrick Herzberg's Two Factor Theory, Mc Cleland's Theory of Needs, Contemporary Theories of Motivation, Leadership & Types of Leadership.
CO - 4: Stress Management, Potential Sources of stress, Consequences of Stress, Managing stress, Introduction to Quality of Work Life.
CO - 5 : Organizational Change, Elements / Factors of Change, Planned Change, Resistance to change, Overcoming Resistance to Change, Approaches to Managing Organizational change, Introduction to Diversity & Managing Diversity.
CO - 6: Conflict Management, Sources & Types of Conflict, Conflict Management Styles, Power and Politics.

STRATEGIC MANAGEMENT

CO - 1 : Introduction to Strategic management, Strategy, Strategic Management and its relevance, Process of Strategic Management, Levels of Strategy, 'S' Frame Work.
CO - 2: Strategic Intent, Vision , Mission, Business definition, Goals and Objectives, Mission Statement and its Characteristics, Corporate Social Responsibility.

CO - 3: Environmental Analysis, Concept of Organizational Environment: Internal and External Environment, Process of SWOT analysis, Need for Environmental analysis (External Environment), External Factor Evaluation Matrix (EFE).
CO - 4 : Organizational Appraisal, Dynamics of Internal Environment, Six Organizational Capability factors, Internal Factor Evaluation Matrix (IFE), Competitive Profile Matrix (CPM),Industry Analysis (Porter's Five Force Analysis).
CO - 5: Strategy Formulation, Types of Strategy, Intensification Strategies, Integrative Strategies, Diversification Strategies, Restructuring / Retrenchment Strategies.
CO - 6: Strategic Evaluation, Nature and its importance, Process of Strategic Evaluation.

ADVANCED FOOD PRODUCTION

CO - 1: Kitchen Management, Flow of work, Layout and design, Food Cost Control, Kitchen Stewarding, Importance of kitchen stewarding, Hierarchy of kitchen stewarding, Garbage Disposal.
CO - 2 : Sandwich, Components of a sandwich, Types of sandwich, Accompaniments and Dips, Classical garnishes,
CO - 3: Horsd'oeuvre, International Hors d'oeuvres (Hot & Cold), Russian, Italian, Spanish, English, Swedish, Indonesian, Japanese, Greek.
CO - 4: Non Edible Displays, Ice-carving, Tallow sculpture, Fruit and vegetable displays, Salt dough, Thermocol work, Sugar & Chocolate Display.
CO - 5: Uses of wines, herbs and spices in cooking, Organoleptic & sensory evaluation of food, Contemporary cooking trends.

ADVANCED FOOD & BEVERAGE OPERATIONS MANAGEMENT

CO - 1: Gueridon Service, Factors to create impulse buying, Advantages and disadvantages of Gueridon service, Principles of Gueridon service, Flambé trolley & other trolleys, Gueridon equipment & ingredients, Mise en place & Presentation.
CO - 2: Food and Beverage Management, Objectives of Food & Beverage Management, Food and Beverage Management/ Function, Cost and Market orientation.
CO - 3 : Food and Beverage Control, Objective of F& B Control, Obstacles of F& B Control, Food Control checklists, Beverage Control checklist.
CO - 4: Bar Operations, Definition & classification, Layout & parts for Front of the house dispense bar, Bar Thefts and frauds, Records & Licenses maintained in a Bar.
CO - 5 : Cocktails & Mixed drinks, Bar Equipment, Methods of Mixing Cocktails, Styles of Cocktails, Rules to be observed while making cocktails, Recipes of classic & exotic cocktails - Whisky, Rum, Brandy, Gin, Vodka, Tequila & Mezcal, Wine, Sparkling Wine & Beer, Mocktails.
CO - 6: Cycle of control, Operational phase, Purchasing, Receiving, Storing & Issuing, and Post Operational Control: Management after the event phase.

ADVANCED BAKERY & COFECTIONARY

CO - 1 : Basic Of Bakery and Patisserie Revision, Flour, Sugar, Leavening Agents, Fats & oils, Bread terms, Bread making.

CO - 2 : Cake Making, Formula Balancing, Methods of cake making, Physical & chemical changes, Frozen Desserts, Types (Ices, Ice Milk and Ice Cream)- Spuma, Granita, Sorbet, Parfait, Casatta, semi-fredo, Gelato, Bombe, Frozen Yogurt, Manufacturing & processing of ice-cream.
CO - 3: Meringues, Types and methods, Precautions, Use and Storage, Sugar Craft, Tools & Equipment, Sugar Craft Techniques, Flower making, Sugar garnishes, 3D gum paste modelling.
CO - 4 : Chocolate, Manufacturing process of chocolate & cocoa powder, Types, Tempering, Use and storage, Icings and Toppings, Classification with advantages & disadvantages, Shelf life.
CO - 5: Colours & Flavours, Types, Rules given by FDA, International Desserts, Names & Country of Origin, Glossary terms.

SERVICE MARKETING

CO - 1: Introduction to Marketing, Concise Evolution of Marketing, Characteristics of Services Marketing, Service encounter & service chain, Moment of Truth, Service encounter Analysis – The "Six S's".
CO - 2: Services Marketing Concept, Segmentation, Positioning, Components of Marketing Plan.
CO - 3: P's of Service Marketing, Product / service mix, Price Mix, Distribution Mix / Place, Promotion / Communication mix, People, Physical Evidence, Process / System.
CO - 4: Consumer behavior, Introduction & definition of consumer behavior, Factors influencing consumer behavior, Stages in purchase behavior, Guests of tomorrow & Guest lifestyles.
CO - 5: E- Marketing for Services, Ways to conduct on-line Marketing Activities, Benefits of E-Marketing.

Mahatma Education Society's

Pillai HOC College of Arts, Science and Commerce

Pillai HOCL Educational Campus, Rasayani

NAAC Accredited with A+ Grade in Cycle II

(ISO 9001: 2015 Certified)

Programme- BCOM- Bachelor of Commerce

PROGRAM OUTCOME (PO)

1. It enables learners to get theoretical and practical exposure in the commerce sector which includes Accounts, Commerce, Marketing, Management, Economics, and Environment and Taxation.
2. It promotes students to become professionals / managers / entrepreneurs / accountants and consultants in various allied fields.
3. This programme enables the students to be updated with general understanding of human interaction with the environment, logical and analytical abilities, quantitative techniques and life skills.
4. The students are acquainted with the basics of judicial, legal, political, cultural, social, ethical and administrative structural set up of India.
5. It aims to produce graduates who will come up with innovative solutions to problems, apply research skills to business challenges and communicate effectively.
6. The commerce and accounts focused curriculum offers a number of specializations and practical exposures which would equip the student to face the modern-day challenges in commerce, industry and entrepreneurship.

COURSE OUTCOME (CO)

SEMESTER - I

Course – Accounting and Financial Management – I

CO 01 To understand various accounting standards issued by ICAI
CO 02 To understand capital and revenue: expenditure and receipts and Preparation of Final accounts of Manufacturing Concerns
CO 03 It enables understanding and preparation of departmental accounts
CO 04 The learners will understand accounting for hire purchase.

Course – Business Economics - 1

CO 01 Students Understand the concept of Business Economics
CO 02 Students Understood the Economics Variables.
CO 03 Students able to difference between Demand and Supply
CO 04 Students understand the Meaning of Households and Firm
CO 05 Students are able to make differentiate between different types of market

Course – Commerce I

CO 01 The learners understand the concept of business
CO 02 It familiarizes the learners with the business environment.y
CO 03 It enables the learners to acquire knowledge about project planning and Statutory Requirements in Promoting Business Unit.
CO 04 The learners are acquainted with entrepreneurship.

Course - Environmental Studies I

CO 01 To successfully create an environmental awareness among Commerce students and highlight functional links between environment, economy and society.
CO 02 To provides an overview on the concept and components of the environment, ecology and ecosystem
CO 03 To create awareness about natural resources with a focus on the sustainable development by conservation of natural resources
CO 04 To emphasize on issues of population growth, and its environmental impact, and the urbanization with special emphasis on Smart City Mission of India
CO 05 To convey an understanding of thematic world mapping from an environmental point of view..

Course – Foundation Course I

CO 01 It creates an understanding of the multi-lingual, multi religious, multicultural nature & political nature of Indian society
CO 02 It creates awareness about the concept of disparity with Indian context.
CO 03 Students are able to understand the features and structure of the Indian Constitution.
CO 04 It enables the students to know about significant aspects of political processes.

Course – Mathematical and Statistical Techniques I

CO 01 : Understand how financial markets work, to analyze securities, and to make intelligent investment decisions based on available evidence and analysis.
CO 02 : Able to the counting Principle such as Arrangement and Selection of objects.
CO 03: Understand the concept of Measures of Central Tendencies and Measures of Dispersion.
CO 04: Calculate probabilities by applying probability laws and theoretical results and study about Probability distribution of a discrete random variable.

CO 05: Have greater insight into decision-making processes.

Course – Business Communication I

CO 01 To help students able develop an awareness regarding the complexity of communication process
CO 02 To help students understand the various aspects about effective listening skills to implement in the future
CO 03 To help students understand oral communication and it's implementation interpersonally and in large groups. .
CO 04 To acquaint students with understanding how to write effectively in a clear and concise manner. .
CO 05 To help students learn to communicate effectively through electronic media

SEMESTER – II

Course – Accounting and Financial Management – I

CO 01 Describe accounting for joint ventures with a separate set of books and no separate set of books.
CO 02 Application of various basis for allocation of departmental expenses and incomes.
CO 03 Evaluate stock valuation methods with regards to goods send at cost price and at invoice price in consignment account ..
CO 04 Perform accounting entries with regards to accounting of Not for profit organisation.
CO 05 Describe accounting for dependent branch and independent branch
CO 06 Apply determine debtor and stock and debtor method and prepare accounts in the books of head office and branch.

Course – Commerce II

CO 01 It creates awareness among the learners regarding the broad framework of different types of Services
CO 02 The learners develop skills relating to retail marketing of services
CO 03 The learners are acquainted with the recent trends in the services sector. ..
CO 04 Students are able to update themselves with respect to E-commerce.

Course – Business Economics-II

CO 1 Students will be able to understand different types of market structure

CO 2 Students will be able to understand the features of monopolistic competition and role of advertisement
CO 3 Students will be able to understand the difference between collusive and non-collusive oligopoly.
CO 4 Students will be able to understand the different degrees of price discrimination
CO 5 Students will be able to understand the concept of capital budgeting

Course - Environmental Studies II

CO 01 To highlight solid wastes and its management, an individual's role in Solid Waste Management.
CO 02 To understand the impact of agriculture, industry, and tourism on the environment and focus on sustainable agriculture and sustainable industrial practices
CO 03 To create an insight into various environmental issues at various levels and environmental movements towards making the environment sustainable**.**..
CO 04 To create the role of Concept, Components, and Applications of technology in environmental management.
CO 05 To convey an understanding of thematic Mumbai and Konkan region mapping from an environmental point of view.

Course – Mathematical and Statistical Techniques II

CO 01 Students will be able to understand the concept of functions and its derivatives.
CO 02 Students will be able to solve problems based on Simple interest and compound interest
CO 03 Students will understand the concept of time series and index numbers.
CO 04 Students will be able to analyze times series and evaluate index numbers.
CO 05 Students will be able to understand the concept of probability and distributions.

Course – Foundation Course II

CO 01 It creates awareness about the basic understanding of the issues related to economic changes and its impact on different fields
CO 02 It makes learners to understand different evolution of Human Rights
CO 03 The learners are acquainted with the ecology , environment and its interconnectedness.
CO 04 It familiarizes the students with understanding stress and conflict along with various measures to manage it in contemporary society.

