Little Flower Degree College
(Affiliated to Osmania University)
Uppal, Hyderabad
Managed by Brothers of St. Gabriel Educational Society

POs, PSOs

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COs

PROGRAMOUTCOMES(POs)(UG&PG)

S.NO	Programme	Programme Outcomes(POs)
UG PROGRAMMES		
1	**BBA (Bachelor of Business Management)**	**PO1**: Demonstrate the ability to identify a business problem, and acquire adequate knowledge in the Principles of Management, basics of marketing, business economics, fundamentals of law, Accounting, Marketing, Finance, IT, Operations and Human Resource and knowledge of languages. **PO2**: Understanding of fundamentals of accounting, financial management and cost & management accounting to enable to have a better perspective of the subject. **PO3:** Illustrate the capabilities required to apply cross-functional business knowledge and technologies and demonstrate the use of appropriate techniques to effectively manage global business challenges. **PO4**:Develop and promote wide range of professional skills and comprehensive managerial skills required for drafting for business correspondence. **PO5:** Build resources for a successful career in the fields of finance, marketing, human resource and research activities. **PO6:** Make use of entrepreneurship ability to create corporate professionals. **PO7**: Apply learning experience through internship which provides a strong foundation required to do research and project work in the field of management. **PO8**: Identify attributes of business icons and role of teams in corporations helpful in acquiring effective and rational communication skills when confronted with moral and ethical dilemmas.

BBA COURSE OUTCOMES

S. NO	SEM	CourseCode	Course Title	CourseOutcomes (COs)	
1	I	**DSC 101**	**Principles of Management**	**CO1**	Recall the foundation of management to relate to the current management principles.
				CO2	Outline the general function of management in today's managerial practice.

				CO3	To Explain the management function of planning, its importance, forms, policies, procedures, methods etc. Summarize the function of decision making
				CO4	Illustrate the importance of various management theories and its diversity.
				CO5	Identify the techniques for effective coordination and distinguish between authority and delegation in an organization.
2	I	**DSC102**	**Basic of Marketing**	**CO1**	Relate the impact of changing Political, Economic, Competitive, Environmental, Cultural and Social Systems on marketing strategy development globally.
				CO2	Rephrase the global business environment from a competitive and economic perspective.
				CO3	Build through the knowledge of market segmentation which affects the society and consumers as purchasers by using various theories and models of consumer behaviour
				CO4	Make use of comprehensive strategic and tactical plans for product development.
				CO5	Utilize creative, critical and reflective thinking to address organizational opportunities and challenges.
3	I	**DSC103**	**Business Economics**	**CO1**	Recall the basic concepts like the nature and characteristics of business economics, laws of diminishing and equip marginal utility.
				CO2	Interpret the concept of demand, along with its elasticities under different market conditions to understand consumers' equilibrium and consumer surplus.
				CO3	Summarize the indifference curve analysis andoutlinethe factors affecting the supply in various market conditions.
				CO4	Explain the factors affecting firms such as production, costs and revenue and buildthe relationship of marginal curves under different market structures
				CO5	Outline the economic issues and policies of cost and revenue analysis
4	**II**	**DSC201**	**Organizational Behaviour**	**CO1**	Demonstrate various managerial skills, roles, functions and levels
				CO2	Classify the various factors that shape personality of the personnel in the organization.
				CO3	Identify and overcome employee behavioural errors

				CO4	Illustrate various elements that help in shaping the organizational culture
				CO5	Experiment with various leadership styles and their suitability.
5	II	**DSC202**	**Business Statistics**	**CO1**	Define and explain the nature, importance, scope and limitation of statistics
				CO2	Relate to the methods of collection of data. Illustrate the tabulation and presentation of data.
				CO3	Define averages, its application and limitations. Interpret the significance of measures of dispersion, its advantages and disadvantages and outline the concept of variation.
				CO4	Demonstrate the Understanding of measures of skewness and the calculation of kurtosis
				CO5	Define index numbers, explain its types and summarize its characteristics.
6	II	DSC203	**Financial Accounting**	**CO1**	Recall the basic concept of accounting as per the GAAP and the process of accounting from the primary entry to the final statement.
				CO2	Interpret the knowledge on different accounting standards which were given by the different bodies.
				CO3	Relate the application of different analytical tools like ratio analysis, cash flow statement and funds flow statement.
				CO4	Summarize the importance of the Balance sheet in today's business environment.
				CO5	Explain IFRS and compare it with INDAS.
7	**III**	**DSC 301**	**Human Resource Management**	**CO1**	Demonstrate knowledge of employee benefit concepts, administrative considerations and regular governing of employee benefit practices.
				CO2	Illustrate policies and practices of the primary areas of HRM including staffing, training and compensation
				CO3	Explain the importance of HR and their role in effective Management Organizations.
				CO4	Rephrase the nature and sources of conflict and the different strategies and approaches used in the resolution of conflict.
				CO5	Compare the significance of employee benefits to both employers and employees.
				CO1	Demonstrate various types of Information Systems available for Business organizations.

8	III	**DSC302**	**Introduction to Information Technology**	**CO2**	Explain the Infrastructure of Information Technology
				CO3	Define database & demonstrate various types of Databases,
				CO4	Outline the role of Information Systems in business
				CO5	Relate to E-Commerce & its Applications.
9	**III**	**DSC303**	**Financial Management**	**CO1**	Interpret the nature, scope, and importance of finance and its relationship with other disciplines.
				CO2	Explain the function of finance and its objectives.
				CO3	Outline the concepts of time value of money. Apply the techniques of capital budgeting
				CO4	Relate and classify the sources of finance and analyse various sources of long term finance and its implication
				CO5	Compare gross and net working capital and apply the technique of cash management.
10	**III**	**SEC1**	**Professional Skill**	**CO1**	Illustrate the basics of communication writing and speaking skills
				CO2	Demonstrate English proficiency in conveying ideas clearly, effectively and professionally.
				CO3	Applying Motivation as an attribute is learnt and inculcated in the students.
				CO4	Infer the importance of Positive thinking and traits of positive thinkers and how to follow a positive lifestyle.
11	III	SEC 2	**Basic Quality Management**	**CO1**	Define the principles of basic concepts quality management and explain traditional and modern quality perspectives.
				CO2	Identify the techniques of quality management
				CO3	Illustrate the key aspects of the quality improvement cycle and use appropriate tools and techniques for improving quality production.
				CO4	Identify the key aspects of the quality improvement cycles, to select and to use appropriate tools and techniques for controlling, improving and measuring quality.
12	IV	DSC 401	**Business Law and Ethics**	**CO1**	Demonstrate the legal framework on Business Laws and make use of them and its orientation for efficient and effective discharge of duties as managers.
				CO2	Identify the requisites to be complied with framing a contract and the special contract