Course – Business communication II

CO 01 Students will be able to become aware of the complexity of the Communication Process
CO 02 Students will be able to understand the importance of professional meetings, committees, conferences, group discussions, public relations,.
CO 03 Students will be able to understand and develop effective oral skills
CO 04 Students will be able to understand and develop effective business correspondence skills like letter writing, report writing.
CO 05 Students will be able to learn too communicate effectively through electronic media like mobiles, Emails etc

SEMESTER – III

Course –Accountancy and Financial Management III

CO 01 To provide the knowledge to the students with regards to Partnership Final Accounts
CO 02 Students get aware about conceptual knowledge of Amalgamation of firms.
CO 03 Learners learn about Conversion of partnership firm into a company
CO 04 Students learn about Piecemeal Distribution of cash.

Course – Financial Accounting and Auditing- Introduction to Management Accounting

CO 01 Students are familiarized with the functions in Management.
CO 02 Students get awareness about conceptual knowledge and evolution of Management through this course
CO 03 Students are able to understand the application of practice tools and methods in management accounting.
CO 04 Students are able to recognize commonly used financial statements, their components and how information from business transactions flows into these statements. .

Course – Advertising I

CO 01 It highlights the role of advertising for the success of brands and its importance
CO 02 It aims to orient learners towards the practical aspects and techniques of advertising.
CO 03 It provides knowledge about the current trends in advertising..

CO 04 It acquaints students with various tools of IMC and careers in advertising. .

Course – Commerce III

CO 01 On successful completion of this subject the learners are exposed to the knowledge and evolution of management
CO 02 It familiarizes the learners with the functions in Management.
CO 03 It enables the learners to acquire knowledge about various techniques, functions and steps to be implemented for effective managerial functioning.
CO 04 The learners learn about organization and organising as an important function of management.

Course – Business Economics III

CO 01 students will learn basic introduction of Macroeconomics
CO 02 Students will understand Circular flow of income in open and closed economy
CO 03 students will learn the basics concepts of keynesian theory
CO 04 students will understand inflation and stagflation
CO 05 students will learn about the demand for money and supply of money.

Course – Business Law I

CO 01 Students are introduced to basic tools for understanding law and basic concepts of Contract Law.
CO 02 Students are able to analyse detailed provisions of how to make and terminate a contract legally in India.
CO 03 Students are able to appreciate the application of contractual obligations in different practical situations.
CO 04 Students are able to understand specific application of Contract law in sale and purchase of Goods.
CO 05 Students are able to understand and appreciate application of contract law in Negotiable instruments.

Course – Foundation Course III

CO 01. To develop a basic understanding about issues related to human rights of weaker sections, ecology, and Science & Technology
CO 02. Give an overview and significant skills required to address competition in career choices
CO 03. Appreciate the importance of developing a scientific temper towards technology and its use in everyday life.

SEMESTER – IV

Course – Accountancy and Financial Management IV

CO 01 The students should be able to understand the concept of a Company, preparation of Company Accounts and its accounting effect.
CO 02 The students should be able to understand the concept of Redemption of Preference Shares and the procedure and steps involved in Redemption of Preference Shares
CO 03 The students should be able to understand the concept of Redemption of Debentures and the procedure and steps involved in Redemption of Debentures.
CO 04 The students should be able to understand the need, procedure, accounting effects and treatment for Profit Prior to Incorporation of a Company.

Course – Financial Accounting and Auditing VI – Auditing

CO 01 On the successful completion of the course, students will be able to understand the fundamental nature of auditing and its implications on society.
CO 02 Students will be able to understand the methods, tools and procedures through which audit is carried out.
CO 03 Students will be able to understand the techniques of auditing and the concepts of internal checks, internal control and test checks
CO 04 Students will be able to understand the techniques of vouching and verification..

Course – Commerce IV (Management: Production & Finance)

CO 01 It acquaint the learners with the basic concepts of Production Management and Inventory Management.

CO 02 It enables us to understand the concept of quality management and quality management tools.
CO 03 It provides basic knowledge about Indian Financial Systems.
CO 04 It updates the learners with the recent trends in Finance.

Course – Business Economics- IV

CO 01 Students will be able to understand the concept of public finance
CO 02 Students will be able to understand the concept of public revenue.
CO 03 Students will be able to understand the sources of public revenue
CO 04 Students will be able to understand the public expenditure and public debt
CO 05 Students will be able to understand the fiscal policy

Course – Advertising II

CO 01 It acquaints the learners with the various media.
CO 02 It highlights the significance of advertising campaigns for the success of brands.
CO 03 Differentiate between public revenue and public Debt
CO 04 It orients learners towards the practical aspects of execution styles and evaluation techniques of advertising..

Course – Business Law II

CO 01 Students are able to understand the significance and basic concept of the company form of organizations.
CO 02 Students are now capable of understanding how far you need to be conscious, legally, while implementing various functions in a company.
CO 03 Students are introduced to the market realities of Intellectual property Rights.
CO 04 Students are capable of evaluating their relative merits and demerits.
CO 05 Students are capable of evaluating their rights and obligations as a consumer. Philosophy and Significance of Competition.

Course – Foundation Course IV

CO 01. To enable students to understand various Rights of the Consumers
CO 02. To acquaint the students with various approaches to understanding Ecology.

CO 03. To make students realize the Importance of some significant Modern Technologies and their features as well as their application.
CO 04 To acquaint students with the basic aspects of the Competitive Exam and the Soft Skills that is required

SEMESTER – V

Course –Financial Accounting and Auditing IX

CO 01 The students will be capable of understanding and preparation of final accounts of companies and the relevant and the relevant accounting standards.
CO 02 Students are able to understand the concept of internal reconstruction and pass Journal Entries for the same.
CO 03 Students are able to understand the compliance of conditions including sources, maximum limits and debt equity ratio
CO 04 The students will be able to understand the accounting for transactions of purchase and sale of investments with ex and cum interest prices and finding cost of investment sold and carrying cost as per weighted average method
CO 05 Students are able to understand the concept , objective , principal & implication of Business Ethics and its Accounting

Course – Financial Accounting and Auditing –VIII - Cost Accounting

CO 01 Students to understand objectives and scope of Cost Accounting.
CO 02 On successful completion of the course, students will be well versed in the fundamentals of cost accounting such as types of cost and material, labour and overheads.
CO 03 Students to understand Classification of Costs and preparation of Cost Sheet.
CO 04 Students to reconcile Cost and Financial Accounts..

Course – Business Economics V

CO 01 On successful completion of this subject the students would be able to understand the Economic overview of India
CO 02 Students understand basic agricultural reform in India
CO 03 Students are able to understand new Economic policy.
CO 04 Students understand the new developed sector during the new reform sector.
CO 05 Students understand the concept of banking and financial market

Course – Direct and Indirect taxation I

CO 01 After successful completion of the course, students are able to create an understanding of the basic concept of Direct Tax and basic definition of Direct Tax and assesses.
CO 02 It familiarizes with heads of income with its components
CO 03 Students are able to develop insight of the basics of Income Tax Act with special reference to computation of total income.
CO 04 Students are able to understand the process and techniques of assessment of tax liability..

Course – Export Marketing I

CO 01 On successful completion of this subject the learners are able to acquire knowledge about basic concepts and global framework for export marketing.
CO 02 Students are able to understand the global framework for export marketing.
CO 03 Students are acquainted with Foreign Trade Policy.
CO 04 Students are able to know basic financial incentives and updates with current trends in export marketing

Course – Commerce V - Marketing

CO 01 Students are able to understand concepts like Marketing, marketing research, CRM and MIS
CO 02 Students are able to understand the marketing management aspect with reference to the decision making process in sales management and supply chain management.
CO 03 It enables to create awareness of key marketing dimensions..
CO 04 Students are able to update students about marketing challenges faced by marketing managers in the 21st century.

SEMESTER – VI

Course – Financial Accounting & Auditing IX - Financial Accounting

CO 01 Aware of the accounting treatment in relation to amalgamation, absorption and external reconstruction and the relevant accounting standards.
CO 02 Gain knowledge about underwriting of shares and debentures.
CO 03 Understand the concept of liquidation of companies and are you able to make the Final Accounts of Liquidator.
CO 04 To understand what journal entry needs & Ledger Account needs to be passed and made when a company enters into a foreign transaction.
CO 05 To able to understand and make financial statement of a Limited Liability Partnership

Course – Financial Accounting & Auditing- X - Cost Accounting

CO 01 Students will understand cost classification of cost, cost centre, cost per unit and preparation of actual and estimated cost sheet.
CO 02 Students will learn preparation of Process Account and Contract Account.
CO 03 Students to understand Marginal Costing and prepare Material and Labour variance Statement.
CO 04 Students to understand some Emerging Concepts of Cost Accounting and its relevance in industry.

Course – Commerce VI – Human Resource Management

CO 01 Students are able to understand the concept of Human resource Management.
CO 02 It acquaints the students with Human resource Development
CO 03 Students realize the significance of human relation at the workplace.
CO 04 Students are able to comprehend various Trends in Human Resource Management

Course –Business Economics-VI

CO 01 Students will be able to understand Ricardian Theory of Comparative Cost
CO 02 Students will be able to understand the difference between free trade and protection.
CO 03 Students will be able to understand the concept of Balance of Payment
CO 04 Students will be able to understand the foreign exchange market.
CO 05 Students will be able to understand the concepts of terms of trade

Course – Direct and Indirect Taxation II - Goods and Service Tax Act

CO 01 Students are able to understand the basic concepts, definitions and terms related to Goods and Service tax (GST). .
CO 02 Students comprehend the concept of forward charge mechanism, reverse charge mechanism, composite supply, mixed supply and various exemptions under the new Goods and Service tax regime.
CO 03 Students realize the concept of supply along with the rules related to time, place and value of supply.
CO 04 Students are able to compute the Goods and Service Tax (GST) payable by a supplier after considering the eligible input tax credit.
CO 05. Students acquire knowledge related to the persons liable for registration and the persons not required to obtain registration under the GST law.

Course – Export Marketing II

CO 01 Students are able to understand product planning and pricing in exports..
CO 02 It acquaints the students with export distribution channels and promotion techniques.
CO 03 Students acquire knowledge about the basics of export finance.
CO 04 Students are able to comprehend export procedure and documentation.

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Programme - B.Com(A&F)- Bachelor of Accounting & Finance (B.A.F.)

PROGRAM OUTCOME (PO)

1. This programme is designed for the students to specialize in the field of accounting & finance.
2. This course emphasizes on managing accountancy and the financial part of business.
3. It promotes students to become professionals / managers / entrepreneurs / accountants.
4. It aims to produce graduates who will produce innovative solutions to problems, apply research skills to business challenges and communicate effectively.
5. It also gives exposure to working in the industry during the Summer Internship Programs which is a compulsory component of the program.
6. It would help students gain a thorough grounding in the fundamentals of Commerce and Finance.
7. The commerce and finance focused curriculum offers a number of specializations and practical exposures which would equip the student to face the modern-day challenges in commerce and business.

COURSE OUTCOME (CO)
SEMESTER – I

Course – Financial Accounting - I

CO 01 To understand various accounting standards issued by ICAI.
CO 02 To understand capital and revenue: expenditure and receipts and Preparation of Final accounts of Manufacturing Concerns.
CO 03 It enables understanding and preparation of departmental accounts
CO 04 The learners will understand accounting for hire purchase.

Course – Financial Management I

CO 01 Understand the concept of financial management.
CO 02 Understand different concepts of valuation.
CO 03 Calculate various leverages on their own.
CO 04 Easily identify various sources of finance.
CO 05 Calculate cost of capital of the various firms.