					essential for framing an Agreement.
				CO3	Extend awareness of Consumers rights and practically apply the knowledge gained in day-to-day activities.
				CO4	Explain management of companies, types of meeting, procedure for appointment and removal of personnel and winding up.
				CO5	Develop a sense of responsibility through the knowledge of economic, environment law and business ethics.
13	**IV**	**DSC402**	**Marketing Research**	**CO1**	Outline the distinction between marketing and market research.
				CO2	Analyse and distinguish between sources of data and methods to acquire them.
				CO3	Summarize the criteria for evaluating secondary sources in Indian context.
				CO4	Demonstrate various types of measurement and scaling in marketing research.
				CO5	Define and analyse various sampling tools and techniques.
14	**IV**	**DSC 403**	**Management Science**	**CO1**	Explain and define about operations management to enhance productivity and competitiveness
				CO2	Understand and explain plant management and work study to develop balanced line of production
				CO3	Illustrate about basic manufacturing facilities, service activities and Inventory control techniques.
				CO4	Define and demonstrate operations research to attain significance and need for managerial skills, tools and techniques to solve the problems.
				CO5	Apply the concept of OR in real time situations
15	**IV**	**SEC-4**	**Startup Opportunity and Feasibility**	**CO1**	Explain the concept of Entrepreneur & Entrepreneurship & the process of recognising business possibilities
				CO2	comprehends the factors involved in evaluating the opportunity and considering competitive advantages.
				CO3	Analyse various sources of finance and strategies for managing human resources, recognizing their importance in business development
				CO4	Evaluatereal-time development against projected growth, determining the business's security and viability
16	**IV**	**GE 501**	**M -COMMERCE**	**CO1**	Recognize the various types of M-commerce transactions, such as mobile

					shopping, mobile banking and mobile ticketing.
				CO2	Describe the different business models employed in M- commerce, such as B2C, C2C, and B2B design and implement mobile marketing strategies to promote products and services effectively to mobile users.
				CO3	Develop a Mobile- Friendly website or app for a business to enhance its M- Commerce capabilities. List the advantage and disadvantage of M- Commerce compare to traditional E- commerce.
				CO4	Demonstrate proficiency in using mobile payment system and digital wallet for secure transactions.
17	**V**	**DSE501**	**Entrepreneurship Development**	**CO1**	Explain the concept of Entrepreneur & Entrepreneurship & Recent trends of 'Women Entrepreneurship'
				CO2	Infer the Need, Problems & Development of Rural Entrepreneurship & factors affecting Entrepreneurial growth
				CO3	Outline Entrepreneurial Development Programmes & Small Enterprises their Characteristics, Rationale, Objectives & Scope
				CO4	Classify the concept of Venture Capital and Various Evaluation Methods.
18	**V**	**DSC501**	**Business Analytics**	**CO1**	Classify the business problem and examine the need for documentation
				CO2	Explain the concept of business Analysis by using method & models
				CO3	Infer visualization techniques of statistics.
				CO4	Interpret the methods of linear programming, decision and risk and uncertainty.
				CO5	Summarize various types of analytics and its importance
19	**V**	**DSE 502**	**Financial Markets And Services**	**CO1**	Summarize the role of financial service in the development of the capital market and the economy of the country
				CO2	Classify the structure of Capital Market and the function of primary and secondary market.
				CO3	Outline Financial Services and Merchant Banking with the knowledge of Derivative Markets and Trading System.
				CO4	Make use of the knowledge of general aspects of business operations.

				CO5	Select mutual funds and explain its advantages.
20	**V**	**DSE 503**	**ANALYSIS OF INVESTMENT IN FINANCIAL ASSETS**	**CO1**	Explain the characteristics of different financial assets and how to buy and sell these assets in financial market.
				CO2	Demonstrate the advantages of investment in various assets and the role of such investment in the economic development of the country.
				CO3	Illustrate the benefit of diversification of holding a portfolio of the assets and importance played by the market portfolio
				CO4	Examine the risk and expected returns of various financial instruments and investment portfolio
				CO5	Summarize the principle of portfolio theory in the process investment portfolio management.
20	**VI**	**DSE601**	**Supply Chain Management**	**CO1**	Illustrate Framework of the Supply Chain Management, Value chain and Value delivery system of Supply chain Management
				CO2	Apply the knowledge on Integrated Logistics Management
				CO3	Demonstrate the importance of transportation in Supply chain Management
				CO4	Classify the knowledge on Retail Supply Chain Management
				CO5	Demonstrate Role of IT in Supply Chain Management
21	**VI**	**DSE602**	**BANKING**	**CO1**	Explain the overview of the structure of the banking system in India
				CO2	Classify the various types of products and services available in Banking sector in India.
				CO3	Rephrase regulatory changes and innovations in the Banking sectors.
				CO4	Understand the functions and operations of banking systems, including commercial banks, central banks, investment banks, and other financial institutions.
				CO5	Illustrate the impact of digital technologies on the banking industry, including online banking, mobile banking,
22	**VI**	**DSE603**	**INSURANCE**	**CO1**	Explain the terms of policy documents

				CO2	Classify the various types of products and services available in Insurance sector in India
				CO3	Rephrase regulatory changes and innovations in the Insurance sectors.
				CO4	Explain nature and importance of insurance in India and the legal aspects of Insurance contract
				CO5	Illustrate the various forms of life and general insurance.
23	**VI**	**PR 601**	**Project Work**	**CO1**	Choose the project synopsis to be prepared in consultation with the guide
				CO2	Develop the project synopsis which contains title, objectives, methodology and references.
				CO3	Apply the approved project and plan to do their project independently and individually
				CO4	Examine practical approach in the real lifetime experience by dealing with the project.
				CO5	**Test for** the project and response in the viva and presentation.

BA -ARTS

SL.NO	Programme	Programme Outcomes(POs)	Programme Specific Outcomes(PSOs)
1	**BA**	**PO1:** Analyze, interpret and describe the critical ideas, values, and themes in literary texts, communication models and socio-psychological dynamics. **PO2**: Acquire and develop the expertise in interpreting human experience through literary representation using social, political, economic, psychological and ethical approach. **PO3:** Make use of ICTs to analyze and enhance research methodology **PO4**: Relate the knowledge and skills derived from the study of arts and humanities for a trans-disciplinary perspective and social interaction **PO5**: Acquire values that enable an individual to direct his/her behaviour towards constructive society through	**BA-(ML, POLSCI, MASS COM)** **PSO1:** Apply critical and theoretical approaches to the reading and analysis of Literary, Political, Historical, Socio-Cultural texts in multiple genres. **PSO2:** Learn the nuances of reporting, researching, investigating and writing in order to disseminate information to the audience, preserving the ethical standards of rightness, fairness and equity. **PSO3:** Develop the ability to make logical inferences about social and political issues based on comparative and historical knowledge

		effective communication skills and leadership traits **PO6:** Extend Moral and Ethical values with educational function that ensures the understanding for connectivity of individuals in society **PO6**: Extend Moral and Ethical values with educational function that ensures the understanding for connectivity of individuals in society **PO7** Understand environmental and ecological concerns; formulate and apply methods to save the earth and thereby achieve sustainable development.	**Programme Specific Outcomes(PSOs)** **BA-(ML, PSYCHOLOGY, MASS COM)** **PSO1:** Apply critical and theoretical approaches to the reading and analysis of Literary, Political, Historical, Socio-psychological and Cultural texts in multiple genres **PSO2:** Demonstrate and apply the knowledge of Psychological Theories and its multidisciplinary approach **PSO3:** Learn the nuances of reporting, researching, investigating and writing in order to disseminate information to the audience, preserving the ethical standards of rightness, fairness and equity.