Course – Cost Accounting

CO 01 Understand the concepts of costing and accounting procedures.
CO 02 Study practical adjustments in production with elements of cost.

CO 03 Study practical approach towards cost structure of labours.
CO 04 Understanding formulas for calculation of cost of labours.
CO 05 Study practical approach towards overheads in production.
CO 06 Study per overhead cost and apportion of elements used in production**.**

Course – Foundation Course I

CO 01 To make students capable of understanding and studying the vibrant Indian culture - classify the general characteristic of Indians
CO 02 To impart the students a thorough knowledge on social stratification based on caste, culture, religion, gender
CO 03 To understand the general characteristics on Indian constitution and local self-government and its implication on every Indian citizen
CO 04 To offer diverse learning opportunities to develop analytical and soft skills
CO 05 To understand the significant contributions of women in diverse fields by overcoming various obstacles

Course – Commerce I

CO 01. Classify the business objectives and describe the steps to formulate the business objectives.
CO 02. Analyse and apply the business ethics principles in business
CO 03 . Examine the business environment and its constituents impacting the business decisions.
CO 04 . Identify the growth strategies of MNC and TNC.
CO 05 . Describe the concept of entrepreneurship and its importance and to evaluate its theories.
CO 06. Identify the major activities of E-Commerce and its Pros and Cons.

Course – Economics I

CO 01 . Describe the scope of business economics.
CO 02 . Explain demand analysis in the context of business decision making.
CO 03 . Examine aspects of supply and production behaviour in different time periods.
CO 04 . Analyse the various types of cost and its relevance in business decision making.
CO 05 . Evaluate pricing and output decisions under various market structures.

Course – Business Communication skills

CO 01 . To understand the functional and operational use of language
CO 02 . To apprehend the key concepts of communication
CO 03 . To understand the mechanics behind the communication process & difficulties experienced in communication.
CO 04 To apprehend the important parameters in communication
CO 05 To understand the objectives of communication and various types of business correspondence

SEMESTER – II

Course – Financial Accounting – II

CO 01 . Identify differences between Single Entry System and Double Entry System of Accounting
CO 02 . Explain Consignment transactions and show them in Consignment Account, Consignor Account and Consignee Account
CO 03 . Apply Debtors method and Stock & Debtors method on dependent branches for accounting
CO 04 . Classify foreign branches as dependent and independent foreign branches and breakdown items of incomes, expenses, assets and liabilities for application of foreign exchange rates.
CO 05 . Determine foreign exchange difference in Converted Trial Balance of foreign branch.
CO 06 . Develop case studies on conversion of Single Entry System into Double Entry System of Accounting.

Course – Business Mathematics

CO 01 To clarify the concept ratio ,proportion , percentage and variation between two or more quantities
CO 02 To explore profit and loss from an economic perspective.
CO 03 To clarify to find Simple interest , Compound interest and Annuity of given Principal amount**.**
CO 04 To provide students with a basic understanding of various investment alternatives and how to value those investments.

Course – Foundation Course II

CO 01 To clarify the concept of globalization, liberalization and privatization and its impact on world Economy
CO 02 To create awareness on basic principles of human rights through the constitutional changes and to protect the same
CO 03 To impart fundamental idea on conservation of environment and control environmental degradation
CO 04 Understand the impact of stress and conflict and methods to manage as well as overcome them

Course – Innovative Financial Services

CO 01 To acquaint students with the knowledge of Traditional Financial services
CO 02 It enables learners to understand issue management and securitization
CO 03 To understand financial services & its mechanism, consumer finance and credit rating.

Course – Auditing

CO 01 . students will be able to understand the fundamental nature of auditing and its implications on society
CO 02 students will be able to understand the Methods, Tools and Procedures through which audit is carried out
CO 03 . students will be able to understand the techniques of auditing and the concepts of internal checks, internal control and test checks
CO 04 students will be able to understand the techniques of vouching and verification?

Course – Business Law -Business Regulatory Framework - I

CO 01 ..Define, distinguish and apply the basic concepts and terminology of the law of contract.
CO 02 . Understand the laws related to the Sales of Goods Act, 1930
CO 03 . Have basic understanding of Negotiable Instruments
CO 04 . Develop an understanding of consumer rights and Consumer Protection Act.

Course – Commerce II

CO 01 . Identify the concepts of marketing and the importance of marketing research for marketers.
CO 02 . Describe the product life cycle and identify the reasons for failure of product in the market.

CO 03 . Examine the Retail format and the factors responsible for growth of retail in India.
CO 04 . Identify the emerging trends in Retailing.
CO 05. Examine customer retention approaches used in retail and the factors influencing the store location.
CO 06 . Develop the marketing mix of various products essential for business.

Course – Business Communication II

CO 01 . To understand the functional and operational use of language
CO 02 . To apprehend the key concepts of communication
CO 03 . To understand the mechanics behind the communication process & difficulties experienced in communication
CO 04 . To apprehend the important parameters in communication
CO 05 To understand the objectives of communication and various types of business correspondence

SEMESTER – III

Course – Financial Accounting – III

CO 01 To prepare final accounts of Partnership firms in regard to Admission, Death & Retirement of Partners..
CO 02 To understand calculation of Excess Capital and Distribution of cash with regard to piecemeal.
CO 03 To learn the difference between Amalgamation & conversion of a company and its accounting.
CO 04 To understand what journal entry needs & Ledger Account needs to be passed and made when a company enters into a foreign transaction..
CO 05 To be able to solve practical as well as theoretical problems of accounts.

Course – Cost Accounting

CO 01 It helps to understand the basics of cost accounting like a cost sheet.
CO 02 It enables understanding of reconciliation of cost sheet with financial accounts.
CO 03 It helps learners to create accounts based on contract costing

CO 04 It helps learners to create accounts based on process costing..

Course – Foundation Course - Contemporary Issues- III

CO 01. Students understand issues related to human rights of weaker sections, their constitutional and legal rights, and redressed mechanisms.
CO 02. Student study case studies related to different types of disaster.
CO 03. Students should be able to differentiate between Science and Technology**.**
CO 04. Intellectual Foundations like writing, oral communication, critical enquiry and creativity..

Course – Business Law - III

CO 01 . To understand the legal framework with regards to the Law of Contract 1872, Sale of Goods Act 1930, Negotiable Instrument Act 1881, Consumer Protection Act 1986.
CO 02 . To understand the legal framework with regards to the incorporation of companies, public offer, private placement, share capital and debentures**.**
CO 03 To understand the basic knowledge of business laws relating to Companies laws, Partnership Act and different case studies regarding the uses of these laws..

Course – Information technology in Accountancy

CO 01 Learn different parts of hardware and different types of software
CO 02 Learn and execute different commands of Ms word, Ms Excel and Ms PowerPoint
CO 03 Learn Downloading information, creating e-mail ID and sending, receiving emails.
CO 04 Learn legal issues of the internet, importance of electronic data interchange and e-commerce

Course – Business Economics - II

CO 01 Understand the concept of Macroeconomics and various circular flows of income.
CO 02 Understand various concepts in money, prices and inflation.
CO 03 Aware of public finance in depth.
CO 04 Understand various sources of public revenue and expenditure.
CO 05 An appreciation of the ethical issues in economics competition.

Course – Auditing – II

CO 01 To vouch income and expenses while auditing

CO 02 To Verify different assets and liabilities while doing audit
CO 03 Understand different Assurance Standards issued by ICA.
CO 04 Know about qualification , disqualification , appointment and removal of auditor.

Semester IV

Course – Financial Accounting -IV

CO 01 To understand the vertical format of Profit & Loss and Balance sheet
CO 02 To understand the concept of redemption of shares & debentures and be able to pass journal entries for the same.
CO 03 To calculate profit / loss prior and post incorporation
CO 04 To convert trial balance into foreign currency and make its final statement in foreign currency**.**

Course – Management Accounting

CO 01 Understand the concept of management accounting.
CO 02 Analyses and interprets financial statements.
CO 03 Calculate various ratios from the financial statements.
CO 04 Do cash flow analysis.
CO 05 Manage working capital requirement estimations of the firm.

Course –Business Law (Company Law) – III

CO 01 .To recall various definitions of Company Law and would be acquainted with the concepts of different types of Companies and other important definitions.
CO 02 To be aware of various procedures involved in bringing a company into existence
CO 03 . To understand the relevance and importance of documents like MOA and AOA.
CO 04 . To examine the circumstances in which companies could raise capital through Private placements
CO 06 . To be acquainted with various types of shares and debentures issued by companies and their features

Course – Research Methodology in Accounting & Finance

CO 01 Learners are expected to demonstrate an understanding of research methodologies.
CO 02 Identifies the overall process of designing a research study from its inception to the report stage.
CO 03 Imbibe data collection, analysis, and interpretation and presentation skills at par with globally accepted standards.
CO 04 It provides a solid foundation for development of rational problem solving skills and analytical thinking that can last throughout their education and subsequent professional careers

Course - Foundation Course

CO 01 To enable students to understand various Rights of the Consumers
CO 02 To acquaint the students with various approaches to understanding Ecology.
CO 03 To make students realize the Importance of some significant Modern Technologies and their features as well as their application.
CO 04 To acquaint students with the basic aspects of the Competitive Exam and the Soft Skills that is required

Course – Information Technology

C**O 01**To understand the life cycle of BPM, use of information technology in accountancy and the challenges in automation
CO 02 To understand the development and design of computerized accounting software.
C**O 03** To understand the concept of MIS report in computer environment
CO 04 To understand how information technology plays a vital role in auditing

Course –Auditing III

CO 01 On the successful completion of the course, students will be able to understand the reporting requirement under Companies Act**,** 2013, and types of audit reports
CO 02 Students will be able to understand the method of audit under the Computerized Information System Environment.
CO 03 Students will be able to understand the code of ethics with special reference to The Chartered Accountant Act and required provisions..
CO 04 Students will be able to understand the concepts and purpose of investigation**,** due diligence, and its types.

Semester V

Course – Financial Accounting V

CO 01 Aware of the accounting treatment in relation to amalgamation, absorption and external reconstruction and the relevant accounting standards.
CO 02 Gain knowledge about underwriting of shares and debentures.
CO 03 To understand the compliance of conditions including sources, maximum limits and debt equity ratio
CO 04 To understand the concept of internal reconstruction and pass Journal Entries for the same..
CO 05 Understand the concept of liquidation of companies and are you able to make the Final Accounts of Liquidator.

Course – Cost Accounting III

CO 01 To be aware of different methods of maintenance of accounts in cost accounting such as integrated and non-integrated systems of accounting..
CO 02 To get knowledge of various concepts of Uniform Costing.
CO 03 To understand the concept of Operating Costing (Transportation, Hotel & Hospital and its application.
CO 04 Understand the difference between Activity Based Accounting & Traditional Method of calculation of overheads.

Course – Indirect Tax(GST)

CO 01 To make students aware of the difference between direct tax and indirect tax.
CO 02 To make students understand constitutional provisions of tax laws.
CO 03 To understand the concept of supply.
CO 04 To make students learn procedural aspects for Registration under GST...
CO 05 To learn the importance of Invoice under GST regime.

Course – Financial Management

CO 01. Students will understand the scope of Financial Management, Role of Financial Manager, concept profit maximisation, wealth maximisation.
CO 02. Students will also get the knowledge on Receivable Management for evaluation of credit, Capital Structure theories, Dividend Decision, Dividend Models

CO 03. Students will learn Mutual Fund, its various concepts, Net Annual Value, Bond valuation.

Course – Financial Accounting VI

CO 01 Able to prepare the financial statement of a Banking Company
CO 02 To understand the working of NBFCs
CO 03 To prepare the financial statement of a Limited Liability Partnership.
CO 04 To understand the working of an Insurance Company.

Course – Management II

CO 01 Able to gain knowledge about basic concepts related to Management Applications
CO 02 Able to analyze the concept of Human Resource Management in a company
CO 03 Able to analyze the concept of Production & Financial Management in a company
CO 04 Able to gain varied knowledge, skills and attitude regarding business managerial skills.

Semester VI

Course – Financial Accounting -VII

CO 01 To prepare the financial statement of a Cooperative Society
CO 02 To prepare the financial statement of Electricity company
CO 03 The students will be able to understand the accounting for transactions of purchase and sale of investments with ex and cum interest prices and finding cost of investment sold and carrying cost as per weighted average method.
CO 04 To understand the concept and calculation of mutual funds
CO 05 To find similarities and differences between IFRS And Ind AS.

Course – COST ACCOUNTING - IV

CO 01 . Identify the cost accounting techniques used in decision making.
CO 02 . Explain the various operating decisions like level of sales to generate no profit no loss, desired profit etc.
CO 03 . Apply standard costing systems in planning and control.
CO 04 . Outline the cost and sales variances for product cost elements.
CO 05 . Evaluate the targets set by the management through preparation of different types of budget.

CO 06 . Create practical application of marginal costing, standard costing and budgets in decision making.

Course – Financial Management

CO 01 Describe the dimensions of performance and risk relevant to financial firms.
CO 02 Able to understand the concept of business valuation , mergers and acquisition etc.
CO 03 Able to understand the practical aspect of lease accounting , hire purchase system and its accounting treatment..
CO 04 Able to understand how to calculate the amount of working capital.

Course – Indirect tax

CO 01 This helps the learners to understand the system of GST, its documentation, how to calculate GST, collection process of GST, registration of GST
CO 02 To study filing of returns, payment of taxes, refunds & accounts, audits and assessment as well
CO 03 This will also make students understand foreign trade policy.

Course – Management Control System.

CO 01 Able to understand different developments in Management Accounting and Control Systems
CO 02 Able to analyze and develop Financial Goals along with Organizational Hierarchy, understand the concept and technique of Responsibility Budgeting.
CO 03 Able to understand the concept of Responsibility Centers and their Performance Measures
CO 04 Able to understand the concept of Transfer Pricing.
CO 05 Understand the Methods of Inflation Accounting and Corporate Taxation

Course - Project Work

CO 01 To inculcate the element of research analysis and scientific temperament among learners.
CO 02 To Create awareness among learners regarding methodology of formulation and preparation of the project work.

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Programme- BMS - Bachelor of Management Studies

PROGRAM OUTCOME (PO)

1. To enable the student to be well versed in national as well as international marketing trends, understand how to economize the use of resources of the firm. It also becomes capable of formulating and implementing the major goals and initiatives taken by the organization's top management on behalf of the owners based on the consideration of resources and environment in which the organization operates.
2. They are adequately trained to become entrepreneurs in different fields by making short term and long term planning in connection with various aspects of business and implementing them accordingly as a successful entrepreneur.
3. They acquire excellent communication skills, soft skills to deal with the day today matters of business with a sound background of Mathematics and Statistics tools for analysing and attain perfection in using information technology in business for attaining the objectives. It also enables them to become a responsible citizen with ethical/ moral values and good behaviour.
4. The learners become capable to understand and take in the environmental issues, Disposal of waste etc. Effective environment Management is one of the specific outcomes of this programme.
5. This programme enables the learners to practice portfolio management in the form of investment avenues, transaction in securities like Bonds and debentures etc. and get up to date knowledge of Direct Tax in accordance with the Tax policy of the Government, programme makes the graduates to take correct decisions regarding investment strategies, analysing different investment proposals and selection of a right investment proposal.
6. The learners are trained to understand the methods/techniques of recruitment and selection of employees so as to maximise employees productivity.
7. The learners acquire knowledge and get awareness on advertising and integrated marketing tools and elements ,trends in service sector marketing, how branding and segmentation is done, learners also gain knowledge on practical application on E-commerce development.

COURSE OUTCOMES
Semester I

Course – Introduction to Financial Accounts

CO 01: To introduce the basic theory, concepts and practice of financial accounting
CO 02: To enable students to understand information contained in the published financial statements of companies and other organizations.
CO 03: To understand basic subsidiary books and bank reconciliation statements**.**

Course –Business Communication

CO 01 To gain knowledge about what is communication and did it help you
CO 02. To gain knowledge about how to overcome the barrier and how to improve our listings skills
CO 03. To learn about what are ethics and how and for what it should be followed
CO 04. To Learn much more about parts, structure of letter, principles of letter writing
CO 05. To develop ideas of about letter writing and paragraph writing

Course – Business Statistics

CO 01 Students able to understand measure of central tendency
CO 02 Students able to find Mean Deviation and Co-relation
CO 03 Students able to understand the concept of Time Series and Index Number
CO 04 Students you able to apply the concept of Probability in day to day life
CO 05 Students understand the concept of Decision Theory

Course – Foundation Course I

CO 01 To make students capable of understanding and studying the vibrant Indian culture - classify the general characteristic of Indians.
CO 02 To impart the students a thorough knowledge on social stratification based on caste, culture, religion, gender.
CO 03 To understand the general characteristics of the Indian constitution and local self-government and its implication on every Indian citizen.
CO 04 To offer diverse learning opportunities to develop analytical and soft skills.

Course – Business Law

CO 01 To enable students to understand the sale of Act.
CO 02 To enable leaner to understand under negotiable instrument various instrument like cheque, bills of exchange and promissory notes
C**O 03** To create awareness regarding the importance of the consumer protection act.
CO 04 Business Law is introduced in FYBMS to make the BMS students understand the law related to the company.
CO 05 To enable learners to understand law related to IPR and its importance.

Course – Foundation of Human Skill

CO 01 To enable students Understanding of Human Nature
CO 02 To enable leaner to understand Organizational Culture and Motivation at workplace
CO 03 To create awareness regarding Organizational Change, Creativity and Development and Work Stress.
CO 04 To make the BMS students understand the basic behaviour pattern of humans which is the most important resource of a business and to deal with them in an apt manner. The subject helps in dealing and negotiating with different kinds of human nature and greater awareness of human behaviour.

CO 05 To enable learner to understand Group Behaviour

Course – Business Economics I

CO 01 Apply the concept of opportunity cost
CO 02 Employ marginal analysis for decision making
CO 03 Analyze operations of markets under varying competitive conditions
CO 04 Analyze causes and consequences of unemployment, inflation and economic growth.

Semester II

Course – Business Environment

CO 01 Students will be able to understand the components of business environment
CO 02 Students will be able to understand the political environment
CO 03 Students will be able to understand the social and cultural environment
CO 04 Students will be able to understand the Michael Porter's Five Forces Analysis
CO 05 Students will be able to understand the concept of FDI and MNC

Course – Business Mathematics

CO 01 Students understand the concept of Elementary Financial Mathematics.
CO 02 Students understand and apply the concepts of Matrices and Determinants
CO 03 Students understand and apply the concept of Derivatives and its application in daily life.
CO 04 Students understand the basic concept of Numerical Analysis.

Course – Foundation Course II

CO 01 To clarify the concept of globalization, liberalization and privatization and its impact on world Economy
CO 02 To create awareness on basic principles of human rights through the constitutional changes and to protect the same
CO 03 To impart fundamental idea on conservation of environment and control environmental degradation

CO 04 Understand the impact of stress and conflict and methods to manage as well as overcome them.

Course - Principles of Marketing.

CO 01. It helps to understand Marketing in detail with definition, features, advantages and scope of marketing
CO 02. It explains marketing mix and it four important elements which are required in the business
CO 03. Identify some of the basic approaches to formulating a marketing strategy in order to participate effectively when working with marketing policy coordinators

Course – Industrial Law

CO 01 To enable students Understand concepts like lay off , closure , awards under Industrial dispute act and trade union act
CO 02 To enable learners to understand health , safety and welfare of factory act and workmen compensation .
CO 03 To create awareness regarding the importance of employees provident fund and miscellaneous provision act.
CO 04 Industrial Law is introduced in FYBMS to make the BMS students understand education of wages under payment of wages act, importance of payment of bonus and payment of gratuity.

Course – Business Communication

CO 01 To understand the concept of Communication in Presentation skills
CO 02 To understand the importance of interviews and group discussion
CO 03 To understand the importance of meetings and public relations in the corporate world
CO 04 To understand and write the types of letters
CO 05 To improve your language and writing skills

Course – Principles of Management

CO 01 It helps to gain understanding of the functions and responsibilities of managers.
CO 02 It helps to analyse and understand the environment of the organization
CO 03 It helps to understand the concepts related to Business.
CO 04 It helps to understand the complexities associated with management of human resources in the organizations and integrate the learning in handling these complexities.

CO 05 It helps to analyse effective application of PPM knowledge to diagnose and solve organizational problems and develop optimal managerial decisions

Semester III

Core Subjects

Course - Accounting for Managerial Decisions.

CO 01. To acquaint management learners with basic accounting fundamentals
CO 02. To develop financial analysis skills among learners.
CO 03. The course aims at explaining the core concepts of business finance and its importance in managing a business.

Course - Environmental Management

CO 01 To provide fundamental knowledge about the environment and its components.
CO 02 To develop knowledge base for demographic and environmental factors and challenges affecting business globally
CO 03 To make the students aware of environmental problems related to business and commerce
CO 04 To understand the relevance and significance of sustainable environment
CO 05 To inculcate Environmental ethics and values and develop eco-friendly habits amongst the students

Course – Strategic Management (CORE)

CO 01 Able to expose students to various perspectives and concepts in the field of Strategic Management.
CO 02 Able to help students develop skills for applying their concepts to the solution of business problems.
CO 03 The course would enable the students to understand the principles of strategy formulation, implementation and control in organizations.
CO 04 Able to help students master the analytical tools of strategic management.
CO 05 Able to manage businesses and projects smoothly with a focus on long-term strategy.

Course - Business Planning & Entrepreneurial Management

CO 01 Students will be able to define, identify and/or apply the principles of entrepreneurial and family business

CO 02 Students will be able to define, identify and/or apply the principles of viability of businesses, new business proposals, and opportunities within existing businesses.
CO 03 Students will be able to define, identify and/or apply the principles of entrepreneurial management and growth through strategic plans, consulting projects and/or implementing their own businesses

Course - Information Technology in Business Management-I

CO 01 learns basic concepts of Information Technology, its support and role in Management, for managers.
CO 02 learner able to understand how to use MS-Office software
CO 03 learner able understand basic concepts of Email, Internet and websites, domains and security therein.
CO 04 learner able to recognize security aspects of IT in business, highlighting electronic transactions and advanced security features.
CO 05 learner able to understand consumer grade IoT safe and secure with proper use of protocols.

Course - Foundation Course-IV

CO 01 Students should be able to identify, analyze, interpret and describe the critical ideas, values, and themes that appear in literary and cultural texts and understand the way these ideas, values, and themes inform and impact culture and society, both now and in the past.
C**O 02** Students should be able to write analytically in a variety of formats, including essays, research papers, reflective writing, and critical reviews of secondary sources.

Specialization - HR

Course – Recruitment and Selection (HR Elective)

CO 01 The objective is to familiarize the students with concepts and principles,procedure of Recruitment in an organization.
CO 02 The objective is to familiarize the students with concepts Selection , sources and types of recruitment.

CO 03 To give an in depth insight into various aspects of Human Resource management and make them acquainted with practical aspects of the subject.
CO 04 To make students aware of Soft Skills required to become sound HR professionals.