BA (POLITICAL SCIENCE)

S. NO	SEM	Course Code	Course Title	Course Outcomes (COs)	
1	I	**DSC -1A**	**Understanding Political Theory**	**CO1**	Explain the origin, nature, and significance of political theory.
				CO2	Compare the various theories of the origin of state and understand the one that is more practical.
				CO3	Show liberty, equality and justice through liberal, Marxists, and feminist point of view.
				CO4	Outline the working of the organs of government.
				CO5	Demonstrate the significance of political parties and pressure groups in making the government more responsible and responsive.
2	II	**DSC -1B**	**Western Political Thought**	**CO1**	Demonstrate the importance of Greek political thought on the social and political nature of man, society and state.
				CO2	Explain the influence of medieval thinkers and their outlook on religion politics and ethics
				CO3	Compare and contrast the social contract theory of Hobbes, Locke, and Rousseau.
				CO4	Construct the theory of utilitarianism, which aims for the betterment of society as a whole.

				CO5	Identify with the philosophy of Karl Marx and Hegel influence on intellectual, economic and political history.
3	**III**	**DSC -1C**	**Indian Political Thought**	**CO1**	Summarize state and society in ancient India, through the theories of Manu and Kautilya
				CO2	Apply Lord Buddha's, Basava's and Raja Rammohan Roy teachings for the liberation of mankind and awareness of social issues.
				CO3	Construct Barani's political and religious views on medieval India.
				CO4	To experiment with the relevance of Gandhiji's principles of satyagraha, ahimsa on humanity.
				CO5	Dr. B. R. Ambedkar's Pandit Nehru, M.N. Roy and R.M. Lohia role in the movement to construct against social discrimination, of the marginalised community and economic philosophy.
4	**IV**	**DSC -1D**	**Constitution and Politics of India**	**CO1**	Spell the evolution of Indian Constitution with an overview of nationalist movement.
				CO2	Infer the philosophical foundation of the Indian Constitution.
				CO3	Identify the organs and functions of union and state government.
				CO4	Build on the federal structure of the Indian union with emphasis on division of power between states and central government.
				CO5	Examine the importance of political parties for the healthy working of Indian democracy and election to give people a choice to make more evolved and effective decision.
5	**V**	**GE-1**	**INDIAN NATIONAL MOVEMENT**	**CO1**	Show the meaning, nature and importance of development and how it affects the social, political and social life of man.
				CO2	Compare the different economic system through debates and come to the conclusion with regard to the one that best suits India.
				CO3	Explain an understanding for the need for economic planning in India and the due priorities in issues like agriculture, industries infrastructure must be given.

				CO4	Will be able to show an understanding of economic reforms plays a crucial role in strengthening the economy and is required for the growth and development.
6	**V (A)**	**DSC -1E**	**International Relations**	**CO1**	What is the nature, scope and evolution of International Relations and the involvement of state and non-state actors and the principle of Westphalia.
				CO2	Relate to the European conquest of Asia and Africa and its impact on society, Culture and economy of the colonies and the rise of colonization and decolonization, recolonization and rise of third world.
				CO3	To outline the impactof I and II World War on international power structure.
				CO4	Utilize the effect of cold war and the aftermath of it, including the disintegration of the Soviet Union on the international platform.
				CO5	Apply the determinants of foreign policy to India's relation with her neighbours through the lens of Non-Alignment.
7	**V (B)**	**DSC -1F**	**Global Politics**	**CO1**	Show the concept of power, its attributes, and its significance.
				CO2	Summarize the contemporary issues in international relations that affect survival of man and his ability to live with dignity.
				CO3	Compare the role of financial institutions and cooperation of North-South for developmental purposes.
				CO4	Explain the implications to international security due to arms race and the deterrents to it in the form of treaties.
				CO5	Infer a deep understanding of global issues that affect the lives of man.
8	**VI OPTIONAL PAPER/PROJECT**	PR	**Contemporary Political Theory**	**CO1**	Translate the responsible use of freedom under the rule of law without depriving anyone else of their freedom.
				CO2	Identify the concept ofeurocentrism and the western concept of Marxism leading to economic domination.
				CO3	Construct the knowledge about feminism and relate it to equality

					between the two genders
				CO4	Explain how women shaped politics and demonstrate the unfair treatment of women in all spheres of activity

BA (MASS COMMUNICATION)

S. NO	SEM	CourseCode	Course Title	CourseOutcomes (COs)	
1	**I/1**	**DSC 101**	**Introduction to communication and Journalism**	**CO1**	What is Communication and Explain its nature, evolution, significance and role in society
				CO2	Interpret different basic models of communication.
				CO3	Explain the various theories of communication and knowledge gap hypothesis.
				CO4	What is the definition, scope and nature of journalism outlining its importance in the working of democracy and building public opinion
				CO5	Demonstrate different kinds of journalism and the impact of Yellow Journalism
2	**I/II**	**DSC 201**	**Mass Media in India**	**CO1**	Explain the importance of newspapers in social reform movements, post-independence and post emergency era.
				CO2	Describe the evolution of press and the works of pioneers like Dadasaheb Phalke, Satyajit Ray.
				CO3	Demonstrate early history of radio in India AIR, radio privatization, satellite and web radio
				CO4	Understand development of TV as a Medium of Mass Communication. Show satellite and cable television in India along with development of networks and regional channels.
				CO5	Outline the origin, growth and present status of New Media in India.
3	**II/III**	**SEC 3**	**Forms of Journalistic Writing**	**CO1**	Recall soft news and hard news explain news structure and format.
				CO2	Write different types of features apply elements – objectivity, fairness, balance, attribution and quotations.
				CO3	Show subjectivity in writing
4	**II/III**	**DSC 301**	**Reporting and editing for print**	**CO1**	Develop nose for news and Introduce news values andsources of news.

			media	**CO2**	Show the process of news writing and compare different lead and types of lead.
				CO3	Explain organization of editorial department and news bureau
				CO4	Demonstrate the editing process, integrating copy and writing headlines.
				CO5	Familiarize students with media laws and explain its significance in shaping future of India.
5	**II/IV**	**SEC 4**	**Public Relations and Event Management**	**CO1**	Explain the nature of, scope and evolution of public relations.
				CO2	Demonstrate PR planning, internal and external publics, media release newsletters, media briefings
				CO3	Show size and type of event, principles of event management, budgeting of events and balance sheets.
6	**II/IV (B)**	**DSC 401**	**Broadcast and New Media Journalism**	**CO1**	Understand broadcasting, Radio and television transmission process, AIR and community radio
				CO2	Explain basic features of radio news ssources of radio news, qualities and responsibilities of radio reporter, news bulletin and radio programme format.
				CO3	Define basic characteristic of and elements of television news show television programme and its format.
				CO4	Explain television news-based programmes, news process from event to screen.
				CO5	Outline the unique features of web-journalism, social media journalism, issues of veracity and credibility.
7	**III/V**	**DSE 501**	**Media and Development**	**CO1**	Define development and explain concept, definition and process of sustainable development and SDG
				CO2	Analyse the role of media in development and strategies in development communication.
				CO3	Explain agricultural communication and show rural development approaches and rural development extension
				CO4	Explain development support communication: Population, family welfare, health, education and environment
				CO5	Demonstrate issues of AIDS, trafficking, Human Rights, Dalit & Tribal Movements.
8	**III/VI (B)**	**DSE 601**	**Advertising**	**CO1**	Understand social relevance of advertising and its role in communication and marketing

				CO2	Explain types of advertising, classification and trends in advertising
				CO3	Define structure of advertising agency show various departments and functions.
				CO4	Explain objectives and principles of advertising campaigns, rough sketch, visualizing copy writing.
				CO5	Outline various laws related to advertising.

BA (MODERN LANGUAGE)

S. NO	SEM	CourseCode	Course Title	CourseOutcomes (COs)	
1	**I**	**DSC – 2A**	**Introduction to English Language and Literature**	**CO1**	Demonstrate the knowledge of Old, Middle and Modern English in all aspects of language development– vocabulary, Grammar and pronunciation.
				CO2	Summarize the process of word formation, and meaning in the development of English Language.
				CO3	Identify and utilize various Figures of Speech Used in all genres to critically interpret the literary text.
				CO4	Apply the knowledge of literary terminology to identify literary elements used in narratives, Plays and Poetry.
				CO5	Infer and appreciate Literature through famous literary movements and relate literary texts with social and historical background.
2	**II**	**DSC – 2B**	**English Poetry (16^{th} to 20^{th} Century)**	**CO1**	Demonstrate the knowledge of famous poets during 16^{th} to 20^{th} century and differentiate various forms.
				CO2	Identify the structure and Musical features of poetry such as Rhythm, Metrics etc.
				CO3	Analyse and interpret poems using various FOS and elements of poetry.
				CO4	Develop creativity in writing poetry and express themselves by studying the diverse cultures and historical backgrounds of the world around them.
				CO5	Infer the Diverse cultures and historical backgrounds that shaped the world.
3	**III**	**DSC – 2C**	**English Drama**	**CO1**	Demonstrate the knowledge of Development of English Drama from 16^{th} Century to 21^{st} Century through the study of prescribed text.
				CO2	Conceptualize types of drama viz. Comedy, Tragedy, Melodrama, Farce, History plays and identify them.
				CO3	Understand the structure of a play, develop analytical skills and present ideas critically and

					creatively as well as apply the dramatic devices to write a play.
				CO4	Critically analyse social and historical contexts of English Drama and identify cultural and moral values in the text.
				CO5	Identify class struggles, gender roles, purpose of education and various cultural and moral issues in the text and develop into ethically moral persons.
4	**IV**	**DSC – 2D**	**English Fiction**	**CO1**	Infer the rise of Novel and Fiction writing from its beginning to 21st century.
				CO2	Demonstrate the knowledge of historical, political and social backgrounds of the world of Novelists and their influence in conceptualizing the Genre of Novel
				CO3	Classify different types of fiction and identify elements of fiction to analyse text.
				CO4	Examine the status of women in European society, class structure and gender roles through the eminent women writers and relate to their own society.
				CO5	Develop Reading skills and make use of the medium of language to represent their experience and ideas creatively and persuasively.
5	**V**	**DSE – 2E**	**ML 5A - Modern Indian Literatures**	**CO1**	Recall and relate to British colonization in India
				CO2	Demonstrate the origin of English Education and Illustrate the role of English in India's freedom struggle.
				CO3	Identify the causes for the decline of the British Colonies in India and relate to the conflict between colonial and post-colonial influence on the cultural traditions of India. ,
				CO4	Explain the emergence and realize importance of Dalit Literatureandtranslation of Indian writings in English.
				CO5	Realize the importanceof English as a language in India's history and develop an appreciation for Indian Literature in English. L3 – Applying
6	**VI**	**DSC – 2E**	**ML 7B - Contemporary World Literature**	**CO1**	Explain the concept of Contemporary World Literature and its evolution in relation to other related concepts like comparative, Modern, Post-modern and Global literature.
				CO2	Appreciate and interpret the connectedness and diversity of human experiences and literary responses to them in different parts of the world.
				CO3	Analyse the influence of Wars, Post-Modern culture and Globalization on various Literary Genres in the context of social and cultural settings in the post-colonial world.

				CO4	Develop the analytical ability to read texts and analyse key Contemporary issues viz. displacement, nostalgia, alienation, belonging, identity, gender, racism and assimilation.
				CO5	Develop a critical understanding of the writings within the discourse of postcolonial, postmodern hybridity, globalization and illustrate the changing role of English in the new world order and link changes in social norms to new literary forms in the digital age.

BA (PSYCHOLOGY)

S. NO	SEM	CourseCode	Course Title	CourseOutcomes (COs)	
1	I	**DSC 101**	**GENRAL PSYCHOLOGY**	**CO1**	Explain the nature, scope, and goals of psychology, both in applied and pure psychology.
				CO2	Explain the different schools of psychology and compare the different methods such as introspection, observation, case study, interview and other methods.
				CO3	Interpret on the bio-psychological relations that help us understand the functioning of nervous system and brain and its influence on an individual's behaviour.
				CO4	Infer the importance and influence of cognitive process such as remembering, thinking and reasoning in the everyday functioning of an individual.
				CO5	Apply the concept of motivation improve the overall performance.
2	**II**	**DSC 201**	**PERSONALITY THEORIES AND ASSESSMENT**	**CO1**	Explain the nature, characteristics and factors that influence the development of personality.
				CO2	Identify and compare the Freudian, non-Freudian, behaviouristic, socio-cognitive and trait approaches individuals' personality.
				CO3	Explain and discuss the trait and factorial theories and both Humanistic and Existential approaches personality for a systematic approach an individual's personality.
				CO4	Interpret personality assessment through simulated tests, online tests, personality inventories, projective techniques and other formats.
				CO5	Explain the concept and characteristics of a good psychological test and classification of psychological tests and its significance.
3	III	**DSC 301(T)**	**SOCIAL PSYCHOLOGY**	**CO1**	Explain, Identify and examine the nature, scope, and various methods of research and