Semester - III

Course – Motivation & Leadership (Human Resource Electives)

CO 01 The learners gain knowledge about the concept of motivation and study motivation theories
CO 02 It enables the students to differentiate between eastern and western work culture.
CO 03 It enables the learners to understand leadership theories and illustrative study of effective leadership.
CO 04 The learners are acquainted with practical approaches to Motivation and Leadership and its application in the Indian context.

Specialization – MARKETING

Course - Advertising

CO 01. To understand and examine the growing importance of advertising .
CO 02. To understand the construction of an effective advertisement.
CO 03. To understand the role of advertising in contemporary scenarios.
CO 04. To understand the future and career in advertising.

Course - Consumer Behaviour

CO 01. The basic objective of this course is to develop an understanding about the consumer decision making process and its applications in marketing function of firms
CO 02. This course is meant to equip undergraduate students with basic knowledge about issues and dimensions of Consumer Behaviour
CO 03. Students are expected to develop the skill of understanding and analysing consumer information and using it to create consumer- oriented marketing strategies

Specialization - Finance

Course – Introduction to Cost Accounting

CO 01 to understand objectives of cost accounting, installation of cost accounting system and job costing.
CO 02 to understand the concepts of material costing, labour costing and overhead costing.
CO 03 to develop the skill of understanding and analysing cost projection and emerging cost concepts.

Course – Basics of Financial Services

CO 01 The Learner will be able to explain the various core concepts of business finance and its importance in managing a business. E.g. financial system, money market, capital market, banking, insurance and mutual funds etc.
CO 02 The Learner will be able define various financial instruments, institutions, intermediaries and Financial products, such as broker, bank savings account, fixed deposits, Equity, debt , treasury bills, call money etc.
CO 03 The Learner will be able to explain commercial bank, central bank, and development banks, their features, and importance.
CO 04 The Learner will be able to define concept of insurance, life and non-life (fire, marine, etc.), Principles of insurance, Reinsurance and bancassurance.
CO 05 The Learner will be able to write about mutual funds and its advantages, distinguish between equity and debt funds, able to list types of mutual funds and able to evaluate the performance of mutual funds.

Semester - IV

Core Subjects

Course – Production and Total Quality Management (CORE)

CO 01 To explain about the basic management decisions with respect to production and quality management (such as Product development & Design, Plant Location & Layout)
CO 02 To explain the various theories related to Production & Total Quality Management.
CO 03 To explain the designing aspect of production systems.
CO 04 To explain the various Quality Improvement Strategies &Certifications
CO 05 To explain the various concepts of Materials Management and Inventory management

Course – Information Technology in business management

CO 01 To understand managerial decision-making and to develop perceptive of major functional area of MIS.
CO 02 To provide conceptual study of ERP, SCM, CRM, Key issues in implementation and trends in enterprise applications.
CO 03 To learn and understand relationship between database management and data warehouse approaches , the requirements and applications of data warehouse..
CO 04 To learn outsourcing concepts. BPO/KPO industries, their structures , Cloud Computing.

COURSE NAME - FOUNDATION COURSE –IV ETHICS & GOVERNANCE

CO 01 Focus on teams, execute tasks assigned and perform on timelines set.
CO 02 Familiarize the importance and application of Ethics in modern business practices.
CO 03 Illustrate case studies, learners will develop a moral and ethical perspective of looking at business problems.
CO 04 Understand emerging trends and growing importance of good Governance and CSR by organizations.

COURSE NAME - BUSINESS RESEARCH METHODS

CO1: Apply a range of Quantitative and Qualitative Research Techniques to Business and Management Problems and issues.
CO2: Understand and apply research approaches, techniques and strategies in the appropriate manner for managerial decision making.
CO3: Explain and develop research methods and strategies in Research projects for enhanced Career Options.
CO4: Examine diverse learning opportunities to develop analytical and soft skills through Research.

COURSE NAME - BUSINESS ECONOMICS-II

CO1: To understand the Macroeconomics concepts
CO2: To understand the different levels of investment
CO3: To understand the Public reveneue and about taxation
CO4: to understand the international policies regarding exchange rates
CO 05 to undertsand the difference factors of money market

Course – Change Management (HR)

CO1: To familiarize with concepts of Organisational Change in an organization.
CO2: To understand the concept of what is Resistence To change and how to overcome RTC challenge.
CO3: To understand steps or process of Effective Implementation of Change.

Course – Training & development in Human Resource Management (Human Resource Electives)

CO 01 The learners gain practical knowledge about the training needs and the employee's role in this changing scenario.
CO 02 It enables the students to understand that all organizations need to pay adequate attention to equip their employees.
CO 03 The students realize that successful managerial performance depends on the individual's ability to observe, interpret the issues and modify his approach and behaviour.
CO 04 The learners are oriented to meet the specific needs of the organizations in training and development activities.

Specialization – Marketing

Course - Integrated Marketing Communication

CO 01 Able to equip the students with knowledge about the nature, purpose and complex construction in the planning and execution of an effective Integrated Marketing Communication (IMC) program.
CO 02 Able to understand the various tools of IMC and the importance of co-ordinating them for an effective marketing communication program.
CO 03 Able to understand evaluation and ethics in marketing communication

Course - Rural Marketing

CO 01 To understand the working of rural market
CO 02 To identify the different needs of customer preferences
CO 03 To understand the marketing research of rural
CO 04. To understand the market segmentation of rural

Specialization – Finance

Course - Strategic Cost Management

CO 01 Able to develop skills of analysis evaluation and synthesis in cost and management accounting.
CO 02. Able to understand and develop strategies for cost management..
CO 03 Able to solve problems related to marginal costing, standard costing.
CO 04 Able to understand various decision making and controlling operations techniques by managing cost.

Course –Auditing IV

CO 01 On the successful completion of the course, students will be able to understand the fundamental nature of auditing and its implications on society.
CO 02 Students will be able to understand the methods, tools and procedures through which audit is carried out
CO 03 Students will be able to understand the techniques of auditing and the concepts of internal checks, internal control and test checks.
CO 04 Students will be able to understand the techniques of vouching and verification.

Semester V

Core Subjects

COURSE NAME - LOGISTICS AND SUPPLY CHAIN MANAGEMENT

CO1: The Learner will be able to explain basic concepts of logistics and supply chain management. e.g inward-outward logistics, green logistics, reverse logistics etc
CO2: The Learner am able to define key activities performed by the logistics function. such as transportation, material handling, packaging, warehousing, inventory management etc.
CO3: The Learner can define concepts related insight into the nature of supply chain, its functions and supply chain system.
CO4: The Learner I am able to explain global trends in logistics and supply chain management and significance of information technology in logistics.
CO 05: The Learner can define logistical costing, importance of performance measurement in supply chain and logistical network analysis.

COURSE NAME - CORPORATE COMMUNICATION & PUBLIC RELATIONS

CO1: To understand the concept of Corporate Communication.
CO2: To understand the emergence and various theories of Public relations

CO3: To understand the functions of corporate communication and public relations
CO4: To understand the concept of media, employee, crisis and financial communication

Specialization – HR

Course – Performance Management and Career Planning (HR)

CO 01 To understand the concept of performance management in organizations.
CO 02 To review performance appraisal systems.
CO 03 To understand the significance of career planning and practices

Course – Strategic HRM & HR Policy (HR)

CO 01 To understand human resource management from a strategic perspective.
CO 02 To link the HRM functions to corporate strategies in order to understand HR as a strategic resource.
CO 03 To understand the relationship between strategic human resource management and organizational performance.
CO 04 To apply the theories and concepts relevant to strategic human resource management in contemporary organizations.
CO 05 To understand the purpose and process of developing Human Resource Policies

COURSE NAME - FINANCE FOR HR PROFESSIONALS AND COMPENSATION MANAGEMENT:

CO1: The Learner will be able to explain financial concepts applicable to HR(/monetary(salary) and non-monetary (benefits) compensations) which enable us to make prudent decisions.
CO2: The Learner will be able to define various concepts related to compensation plan..
CO3: The Learner can define concepts related to incentives and wages. such as theories of wages, wage differentials etc..
CO4: The Learner will be able to explain legal frame work of compensation along with ethical issues in India.
CO5: The Learner can write about compensation to special groups as well as recent trends in compensation such as cafeteria approach, golden parachute etc.

COURSE - Stress Management

CO 01 To understand the nature and causes of stress in organizations.
CO 02 To familiarize the learners with the stress prevention mechanism.
CO 03 To understand the strategies that help cope with stress..
CO 04 To be able to apply stress management principles in order to achieve high levels of performance.
CO 05 To enable learners to adopt effective strategies, plans and techniques to deal with stress.

Specialization – Marketing

Course - Customer Relationship Management

CO 1. Understand the basic concepts of Customer relationship management.
CO 02. Understand marketing aspects of Customer relationship management.
CO 03. Learn basics of analytical Customer relationship management.
CO 04. Understand basics of operational Customer relationship management.

COURSE - Service Marketing

CO 01 To understand distinctive features of services and key elements in services marketing.
CO 02 To provide insight into ways to improve service quality and productivity.
CO 03 To understand marketing of different services in the Indian context.

COURSE E-Commerce and Digital Marketing

CO 01 To understand the increasing significance of E-Commerce and its applications in Business and Various Sectors.
CO 02 To provide an insight on Digital Marketing activities on various Social Media platforms and its emerging significance in Business.
CO 03 To understand Latest Trends and Practices in E-Commerce and Digital Marketing, along with its Challenges and Opportunities for an Organisation.

COURSE - Sales and Distribution Management

CO 01 To explain the steps involved in sales force management.
CO 02 To describe different types of sales persons
CO 03 To identify the dealer oriented promotion techniques, customer oriented promotion techniques and the salesmen oriented promotion techniques.

CO 04 To identify and make decisions regarding the most feasible advertising appeal and media mix.
CO 05 To implement the different sales distribution strategies in your venture.

Specialization – Finance

COURSE Investment Analysis and Portfolio Management

CO 01 To acquaint the learners with various concepts of finance..
CO 02 To understand the terms which are often confronted while reading newspapers, magazines etc for better correlation with the practical world.
CO 03 To understand various models and techniques of security and portfolio analysis

COURSE Risk Management

CO 01 The Learner will be able to explain fundamental aspect of risk management, Measurement and control, and also be able to define risk process, key risks such as credit risk, market risk, currency risk etc.
CO 02 The Learner will be able to explain risk governance, three line of defense model, risk assurance and stake holders' expectations.
CO 03 The Learner will be able to define risk mitigation techniques, risk hedging instruments and mechanism such as futures, options, arbitrage, and swaps.
CO 04 The Learner will be able to explain the concept enterprise risk management, its framework, process and matrix.
CO 05 The Learner will be able to explain insurance industry and risk management, players of insurance business and claim management process.

COURSE - Direct Taxes

CO 01 Students will understand the concept of Residential Status and Scope of Total Income
CO 02 After successful completion of the course, students are able to create an understanding of the basic concept of Direct Tax and basic definition of Direct Tax and assessee.
CO 03 It familiarizes with heads of income with its components
CO 04 Students are able to develop insight of the basics of Income Tax Act with special reference to computation of total income.

COURSE - WEALTH MANAGEMENT

CO1: Understand the performance of alternative investment portfolios in Wealth Management.
CO2: Focus on effective implementation of portfolio management strategies within the context of alternative investment requirements and risk criteria.
CO3: Identify effectiveness of performance evaluation techniques of Wealth Management.

CO4: Develop the various approaches of managing Personal Finance by planning their finance such as retirement planning.