					the process of attribution, the applications of various theories.
				CO2	Identify the development and maintenance of impression, type and patterns of communication and its applications in social settings, causes of prejudice, and the techniques used to reduce prejudice.
				CO3	Identify and explain the formation of attitudes and the occurrence of change through various theories.
				CO4	Compare and identify pro-social behaviour and altruism, the determinants of human aggression. .
				CO5	Classify and outline the nature types, role, functions of groups, the nature, traits and types of leaders in relation to Indian context.
				CO6	To teach and train the students to analyse and report the data from experiments and see its relevance to the phenomenon in laboratory.
4	IV	**DSC 401(T)**	**ABNORMAL PSYCHOLOGY**	**CO1**	Explain the concept and causes of adjustment, mal-adjustment and stress referring to DSM V and ICD .
				CO2	Outline anxiety related disorders, mood disorders.
				CO3	Explain personality, addictive disorders, developmental and neurocognitive disorder.
				CO4	Identify and apply the bio-socio-psycho approaches for common elements of prevention and treatments.
				CO5	To enable students to learn concepts of psychology through demonstration.
5	**V**	**DSE501-T(A)**	**CHILD PSYCHOLOGY**	**CO1**	Define and demonstrate the concept, characteristics, principles and importance of child development.
				CO2	Illustrate and identify the importance of influence of heredity and environment and other developmental hazards.
				CO3	Compare and Identify theories dealing with cognitive development and understand the components language.
				CO4	Outline and list the importance of self and concept of emotional development in childhood.
				CO5	Demonstrate significant influence of different factors in physical growth, moral development, and influence of family, peers, media and schooling.
				CO6	To enable the students to learn the concepts of child and educational psychology through psychological test.

6	**VI**	**DSE601-T(A)**	**ADOLESCENT PSYCHOLOGY**	**CO1**	Define and demonstrate the concept, characteristics, importance and challenges in development of adolescents.
				CO2	Compare and Identify theories dealing with cognitive development and understand the concepts of Meta cognition and decision making.
				CO3	Outline and list the importance of self-concept, moral development in adolescents.
				CO4	Explain andExamine risk behaviours, addiction and substance abuse in juveniles and how poverty, obesity, depression affects adolescents.
				CO5	To enable the students to learn the test related to areas of adolescent and health psychology.
7	**VI**	**PR**	**PROJECT**	**CO1**	Explain the concept of data collection briefly before planning the project.
				CO2	Choose areas for conducting research after assessing the requirements conduct the research.
				CO3	Formulate andidentify the methodology of research.
				CO4	Plan their research work as per acceptable format. (And prepare them for presentation.)

BSC- PHYSICAL SCIENCES

SL.NO	Programme	Programme Outcomes(POs)	Programme Specific Outcomes(PSOs)
1	**B.SC Physical Sciences (MPCS/MECS/MSCS)**	**PO1**: Acquires the wide set of knowledge in sciences to relate facts which are relevant to the present requirements. **PO2**: Students will be able to compare the concepts with real time scenarios which will cater the motivation to enhance &apply the problem solving, analytical and reasoning skills. **PO3:** Ability to demonstrate an experiment with the different dimensions of tools, techniques and various resources with a motive to provide hands-on experience on sophisticated	**PSO – MECS** **PSO1**: Ability to identify and understand various mathematical models to solve problems related to theoretical and applied mathematics. **PSO2**: Apply the fundamentals of electronics in a wide range of domains. **PSO3**: Students can identify the needs of the society and build software applications with the knowledge gained from programming languages used in the frontend and backend.

		instruments and programming skills. **PO4**: Impart the necessary competencies to communicate effectively to **utilize** them during presentations, effective drafting skills with respect to sciences. **PO5:** Graduates will be able to **make use of** the fundamental proficiency into research which is obtained after the completion of the programme. **PO6**: Based on expertise, graduates can **take part in** activities related to sustainable environment, social interaction by following ethics, assess and propose solutions by exhibiting their leadership skills. **PO7**: Students **identify** the issues prevailing within the society which helps in deducing the solutions based on their expertise. **PO8:** Graduates **discover** the dynamic changes in the society and adapt themselves to be persistent throughout their career.	**PSO – MPCS** **PSO1:** Ability to identify and understand various mathematical models to solve problems related to theoretical and applied mathematics. **PSO2:** To be able to infer and make use of the basic principles of Physics with a notion of imparting the knowledge of performing experiments with sophisticated equipment. **PSO3**: Students can identify the needs of the society and build software applications with the knowledge gained from programming languages used in the frontend and backend. **PSO – MSCS** **PSO1**: Ability to identify and understand various mathematical models to solve problems related to theoreticaland applied mathematics. **PSO2**: To be able to interpret, organize and analyse the data by making use of various methods of distributions and statistical tools. **PSO3**: Students can identify the needs of the society and build software applications with the knowledge gained from programming languages used in the frontend and backend. **PSO –MSDS** **PSO1**: Ability to identify and understand various mathematical models to solve problems related to theoretical and applied mathematics. **PSO2**: To be able to interpret, organize and analyse the data by making use of

			various methods of distributions and statistical tools. **PSO3**: Students can identify the needs of the society and build software applications with the knowledge gained from programming languages used in the frontend and backend. **PSO – MPC** **PSO1**: Ability to identify and understand various mathematical models to solve problems related to theoretical and applied mathematics. **PSO2:** To be able to infer and make use of the basic principles of Physics with a notion of imparting the knowledge of performing experiments with sophisticated equipment. **PSO3:** The impact of chemicals in environment and society

	B SC MATHEMATICS COURSE OUTCOMES				
S.NO	**SEM**	**Course Code**	**Course Title**		**Course Outcomes (COs)**
1	I	**BS:101 - DSC– 1A**	**Differential & Integral Calculus**	**CO1**	Relate the concepts **of** ordinary and partial derivatives of functions and **Solve** various types of Partial Derivatives, Homogenous and Euler functions.
				CO2	Apply the techniques to Solve the problems on maxima and minima of two variable functions.
				CO3	**Define** the different types of asymptotes, evolutes, envelops and curvature.
				CO4	**Identify & Solve** the different forms of a curve viz polar, Cartesian, parametric and pedal form
2	II	**BS201 - DSC– 1B**	**Differential Equations**	**CO1**	Recall the concept of first order first degree equations and Solve the problems on first order first degree and first order but not first-degree differential equations
				CO2	Make use of concept of the first degree differential equations and Solve basic application problems of first order differential equation like growth and decay, dynamics of

					tumour growth, radio activity, carbon dating, compound interest, Orthogonal Trajectories
				CO3	**Identify and Solve** Complementary function & Particular Integral of a Higher Order Linear differential equations.
				CO4	**Apply** the method of undetermined coefficients to **solve** the non-homogenous linear differential equations with constant coefficients.
3	**III**	**BS301 - DSC– 1C**	**Real Analysis**	**CO1**	**Classify** the fundamental properties of real numbers, concepts of Sequences and Series and **solve** the problems.
				CO2	**Make use of** various tests to determine the convergence of the series.
				CO3	**Explain & compare** the concept of continuity and differentiability.
				CO4	**Explain** the properties of Riemann integral.
4	**IV**	**BS401 - DSC– 1D**	**Abstract Algebra**	**CO1**	Classify the elementary properties of Algebra , various groups viz, subgroups, cyclic groups, normal subgroups and permutation groups Explain their properties.
				CO2	**Utilize** the concept of Cayley's theorem, Lagrange's theorem to solve the problems
				CO3	Make use of the concepts of cosets, factor groups and explain the applications of groups.
				CO4	Relate the properties of rings with groups & Demonstrate the various types of ideals and solve the problems
5	**V**	**BS-501 - DSC– E**	**Linear Algebra**	**CO1**	**Compare** the properties of Abstract Algebra with Linear Algebra and Illustrate Null Space and Column Space
				CO2	**Examine** the given set is linear independent or linear dependent and justify the set is basis or not.
				CO3	Build the knowledge on characteristic equation and Solve the problems on Eigen values and vectors.
				CO4	**Test** for the diagonalizability of matrices and Explain the relationships between Orthogonal and Orthonormal sets.
6	**VI**	**BS-601/A -**	**Numerical Analysis**	**CO1**	**Explain** the various numerical methods to find solutions of algebraic and transcendental