Semester VI

COURSE OPERATION RESEARCH:

CO1: The learner will be able to define and explain Linear Programming Problems Graphical Method and Simplex method and able to solve problems practically
CO2: The learner will be able to define and explain Assignment and Transportation Models and be able to solve problems practically using various methods.
CO3: : The learner will be able to define and explain various concepts of Network Analysis such as Critical Path Method (CPM), Project Crashing & Program Evaluation and Review Technique (PERT) and be able to implement these techniques practically.
CO 04 : The learner will be able to define and explain various concepts of Decision Theory, Sequencing and Theory of Games and be able to solve problems practically using these techniques practically.

Course - Project Work

CO 01 To inculcate the element of research analysis and scientific temperament among learners.
CO 02 To Create awareness among learners regarding methodology of formulation and preparation of the project work.

Specialization – HR

Course - HRM in Global Perspective Management

CO 01 To understand the concepts, theoretical framework and issues of HRM in Global Perspective.
CO 02 To understand (insights of) the concepts of Expatriates and Repatriates.
CO 03 To understand the impact of cross culture on Human Resource Management.
CO 04 To gain information about Global Workforce Management.
CO 05 To study International HRM Trends and Challenges through this course.

Course – Human Resource Accounting & Auditing

CO 01 To understand the value of human resource in organizations
CO 02 To understand the importance of Human Resource Accounting at National and International level
CO 03 To familiarize with the Human Resource Accounting Practices in India

CO 04 To familiarize the learners with the process and approaches of Human Resources Accounting and Audit
CO 05 To understand the significance of Human Resource Auditing as a Tool of Human Resource Valuation

COURSE NAME - ORGANISATIONAL DEVELOPMENT

CO1: To understand the concept of Organisational Development and its Relevance in the organisation
CO2: To Study the Issues and Challenges of OD while undergoing Changes
CO3: To get an Understanding of Phases of OD Programme
CO4: To Study the OD Intervention to meet the Challenges faced in the Organisation
CO5: To get an Insight into Ethical Issues in OD

COURSE NAME - HRM IN SERVICE SECTOR MANAGEMENT

CO1: To understand the concept and growing importance of HRM in service sector
CO2 : To understand how to manage human resources in service sector
CO3: To understand the significance of human element in creating customer satisfaction through service quality
CO4: To understand the Issues and Challenges of HR in various service sectors

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Specialization – Marketing

Course - Media Planning and Management.

CO 01. To understand Media Planning, Strategy and Management with reference to current business scenario.
CO 02. To know the basic characteristics of all media to ensure most effective use of advertising budget.
CO 03. To provide an insight on Media Planning, Budgeting, Scheduling and Evaluating the Different Media Buys.

Course – Brand Management

CO 01 The learner will be able to define and explain the meaning and significance of Brand Management.
CO 02 The learner will be able to Plan, Design and Implement Brand Marketing Programs and brand strategies.
CO 03 The learner will be able to define and explain the Brand Value Chain, Young and Rubicam's Brand Asset Valuator

CO 04 The learner will be able to define and explain various techniques or methods to measure sources and outcomes of Brand Equity
CO 05 The learner will be able to define and explain Brand Extensions, methods or ways to Manage Brands over Time and design or build Global Customer Based Brand Equity.

Course – Retail Management

CO 01 Students will understand about retail management operations .
CO 02 Students will understand the ways that retailers use to interact with their customers .
CO 03 Students will understand about the emerging trends in retail management.

Course - International Marketing

CO 01 The learner will be able to define and explain International Marketing, its Advantages and Challenges.
CO 02 The learner will be able to define and explain insights on the dynamics of the International Marketing Environment.
CO 03 The learner will be able to define and explain the relevance of International Marketing Mix decisions and recent developments in Global Market.

Specialization – Finance

Course - Media Planning and Management

CO 01 Students will have an overview of the media planning and buying industry.
CO 02 Provides knowledge of business strategies used while promoting a brand.
CO 03 Students will develop an insight of various media measurement techniques.

Course – Project Management

CO 01 Learners familiarize with the fundamental aspects of various issues associated with Project Management.
CO 02 It gives a comprehensive overview of Project Management as a separate area of Management
CO 03 Learners understand the awareness of the role , functions and functioning of Project Management.

Course – International Finance

CO 01 The learner will be able to define and explain fundamental aspects of various issues associated with International Finance.

CO 02. The learner will be able to define and explain Foreign Exchange Markets, Exchange Rate Determination & Currency Derivatives.
CO 03 The learner will be able to define and explain Euro Currency Bond Markets, International Equity Markets & Investments, International Foreign Exchange Markets and International Capital Budgeting.
CO 04 The learner will be able to define and explain Foreign Exchange Risk Management, International Tax Environment and International Project Appraisal.

Course – Indirect Tax

CO 01 Students are able to understand the basic concepts, definitions and terms related to Goods and Service tax (GST).
CO 02 Students realize the concept of supply along with the rules related to time, place and value of supply.
CO 03 Students are able to compute the Goods and Service Tax (GST) payable by a supplier after considering the eligible input tax credit and register under GST
CO 04 Students acquire knowledge to file returns and documentation of return.

Course - INNOVATIVE FINANCIAL SERVICES

CO1: Illustrate the fundamental aspects of various issues associated with various Financial Services
CO2: Evaluate the comprehensive overview of emerging financial services in the light of globalization
CO3: Enhance awareness of the role, functions and functioning of financial services

Mahatma Education Society's
Pillai HOC College of Arts, Science and Commerce
Pillai HOCL Educational Campus, Rasayani
NAAC Accredited with A+ Grade in Cycle II
(ISO 9001: 2015 Certified)

Programme - M.Sc. Information Technology

A.Y. 2023-24

Part 1 as per NEP and Part 2 old Pattern

PROGRAM OUTCOME (PO) AS PER NEP

1. Apply the knowledge of mathematics, science and computing in the core information technologies.

2. Identify, design, and analyze complex computer systems and implement and interpret the results from those systems.

3. Design, implement and evaluate a computer-based system, or process component, to meet the desired needs within the realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.

4. Review literature and indulge in research using research based knowledge and methods to design new experiments, analyze, and interpret data to draw valid conclusions.

5. Select and apply current techniques, skills, and tools necessary for computing practice and integrate IT-based solutions into the user environment effectively.

6. Apply contextual knowledge to assess professional, legal, health, social and cultural issues during profession practice.

7. Analyze the local and global impact of computing on individuals, organizations, and society.

8. Apply ethical principles and responsibilities during professional practice.

9. Function effectively as a team member or a leader to accomplish a common goal in a multidisciplinary team.

10. Communicate effectively with a range of audiences using a range of modalities including written, oral and graphical.

11. Apply the knowledge of engineering and management principles to manage projects effectively in diverse environments as a member or a leader in the team.

12. Engage in independent and life-long learning for continued professional development

PROGRAM OUTCOME (PO) AS PER OLD SYLLABUS

1) To equip postgraduate students with an integrated set of skills that will allow them to develop their professional careers in Information Technology.

2) To equip students with the theoretical and practical knowledge that is necessary to enable them to understand the design of complex computer application/science.

3) The program helps students to acquire the latest skills and build their future capabilities using world-class technology.

4) Skills to work with higher end applications in internet technologies; also managerial ability to analyze, design, develop and to maintain software development.

5) To realize that pursuit of knowledge is a lifelong activity and in combination with untiring efforts and positive attitude and other necessary qualities leads towards a successful life.

Semester I

Course - Data Science

1. Apply quantitative modeling and data analysis techniques to the solution of real world business problems, communicate findings, and effectively present results using data visualization techniques.

2. Recognize and analyze ethical issues in business related to intellectual property, data security, integrity, and privacy.

3. Apply ethical practices in everyday business activities and make well-reasoned ethical business and data management decisions.

4. Demonstrate knowledge of statistical data analysis techniques utilized in business decision making.

5. Apply principles of Data Science to the analysis of business problems.

6. Use data mining software to solve real-world problems.

7. Employ cutting edge tools and technologies to analyze Big Data.

8. Apply algorithms to build machine intelligence.

9. Demonstrate use of teamwork, leadership skills, decision making and organization theory.

Course - Soft Computing Techniques

1. Gain a solid understanding of the fundamental concepts underlying soft computing, including the differences between soft computing and traditional hard computing methods.

2. Familiarize yourself with a variety of soft computing techniques such as fuzzy logic, neural networks, genetic algorithms, swarm intelligence, and probabilistic reasoning.

3. Apply soft computing techniques to solve real-world problems from various domains such as engineering, finance, healthcare, and more.

4. Formulate problems in a way that lends itself to the application of soft computing

techniques, taking into account the uncertainties and imprecisions present in real-world

data.

5. Understand how fuzzy logic works and its applications in modeling and decisionmaking under uncertainty.

6. Gain knowledge of neural network architectures, training algorithms, and their applications in pattern recognition, regression, and classification tasks.

7. Understand genetic algorithms, their components, and their use in optimization problems and search spaces.

8. Familiarize with swarm intelligence algorithms such as ant colony optimization and particle swarm optimization, and their applications in optimization and search problems.

Course - Cloud Computing

1. Analyze the Cloud computing setup with its vulnerabilities and applications using different architectures.

2. Design different workflows according to requirements and apply map reduce programming model.

3. Apply and design suitable Virtualization concept, Cloud Resource Management and design scheduling algorithms.

4. Create combinatorial auctions for cloud resources and design scheduling algorithms for computing cloud.

5. Assess cloud Storage systems and Cloud security, the risks involved, its impact and develop cloud application

6. Broadly educate to know the impact of engineering on legal and societal issues involved in addressing the security issues of cloud computing.

Course - Image Processing

1. Understand the relevant aspects of digital image representation and their practical implications.

2. Have the ability to design pointwise intensity transformations to meet stated specifications.

3. Understand 2-D convolution, the 2-D DFT, and have the ability to design systems using these concepts.

4. Have a command of basic image restoration techniques.

5. Understand the role of alternative color spaces, and the design requirements leading to choices of color space.

6. Appreciate the utility of wavelet decompositions and their role in image processing systems.

7. Have an understanding of the underlying mechanisms of image compression, and the ability to design systems using standard algorithms to meet design specifications.

Course - Research Methodology

1. solve real world problems with scientific approach.

2. develop analytical skills by applying scientific methods.

3. recognize, understand and apply the language, theory and models of the field of business analytics

4. foster an ability to critically analyze, synthesize and solve complex unstructured business problems

5. understand and critically apply the concepts and methods of business analytics

6. identify, model and solve decision problems in different settings

7. interpret results/solutions and identify appropriate courses of action for a given managerial situation whether a problem or an opportunity

8. create viable solutions to decision making problems

Semester II

Course - Big Data Analytics

1. Understand Big Data Concepts

2. Do Data Collection and Integration

3. Develop Data Storage and Management

4. Perform Data Preprocessing and Cleaning

5. Understand Data Transformation and Feature Engineering

6. Perform Exploratory Data Analysis (EDA)

7. Use Big Data Analytics Tools

Course - Modern Networking

1. Understand the modern networking concepts and implement

Course - Microservices Architecture

1. Develop web applications using Model View Controller.

2. Think and apply the microservices way to software development.

Course- Computer Vision

1. Understand the basics of computer vision

2. Understand and analyse various structure form motion and various estimates of Dense Motion

3. Apply various motion models to images and understand computation photography techniques

4. Apply Epipolar geometry , Rectification and various other 3D correspondence and Stereo reconstruction techniques

5. Understand image-based rendering and reconstruction.

Semester III

Course-Machine Learning

CO 01: Understand the key issues in Machine Learning and its associated applications in intelligent business and scientific computing.