		DSC–1F/A			equations
				CO2	**Make use of** error analysis to estimate the errors **Utilize** various numerical methods to **solve** the problems on interpolation, differentiation and integration.
				CO3	**Solve** the problems on Least square methods of different types of curves
				CO4	**Illustrate** the advantages of various methods in Numerical Analysis.
7	III	**SEC II B**	**LOGIC AND SETS**	**CO1**	Recall basic Connectives, Truth tables and Set theory.
				CO2	Explain Quantifiers and Learn when to use the Quantifiers.
				CO3	Develop the relationship between Sets using proper notations .
				CO4	Illustrate sets using Venn diagrams

BSC (PHYSICS) COURSE OUTCOMES

S. NO	SEM	Course Code	Course Title	Course Outcomes (COs)	
1	I		**Mechanics & oscillations**	**CO1**	Define scalar, vector fields and explain gradient of scalar field, divergence, curl of vector fields, Stokes, Gauss, Green's theorems
				CO2	Apply Newton's third law to demonstrate Motion of a rocket, compare 2D and 3D collisions, derive rotational kinematic relations, Euler's equations, Precession of a top.
				CO3	Explain central force, derive equation of motion under central force and Kepler's laws, Illustrate the concepts of theory of relativity
				CO4	Infer simple harmonic motion by learning SHO differential equation and its solution and solve related problems
				CO5	Compare damped, undammed, forced oscillations and understands their characteristics
2	II		**Thermal Physics**	**CO1**	Define thermodynamic laws, reversible, irreversible process, adiabatic and isothermal processes.
				CO2	Understand the concept of entropy and its significance in the universe through the concepts of entropy disorder. Explain-S diagram and change of entropy of perfect gas
				CO3	Classify various thermodynamic potentials and demonstrate Maxwell's thermodynamic relations, theory of low temperature physics

				CO4	Explain the function of the pyrometer, energy distribution in a black body radiation and extend it to Wein's, Rayleigh, Planck's law.)
				CO5	Define statistical mechanics. Compare M.B, B.E, and FD distribution laws and study their applications.
3	III		**Electromagnetic Theory**	**CO1**	Define the properties of charge, Coulomb's law. Interpret the charge distribution concepts like electric field, electric potential, potential energy and energy density.
				CO2	Outline the theory of Electromagnetic induction through Faraday's and Lenz laws, explain Gauss's law and apply it in finding electric fields for different distributions of charge.
				CO3	Recall the concepts of magnetic field intensity and flux. Calculate magnetic field induction for different systems produced by steady moving charges. (1)
				CO4	Summarizing the transient response of RC, LCR, RL circuits essential to construct the working of electronic circuits, understands the basics of network theory.
				CO5	Apply Maxwell's equations to understand theory of wave motion also Outline the basic principles of wave propagation
4	IV		**Waves & Optics**	**CO1**	Recall the basic concepts of wave theory and superposition principle.
				CO2	Outline Interference phenomena by division of wave front &division of amplitude through experiments like Fresnel's biprism and Lloyd's mirror. Newton's rings and wedge shape method.
				CO3	Summarize the theory of single, double, and N-slit diffraction grating and Fresnel's half period zones.
				CO4	Interpret the concept of polarization and summarize the theories of the production of polarized light.
				CO5	Compare longitudinal and transverse vibrations in bars by studying its wave equations and apply boundary conditions to different cases
5	V	-	**Modern Physics**	**CO1**	Explain different atomic models, spectra of alkali atoms, outline types of Molecular spectroscopy and Raman effect
				CO2	Demonstrate the de- Broglie's hypothesis of matter waves and Heisenberg's uncertainty principle
				CO3	Solve Schrodinger time dependent and independent wave equations
				CO4	Illustrate size and structure of atomic nucleus and liquid drop model and shell model Outline alpha, beta decays, Nucleus fission and fusion
				CO5	Classify different crystal structures, Explain Miller indices, Bragg's law, Xray diffraction, bonding in crystals. (3)

6	VI	-	**Electronics**	**CO1**	To recall basic knowledge on semiconductor physics and explain the equation of continuity.
				CO2	Interpret the construction and working of P-N junction, Zener diode, BJT and outline their V-I characteristics.
				CO3	Extend knowledge on different transistor configurations and infer their input and output characteristics.
				CO4	Illustrate how transistor works as an amplifier and oscillator, describethe working of R-C coupled amplifier, phase shift oscillator
				CO5	Explain characteristics of special devices like solar cells, FET, UJT SCR and **analyse** their characteristic curves, **Classify** various number systems and related conversions

	B SC (ELECTRONICS) COURSE OUTCOMES				
S.NO	**SEM**	**Course Code**	**Course Title**		**Course Outcomes (COs)**
1	**I/I**	**BS105**	**Circuit Analysis**	**CO1**	Recall the difference between A.C and D.C. Explain various parameters associated with A.C and solve problems using j operator
				CO2	Define Kirchhoff ‘s laws and select mesh or nodal analysis to find voltage and currents in simple A.C and D.C circuits.
				CO3	Illustrate various theorems and analyze them to solve A.C and D.C networks
				CO4	Demonstrate the transient response of RL, RC circuits for step I/p and their frequency response
				CO5	Explain resonance. Compare series and parallel resonance w.r.t resonant frequency, quality factor, selectivity and Bandwidth
				CO6	Interpret the working of Cathode Ray Oscilloscope and infer its applications in measuring time period, frequency, phase and amplitude
2	**I/II**	**BS205**	**Electronic Devices**	**CO1**	Recall the working of PN junction diode and characteristics extend the concepts to different devices like Zener, Tunnel and Varactor diode.
				CO2	Interpret the working of transistor and explain the characteristics of CB, CE and CC characteristics. Apply h-parameter model to calculate various parameters of transistors.
				CO3	Classify Field Effect Transistors, Demonstrate the working and characteristics of FET, MOSFET and **a**nalyse the application of FET as voltage variable resistor and MOSFET as switch.

				CO4	Outline working of Uni Junction Transistor (UJT) and infer the application of UJT as relaxation Oscillator.
				CO5	Explain the working and characteristics of Silicon Controlled Rectifier (SCR) and identify the applications of SCR.
				CO6	Interpret the construction and characteristics of various photoelectric devices.
3	**II/I**	**BS305**	**Analog Circuits**	**CO1**	Recall the working of diode as switch, explain the working of diode as rectifier, compare different rectifiers. Make use of output wave form to calculate parameters of various rectifiers. Illustrate the use of inductor and capacitor as filter, Calculate the ripple factor and Solve problems related to filters.
				CO2	Compare linear and switching voltage regulators. Model various types of power supplies
				CO3	Classify amplifiers. Explain the function of RC coupled amplifier. Analyse the amplifier at different frequencies using mathematical equations.
				CO4	Define the concept of positive and negative feedback and Summarize the advantages and disadvantages of negative feedback and also explain oscillator and analyze the operation of various oscillators and multivibrator circuits.
4	**II/II**	**BS405**	**Linear Integrated Circuits and Analog Communication**	**CO1**	Define operational amplifier(op-amp) and explain various parameters and configurations of op-amp
				CO2	Build simple circuits like adder, subtractor, comparator, wave generator, amplifier, voltage regulator etc. using IC 74
				CO3	Recall Multivibrator to construct Astable, monostable and bistable multi vibrator using 555 IC and find time period.
				CO4	Explain the need for modulation; classify types of modulation. Derive the expression for AM, FM wave and infer their frequency response, summarize modulation and demodulation circuits used to generate and detect AM and FM
				CO5	Demonstrate working of various transmitters and receiver in terms of block diagrams. Define various pulse modulation technique.
5	**III/ V**	**BS505**	**Digital Electronics**	**CO1**	Recall various number systems and select an appropriate technique to convert from one number System to another. Define Logic gates and construct circuits using them. Make use of Boolean Algebra to simplify Boolean

					expressions.
				CO2	List various logic families and compare them .
				CO3	Design Combinational logic circuits and also construct them using logic gates.
				CO4	Design Sequential logic circuits and also construct them using logic gates.
				CO5	Define Microprocessor, Explain the pin configuration and architecture of 8085 Microprocessor. Classify the instruction set of 8085 Microprocessor and infer the addressing mode.
6	**III/ VI**	**BS605**	**8051 Microcontrollers And Applications**	**CO1**	Recall Microprocessor to Explain Microcontroller. Classify various types of Microcontrollers Interpret the pin configuration and architecture of 8051 Microcontroller
				CO2	Classify the instruction set of 8051 Microcontroller and identify the addressing mode of a give instruction.
				CO3	Make use of instruction set to write programs and also analyse a given program for errors and give correct Output.
				CO4	Demonstrate the usefulness of interrupts, timer and counter in microcontroller Select a clock frequency to set the required timer and counter value for a given application
				CO5	Illustrate Serial data transfer using RS 232 standard.
				CO6	Examine a given project to build simple applications using 8051 Microcontroller by studying various interfacing chips like LCD, LED, A/D and D/A converters, Temperature sensor etc,

BSC (COMPUTER SCIENCE)

S. NO	SEM	Course Code	Course Title	Course Outcomes (COs)	
1	**I/I**	**BS106 - DSC–3A**	**PROGRAMMING IN C**	**CO1**	Illustrate the use of vital parts of the computer in terms of memory, devices and also list out the functionalities of operating systems.
				CO2	Define what is an algorithm and classify the methods of writing an algorithm
				CO3	Identify the foundational constructs of C language and compare the technical differences between variables, constants, datatypes & declarations.
				CO4	Plan & select the appropriate type of operators or control statements to determine the flow of execution in the program.

				CO5	Relate and establish the relationships between the usage of secondary data types arrays, strings, pointers & functions with a possibility of using dynamic memory allocation concepts
				CO6	Demonstrate the usage of file management techniques. Perceive the practical skill of writing the code to maximize the benefits of developing the application in the future.
2	**I/II**	**BS206 - DSC–3B**	**PROGRAMMING IN C++**	**CO1**	Relate to the structure of programming by using fundamental constructs, operators, control statements, arrays.
				CO2	Explain the diverse concepts present in object-oriented programming
				CO3	Demonstrate the use of class with access restrictions and compare constructors, destructors and passing arguments. Describe the concept of polymorphism to choose the appropriate technique between static & amp; dynamic polymorphism
				CO4	Classify the types of Inheritance to develop the understanding of hierarchy maintenance between classes and also comprehend the implication of abstraction by implementing an abstract class, pure virtual function.
				CO5	Illustrate the necessity of using Exception handling mechanism and standard template library (STL) with the motive to find the reason for exceptions and handle them.
				CO6	Impart the practical skill of writing the code using OOP concepts to adapt to the changing requirements in the field of application development.
3	**II/III**	**BS306 - DSC–3C**	**Data Structures**	**CO1**	Recall the concepts of algorithms and compare different algorithms to choose the optimal solution for the given problem.
				CO2	Outline the types of linear data structures including stacks, queues and linked lists. Demonstrate the use of stacks, queues using array & linked list to solve expression conversions, evaluating expressions, function calls.
				CO3	Describe and classify the recursion, queues, linked list in data structure to examine the procedure of implementation. Explain the need of non-linear data structure to construct the binary trees, graphs and perform traversals.
				CO4	Identify the optimal hashing technique to solve collisions in the hash table. Compare and choose the best algorithm for sorting, searching based on the complexity of the program.
				CO5	Gain the expertise and and suppose the solutions for the given problem in future.
				CO6	Assess the suitability of different data structures for solving particular types of problems or handling

					specific data sets.
4	II/IV	**BS406 - DSC–3D**	**Database Management Systems**	**CO1**	Define the need of databases & compare the distinction between traditional & database approaches.
				CO2	Identify different levels in database architecture and explain the types of data models used.
				CO3	Make use of relational algebra concepts & operations to provide the outline of relational models.
				CO4	Apply the SQL & PL/SQL commands, integrity constraints to manipulate the data in the database. Model the diagram of Entity-Relationships along with structural & participation constraints.
				CO5	Explain the method of implementing normalization to understand the importance of data redundancy which improves the overall design of the database.
				CO6	Extend the understanding of the concepts of transaction management to analyze the schedules using concurrency control & recovery mechanisms
5	**III/V**	**BS505 - DSC–3E**	**Programming in JAVA**	**CO1**	Recall the concepts of Object-Oriented Programming to compare the essential features used in JAVA with C++.
				CO2	Illustrate the need of class, objects to make use of them in exploring types of inheritances &amps; constructors.
				CO3	Construct abstract classes & implement interfaces to understand the concept of abstraction
				CO4	Demonstrate the usage of string handling, packages, wrapper classes with ultimate access protection.
				CO5	Explain the multithreading concepts with the various exception handling techniques.
				CO6	Categorize & implement diverse file handling mechanisms based on the situation. Acquire the knowledge to build database driven GUI applications using Applets, AWT, Swings Express the opinion of application development with databases as a backend.
6	**III/VI**	**BS605 - DSE–3F**	**Web Technologies**	**CO1**	Define the fundamental operation of the Internet and illustrate the working of client-server communication.
				CO2	Explain the need of HTML and categorize various tags used in the creation of a static webpage.
				CO3	Demonstrate the basic building blocks of a web page with respect to links, tables, frames and web forms
				CO4	Apply the style sheets in a webpage to enhance the appearance of the website. Design the page layout and identify the issues related to typography, navigation within the website