CO 02: Acquire knowledge about classification and regression techniques where a learner will be able to explore his skill to generate database knowledge using the prescribed techniques.

CO 03: Understand and implement the techniques for extracting the knowledge using machine learning methods.

CO 04: Achieve adequate perspectives of big data analytics in various applications like

Recommender systems, social media applications etc.

CO 05: Understand the statistical approach related to machine learning. He will also Apply the algorithms to a real-world problem, optimize the models learned and report on the expected accuracy that can be achieved by applying the models.

Course - Robotics Process Automation

CO 01: Understand the mechanism of the business process and can provide the solution in an optimized way.

CO 02: Understand the features used for interacting with database plugins.

CO 03: Use the plug-ins and other controls used for process automation.

CO 04: Use and handle the different events, debugging and managing the errors.

CO 05: Test and deploy the automated process.

Course - Applied Artificial Intelligence

CO 01: be able to understand the fundamentals concepts of the expert system and its applications.

CO 02: be able to use probability and the concept of fuzzy sets for solving AI based problems.

CO 03: be able to understand the applications of Machine Learning. The learner can also apply a fuzzy system for solving problems.

CO 04: learner will be able to apply to understand the applications of genetic algorithms in different problems related to artificial intelligence.

CO 05: A learner can use knowledge representation techniques in natural language processing.

Course - Technical Writing and Entrepreneurship Development

CO 01: Develop technical documents that meet the requirements with standard guidelines. Understanding the essentials and hands-on learning about effective Website Development.

CO 02: Write Better Quality Content Which Ranks faster at Search Engines. Build effective Social Media Pages.

CO 03: Evaluate the essential parameters of effective Social Media Pages.

CO 04: Understand the importance of innovation and entrepreneurship.

CO 05: Analyze research and development projects.

Semester IV

Course - Blockchain

CO 01: The students would understand the structure of a blockchain and why/when it is better than a simple distributed database.

CO 02: Analyze the incentive structure in a blockchain based system and critically assess its functions, benefits and vulnerabilities

CO 03: Evaluate the setting where a blockchain based structure may be applied, its potential and its limitations

CO 04: Understand what constitutes a “smart” contract, what are its legal implications and what it can and cannot do, now and in the near future

CO 05: Develop blockchain DApps.

Course - Deep Learning

CO 01: Describes basics of mathematical foundation that will help the learner to understand the concepts of Deep Learning.

CO 02: Understand and describe model of deep learning

CO 03: Design and implement various deep supervised learning architectures for text & image data.

CO 04: Design and implement various deep learning models and architectures.

CO 05: Apply various deep learning techniques to design efficient algorithms for real-world applications.

Course - Human Computer Interaction

CO 01: have a clear understanding of HCI principles that influence a system's interface

Design, before writing any code.

CO 02: understand the evaluation techniques used for any of the proposed system.

CO 03: understand the cognitive models and its design.

CO 04: able to understand how to manage the system resources and do the task analysis.

CO 05: able to design and implement a complete system.

Course - Natural Language Processing

CO 01: Students will get ideas about know-hows, issues and challenges in Natural Language Processing and NLP applications and their relevance in the classical and modern context.

CO 02: Students will get an understanding of Computational techniques and approaches for solving NLP problems and develop modules for NLP tasks and tools such as Morph Analyzer, POS tagger, Chunker, Parser, WSD tool etc.

CO 03: Students will also be introduced to various grammar formalisms, which they can apply in different fields of study.

CO 04: Students can take up project work or work in R&D firms working in NLP and its allied areas.

CO 05: Student will be able to understand applications in different sectors

Mahatma Education Society's

Pillai HOC College of Arts , Science & Commerce ,Rasayani

(Accredited by NAAC)
(ISO 9001: 2015 Certified)
Program: Master of Information Technology
Pillai HOCL Educational Campus, Rasayani
Taluka -Khalapur Dist. Raigad -410207
Maharashtra ,India

Programme- M.Sc(OC)- Masters of Science in Organic Chemistry

PROGRAM OUTCOME (PO)

Sr. No	Programme Outcomes
1	Gain knowledge of the advanced concepts in the branch of chemistry, scrutinize and accomplish a solution to problems encountered in the field of research and analysis.
2	Apply the basic knowledge of chemistry to perform various tasks assigned to them at the workplace in industry and academia to meet the global standards.
3	Deduce qualitative and quantitative information of chemical compounds using advanced spectroscopic methods which can further be analysed using practical skills inculcated in them during the course.
4	Imbibe the attitude as well as aptitude of a scientific approach along with analytical reasoning with respect to the novel techniques actually implemented in the Industry.
5	Use the subject knowledge, communication and ICT skills to become an effective team leader/team member in the interdisciplinary fields.
6	Understand, Manage and contribute to solve basic societal issues and environmental concerns ethically based on principles of scientific knowledge gained.
7	Exhibit professional work ethics and norms of scientific development.

COURSE OUTCOMES

Semester I

Course 1: Inorganic Chemistry I

CO1: The learner will know the important fundamental concept of Group Theory, which helps them in understanding the properties and bonding in polyatomic molecules.
CO2: The learners get the knowledge about the various techniques used for Characterization coordination compounds.
CO3: The learners develop the skill in interpretation of the spectra.
CO4: The learners will get comprehensive idea about established instrumental techniques and Significant characterization tools available to study inorganic complexes having wide applications in industries.

Course 2: Organic Chemistry I

After completing the course students will be able to:

CO1: Predict the reactivity of organic compound from its structure and understand different methods used for determination of Organic Reaction Mechanism
CO2: Understand the fundamental concept in stereochemistry by applying various symmetry elements of organic molecule and acquire the knowledge of chirality by taking examples of symmetrical and unsymmetrical molecule.
CO3: Develop interest in stereochemistry by studying stereochemical features of different classes of organic compounds and nomenclature of various stereochemical phenomena
CO4: Organize the techniques of aromatic nucleophilic substitution reactions for synthesizing/transforming molecules.
CO5: Understand the concept of aromaticity and to know the nature of bonds, electronic effects and other properties of molecules.
CO6: Understand the preparation of important oxidizing reagent and predict the selectivity of the reagents in organic reactions and explain the preparation and uses of important reducing reagents in various organic transformation reaction.

Course 3: Analytical Chemistry I

After completion of this Course, the learner will be able to:

CO1: Understand various terms used in analytical chemistry and identify the different types of errors in analysis.
CO2: Sketch out the role and importance of total quality management, safety, accreditations and GLP in industries.
CO3: Understand the efficacy of automation in chemical analysis and design and specify applications of advanced analytical techniques in various fields.
CO4: Explore the applications of IR spectroscopy and thermal methods.
CO5: Perform basic calculations required in chemical analysis and interpret the experimental results of analytical techniques & transformation reaction.

Course 4: Physical Chemistry II

CO1: The learners evaluate the different theories of chemical kinetics and effect of temperature on reaction rates.
CO2: The learners will understand the applications of chain reactions in the field of Polymer Chemistry.

CO3: The learners will evaluate the resting membrane potential by using the concept of bio electrochemistry.
CO4: The learners will try to accomplish a solution to problems encountered in the field of research.

Course 5: Research Methodology

CO1: To enable the student to be able to extract information from journals and digital resources.
CO2: Understanding tools to analyse the data, writing and presenting scientific papers.
CO3: Safe working procedure And ethical handling of chemicals.
CO4: Describe research, identification of research problems, and preparation of proposals.
CO5: Practice ethics in all the domains of research.
CO6: Analyze the results using mathematical and statistical tools.

Semester II

Course 1: Inorganic Chemistry II

CO1: The learners will be able to learn ligand substitution reactions of Octahedral and Square planar complexes, Trans effect and factors affecting these substitution reactions.
CO2: The learners will be able to understand the 18 e- and 16 e- electron square planar complexes by studying different examples. They will also learn the preparation and properties of a few selected compounds including sandwich compounds of Fe, Cr
CO3: The learners will understand the structure and bonding of a few inorganic compounds like Ziese's salt, ferrocene and bis(arene)chromium(0)
CO4: The learners will understand the occurrence and effect of toxic metals like Pb, As, Cu, Cd, and Hg on the environment, the different diseases caused by poisoning of metals and the impact these metals have on the living organism.
CO5: The learners will be familiar with the role of Inorganic chemistry in Biological systems, understand the structure of various biological oxygen carriers and molecules involved in electron storage and transport.

Course 2: Organic Chemistry

CO1: Recognise the type of mechanism & intermediates involved in the given organic reaction and to prove mechanism for the reaction and identify the ways to modify aliphatic and aromatic compounds via Nucleophilc substitution reactions.
CO2: Predict the mechanism and stereochemistry of important organic reactions and understand and write the mechanism of rearrangement reactions with stereochemistry and its applications.
CO3: Understand the HOMO-LUMO concept and it significance in organic chemistry.
CO4: Understand the basic principle and concepts in UV and IR spectroscopy, ^{1}H, ^{13}C NMR, and mass spectroscopy
CO5: Understand how ^{1}H, ^{13}C NMR and Mass spectroscopy are important for the structure determination of organic compounds.

Course 3: Analytical Chemistry

CO1: Able to compare the advantages/disadvantages of SEM, STM and TEM.
CO2: Able to develop different techniques to separate the components of mixture.
CO3: Conversant with basic principles and theories of mass spectrometry.
CO4: Able to apply the electroanalytical methods to sample under consideration.
CO5: Able to elaborate on electrogravimetry and coulometry techniques.

Course 4: Physical Chemistry IV (Elective II)

CO1: To develop the skill to solve the problems based on molecular dynamics and quantum Chemistry.
CO2: Learners will able to distinguish between competitive, Noncompetitive and Uncompetitive Inhibition in enzyme-catalysed reactions.
CO3: Learners will get knowledge of advanced chemical kinetics and molecular dynamics.
CO4: Leathers will able to use advanced concepts of chemical thermodynamics in chemical reactions.

Semester- III

Course: Theoretical organic chemistry-I

1. Students able to differentiate between various organic reactive intermediates.
2. To understand various pericyclic and photochemical reactions and rearrangements
3. To understand stereochemistry of fused ring and bridged ring compounds.
4. To understand photochemistry of carbonyl compounds.

Course: Synthetic Organic Chemistry-I

1. To understand name reactions with mechanism and application
2. To understand chemistry of radicals in organic synthesis
3. To understand Enamines, Ylides and α-C-H functionalization
4. To understand use of Metals / Non-metals in organic synthesis

Course: Natural products and heterocyclic chemistry

1. To study the different natural products used with its structure and importance.
2. To understand the synthesis of different natural products.
3. To understand the advanced spectroscopic techniques like proton NMR and 13C-NMR.
4. To understand the advanced techniques in spectroscopy.

Course: Medicinal, Biogenesis and Green Chemistry

1. To understand drug discovery, design and development.
2. To understand the drug design, development and synthesis.
3. To understand the biogenesis and biosynthesis of natural products.
4. To understand green chemistry.

Semester- IV

Course: Theoretical organic chemistry-II

1. To understand structural effects and reactivity in physical organic chemistry
2. To understand supramolecular chemistry
3. To determine enantiomer and diastereomer composition
4. To understand principles of asymmetric synthesis

Course: Synthetic Organic Chemistry-II

1. To understand retrosynthetic analysis and synthetic planning

2. To understand one and two group C-C disconnection
3. To understand electro-organic chemistry and methods of organic synthesis
4. To understand use of transition and rare earth metals in organic synthesis

Course: Natural products and heterocyclic chemistry

1. To understand the synthesis of different natural products like steroids
2. To understand the synthesis of natural products like vitamins, antibiotics, terpenoids etc.
3. To understand chemistry of monocyclic heterocyclic compounds.
4. To understand bi/tricyclic heterocyclic compounds.

Course: Research Methodology

1. To know about different journals, web sources and library resources.
2. To know the different data analysis methods.
3. To understand the different methods of scientific research and writing.
4. To understand the chemical safety and ethical handling of chemicals.

Mahatma Education Society's

Pillai HOC College of Arts, Science & Commerce, Rasayani

(Accredited by NAAC)
(ISO 9001: 2015 Certified)

Program: M.Sc. Physics
Pillai HOCL Educational Campus, Rasayani
Taluka -Khalapur Dist. Raigad -410207
Maharashtra, India

Programme - M.Sc. (Physics)

PROGRAM OUTCOME (PO) (With reference to UOM Phy. Dept.)

1. To navigate learners towards the frontiers of Physics
2. To establish a world-class academic programme, with dual emphasis on foundational teaching and active participation in frontier research
3. To establish the best in class infrastructure for facilitating the process of learning and research with core strengths of the Department
4. To nurture learning in various sub-disciplines of Physics viz Theoretical, Experimental and Computational, expanding into areas of High Energy Physics, Astronomy and Space Physics, Materials Science, Soft Matter Physics, Atomic and Nuclear Physics
5. To network with national and global academic institutions through vibrant exchange programmes and collaborations in teaching and research
6. To instil in the learners the spirit of inquiry and innovation
7. To create opportunity platforms for nucleation and incubation of entrepreneurs
8. To build synergistic channels for productive knowledge transfer and utilization through industry partners

Semester I

Course : CLASSICAL MECHANICS

CO 1. Understand the principle of virtual work and the concepts of least action, the formalisms of Lagrange and Hamiltonian.
CO 2. Describe the motion of a system in Lagrangian and Hamiltonian formalisms.
CO 3. Understand the features of motion under central force, periodic motion, small oscillations as they appear in other areas of Physics.
CO 4. Use the Poisson brackets in Hamiltonian dynamics and solve related problems.

Course : QUANTUM MECHANICS

CO 1. Understand the basic principles of Quantum mechanics and the need for its formalism.
CO 2. Understand the Uncertainty Principle and formulation of Schrodinger equation .
CO 3. Understand the importance of Dirac formalism, vector spaces and apply the same in solving problems of potential barrier, square well potential.
CO 4. Apply the techniques of solving differential equations using various special functions as they appear in the solution of Schrodinger equation for Hydrogen atom problem .
CO 5. Solve the various boundary values and potential problems using the techniques of quantum mechanics.

Course : MATHEMATICAL METHODS IN PHYSICS

CO 1. Solve eigenvalue problems using matrices as they appear in Classical and Quantum Mechanics.
CO 2. Apply tensor analysis to understand the formulation of relativistic electrodynamics and other areas of Physics.
CO 3. Apply residue theorem of complex variables to solve real and definite integrals

CO 4. Understand the emergence of special functions as solutions of differential equations and to solve problems in physics

Course : RESEARCH METHODOLOGY

CO 1. Students who complete this course will be able to understand and comprehend the basics in research methodology and apply them in research/ project work
CO 2. This course will help them to select an appropriate research design
CO 3. With the help of this course, students will be able to take up and implement a research project/ study
CO 4. The course will also enable them to collect the data, edit it properly and analyse it accordingly

Course : Elective 1 (Fundamentals of Materials Science)

CO 1. Learn about different types of materials and various material processing methods
CO 2. To understand the underlying principles in material synthesis and processing
CO 3. Understand The atomic and molecular structure of metals and the relationship between structure and properties
CO 4. Understand various defects and its effect on plastic deformation
CO 5. Learn Fracture, Phase diagrams, Phase transformations and Solidification

Semester II

Course : Introduction to Programming

CO 1. Understand the use of programming language and write simple programs for mathematical problems
CO 2. Develop flowcharts for analysing a given mathematical problem and solve them numerically
CO 3. Apply the techniques of numerical methods in interpolation to generate difference tables of a given data set

CO 4. Analyse a given data set and fit them to a suitable polynomial equation and present them graphically

Course : Electrodynamics

CO 1. Explain classical electrodynamics based on Maxwell's equations including its formulation in covariant form
CO 2. Solve problems involving the calculation of fields, the motion of charged particles and the production of electromagnetic waves
CO 3. Analyse the solution of these problems in the context of a range of applications

Course : Applications of Quantum Mechanics: Nuclear and Molecular Physics

CO 1. Gain understanding of the mathematical foundations of the angular momenta of a system of particles.
CO 2. Apply the concept of non-relativistic Hamiltonian for an electron with spin and perform calculation using angular momentum techniques.
CO 3. Apply various approximation methods in the solution of time independent and time dependent Schrodinger equations.
CO 4. Apply the perturbation theory to various forms of Schrodinger equation in scattering theory and partial wave analysis.
CO 5. Apply the quantum mechanical principles to solve problems of wave propagation, scattering phenomena.

Course : Solid State Physics

CO 1. Understand the Diffraction of Waves by Crystals and Reciprocal Lattice.

CO 2. Understand concepts related to lattice vibrations and thermal properties solids
CO 3. Gain in depth knowledge on Diamagnetism and Paramagnetism
CO 4. Understand magnetic properties of materials based on different theories.

Mahatma Education Society's
Pillai HOC College of Arts, Science and Commerce
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NAAC Accredited with A+ Grade in Cycle II
(ISO 9001: 2015 Certified)

Course Outcomes & Programme Outcomes

Programme: Master of Commerce(M.Com)

M.Com

PROGRAMME OUTCOMES

1. After completing two years for Masters in Commerce (M.Com) programme, students would gain knowledge in conventional as well as contemporary areas in the discipline of Commerce and Accountancy.
2. The Commerce and Accountancy focused curriculum offers specialization in various areas of Accountancy which would equip the student to face the modern-day challenges in commerce and business and they will be prepared to accept responsibilities in the business world
3. To enable the students for conducting business, accounting and auditing practices
4. Learners will be able to prove proficiency in pursuing higher and professional studies and advance research in various disciplines of commerce
5. Inculcate the element of research amongst the learners through projects, to develop their overall personality

COURSE OUTCOME

SEM I

Course Name: Advanced Cost and Management Accounting I

CO 01. To enhance the abilities of learners to develop the concept of Cost and management accounting and its significance in the business
CO 02. To enable the learners to understand, develop and apply the techniques of costing in the decision making in the business corporates
CO 03. To enable the learners in understanding, developing, preparing and presenting the financial report in the business corporate

Course - Research Methodology

CO 01. The students get an understanding of scope and importance of Research.
CO 02. The students understand the use of appropriate methods in their research.
CO 03. The students get knowledge of various statistical tools and techniques that can be used.
CO 04. It develops data analytical skills of the students and enables them to solve research problems.
CO 05. It gives an understanding of hypothesis, sampling, research report , research designing, etc.

Course – Advanced Financial Accounting

CO 01. To prepare the financial statement of a Cooperative Society
CO 02. To Convert trial balance of A company into a foreign currency and make Final accounts for the same
CO 03. To understand the accounting of an Insurance Company
CO 04. To prepare the financial statement of a Banking Company

Course – Direct Tax

CO 01. To distinguish between types of Taxation (Direct & Indirect)
CO 02. To classify 5 Heads of Income
CO 03. To compute Total Taxable Income
CO 04. To analyse the tax Liability of a citizen

Course – Advanced Trends in Accounting

CO 01 – To inform learners about user interface and company management in Tally ERP 9,
CO 02 – To inform learners about the creation and management of master ledgers in Tally ERP 9,

Course – Fundamental Analysis for Corporate

CO 01- It enables students to understand company analysis
CO 02 – It enables students to understand portfolio management analysis
CO 03 - course will help you determine whether a company has good financial health and if it is a good investment.
CO 04 - to analyze operating activities, investing activities, liquidity, solvency and profitability

SEM II

COURSE - Advanced Cost Accounting

CO1. Learners will be able to understand process costing and techniques applied in industry
CO2. Learners will be able to identify various cost allocation methods and apply ABC method of costing system.
CO3. Learners will be able to define responsibility center and evaluate performance of company.
CO4. Learners will be able to under different techniques used in strategic cost management.

COURSE - Direct Tax and Indirect Tax [Goods and Service Tax]

CO1. Learners will get an overview of GST, its need and applicability in India and Learners will understand the concept like Scope of Supply, Non-taxable Supply, Composition Scheme etc.
CO2. Learners will understand in detail about Time, Place and Value of Supply for computation of GST.
CO3. Learners will be able to calculate ITC, manner of utilization, assessment of tax liability and payment of GST.
CO4. Learners will understand the provisions of GST registration, its procedure, documents needed for registration, cancellation of registration, deemed registration.

COURSE - Corporate Finance

CO1. The learners will be able to identify the scope of financial management in practice.
CO2. The learners will be able to conceptualize the concept of valuation of securities.
CO3. The learners will be able to explain the concepts of financial accounting in general.
CO4. The learners will be able to identify and undertake various managerial decisions required in day-to-day business practices.

COURSE - Advanced Trends in Accounting – II

CO1. Learners will be able to prepare a Financial report and do its analysis.
CO2. Learners will be able to activate GST masters in Tally and set up GST rate, Update Party GSTIN and updating GST in service ledgers.

COURSE - Accounting of Housing Society & Charitable Trust

CO1. To define and prepare financial statements as per Maharashtra State Cooperative Societies Act
CO2. To understand and apply auditing techniques in co- operative sector.
CO3. To understand concept of charitable trust and differentiate income exempted
CO4. To understand the accounting process of accounting of charitable trusts

SEMESTER – III

Course – Advanced Financial Accounting

CO 01 To prepare the financial statement of a Cooperative Society
C**O 02** To Convert trial balance of A company into a foreign currency and make Final accounts for the same
CO 03 To understand the accounting of an Insurance Company
CO 04 To prepare the financial statement of a Banking Company

Course – Advanced Cost Accounting

CO 01 To study the costing concept and methods
CO 02 To analyse the unit cost and job costing
CO 03 To know the process costing with normal and abnormal loss
CO 04 To update the standard costing methods
CO 05 To prepare the reconciliation statements

Course – Direct Tax

CO 01 To distinguish between types of Taxation (Direct & Indirect)
CO 02 To classify 5 Heads of Income
CO 03 To compute Total Taxable Income
CO 04 To analyse the tax Liability of a citizen

SEMESTER – IV

Course – Corporate Financial Accounting

CO 01 To understand the concept , contents and import ants of corporate financial reporting
CO-02 To understand similarities and differences between IFRS AND In AS
CO -03 To calculate value of business by different methods
CO - 04 To understand the Procedure of Consolidation of Balance-sheet & Profit & Loss Account

Course – Financial Management

CO1: Learners understand the need, types and sources of finance.
CO2: Learners are made aware of the importance of Capital Budgeting and different techniques of capital budgeting for decision making
CO3: Learners understand the concept of working capital, cash management, receivable management, inventory management and its requirements and control policies.
CO4: Learners understand the concept of budgetary control, its importance, limitations and preparation of different types of budget.
CO5: Learners understand the concept of strategic financial management, financial decision making and financial planning process.

Course – Indirect Tax -II

CO 01 To explain the various terms related to Goods and Service tax(GST)
CO 02 To explain the registration process under GST
CO 03 To compute the amount of CGST, SGST and IGST
CO 04 To determine the place of supply of goods and services or both in IGST
CO 05 To explain the procedures of payments of GST

PILLAI HOC COLLEGE OF ARTS, SCIENCE AND COMMERCE * RASAYANI *

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