				CO5	Extend the knowledge of static web pages to build dynamic web pages using JavaScript.
				CO6	Illustrate the working of XML with a set of rules defined by DTD, XSL and also analyse the need of AJAX.
7	III/ VI	**BS606 - Project/ Optional**	**PHP with MySQL**	**CO1**	Explain the need of PHP to relate the basics of traditional programming language.
				CO2	Extend the concepts of strings and arrays to apply them in manipulations.
				CO3	Demonstrate the need for functions and objects to build Object oriented programs.
				CO4	Recall the concepts of forms in HTML and make use of them in generating forms using PHP.
				CO5	Illustrate & identify the importance of working with files and directories.
				CO6	Define database and SQL and explain the method of connecting MySQL from PHP. Examine the requirements and assess the situation to build the web Application.
8	**I/I**	**DSC-A**	**Fundamentals Of Information Technology**	**CO1**	Analyse Various types of Analyse in a Data Processing machine, Using charts and Tables in Excel sheet. Identify Components of computer, Different Input Units to process Data using Computer.
				CO2	Interpretation Representation of Data, Different Number System, ASCII codes. Error Detecting Parity Check Bits.
				CO3	Identify Storage cells, understanding Memory locations, RAM, ROM, SRAM, DRAM. Construct Algorithms, Writing Instructions using Mnemonics. Design Flow charts
				CO4	Demonstrate different types of Networks, Understanding DNS, IP address, WWW. Study about Upgraded display technology in computer (LED,'s) (Flat panel Display) extend his/her Knowledge about Evolution of Programming Languages in various Generations
				CO5	Analyse The Different Software Development Process Models about client's requirements. Testing on software's at different Levels.
				CO6	(Understanding the concepts of Basic Programming Instructions using Python, C language statements. Learning the concepts of Basic Programming Instructions using Python, C language statements.
8	I/II	DSC - B	**Problem Solving and Python Programming**	**CO1**	Analyse The problem and construct an algorithm. Construct Pseudo Codes for problem solving and learn about how to design flowcharts describing the symbols for calculations. Implement Writing simple instructions in Python in an interactive Mode

					at IDLE.
				CO2	Grasping Python code for various Decision control statements. Classify the Looping, Jumping and Control flow statements.
				CO3	Explain about Built-in Functions Define the functions with *rags and **wars and understanding about default parameters, Command line arguments. Understanding about various String Methods and how to format strings.
				CO4	Access the data from List, tuples and Dictionaries. Choose different storage structures to interact and manipulate data elements using key values.
				CO5	Design Histograms for plotted data using Marplot library. Create Text Files using Python and performing Reading and writing operations into files.
				CO6	Understanding different Object-oriented programming features like Data abstraction, Inheritance, Polymorphism, Data hiding, Defining a class and Object.
9	**II/I**	**DSC-C**	**Data Engineering with Python**	**CO1**	Analyse Data Sequences and pipeline. Acquisition of Data. Working with structure files, CSV files. Learning about OS Path Modules and working with XML in Python.
				CO2	Explain HTML coding, Different Tags to developed Web pages. Understanding Regular expressions, processing text in Natural Language processing.
				CO3	Learn about Regular Expressions with glob Module. Design Databases using MySQL in MongoDB. Storing, Accessing, Manipulating and Deleting data with different MySQL DDL, DML commands.
				CO4	assessing the NumPy module' s ability to construct arrays, get elements from arrays, and carry out various array splitting and slicing tasks.
				CO5	Creating Data frames using pandas and plotting the graphs using marplot library. Reshaping the data Applying different plot types plotting with pandas.
				CO6	Understanding various structures in plotting graphs. Applying plot graphs for different data frames by using marplot structures like Histograms and Scatter graphs.
10	**II/IV**	**DSC - D**	**Machine Learning**	**CO1**	Understanding learning problems and applying different Supervised learning algorithms.
				CO2	Importing different Data frames and removing over fitted data and outliers. Applying K Nearest neighbour and K-Means algorithm. and plot the graphs for clusters.
				CO3	Design a perceptron and threshold to create a model without an active function, bio-inspired learning updated the weights until the perceptron could learn.
				CO4	Define Linear models with some regression and classification data and applying Support vector

					machine algorithms.
				CO5	Applying Backpropagation theorem in multilayer neural network to train the machine using feed-forward network and backpropagation
				CO6	Analyse the Unsupervised learning models using different clustering. Hierarchical, DB clustering using Agglomerative and Divisive. Design the Minimum Cost Spanning tree in developing networks using prim's and Kruskal's; algorithm.
11	**III/ V**	**DSE-A**	**NOSQL Data Bases**	**CO1**	Understanding learning problems and applying different Supervised learning algorithms.
				CO2	Importing different Data frames and removing over fitted data and outliers. Applying K Nearest neighbour and K-Means algorithm. and plot the graphs for clusters.
				CO3	Design a perceptron and threshold to create a model without an active function, bio-inspired learning updated the weights until the perceptron could learn.
				CO4	Define Linear models with some regression and classification data and applying Support vector machine algorithms.
				CO5	Applying Backpropagation theorem in multilayer neural network to train the machine using feed-forward network and backpropagation.
				CO6	**Analyse** the Unsupervised learning models using different clustering. Hierarchical, DB clustering using Agglomerative and Divisive. **Design** the Minimum Cost Spanning tree in developing networks using prim's and kruskal's algorithm.
12	**III/ VI(A)**	**DSE-B**	**BIGDATA**	**CO1**	Structuring the Big Data and Analyse the Data Elements Evaluate Cloud computing services for Big Data.
				CO2	Design HDFS architecture with concept of Blocks Storing the data in Chunks of Blocks using cloud technology.
				CO3	Understanding the various layers in the network topologies. Storing the data in a Traditional Data Warehouse.
				CO4	Design the Databases using NoSQL Data models. Analyse different Data models to design a good Relational Database.
				CO5	Critique the ethical implications of collecting and analysing large-scale data.
				CO6	Develop machine learning models to predict

					outcomes or classify data based on large datasets.

B SC STATISTICS COURSE OUTCOMES

S.NO	SEM	Course Code	Course Title		Course Outcomes (COs)
1.	**I/I**	**DSC- A**	**Descriptive Statistics and Probability**	**CO1**	Construct measures of central tendencies and dispersions for different types of data.
				CO2	Select an appropriate discrete and continuous probability distributions to calculate probabilities in specific applications
				CO3	Develop inequalities to represent real world situations and use them to solve problems.
				CO4	Inspect Descriptive Statistics using MS-Excel.
2	**I/II**	**DSC B**	**Probability Distributions**	**CO1**	Explain the concept of probability distribution of a Discrete and Continuous Random Variable .
				CO2	Identify the appropriate distribution i.e., Binomial, Negative Binomial, Poisson in solving a problem.
				CO3	Simplify the Normal probability distribution including standard normal curve calculations of appropriate areas.
				CO4	Analyse Probability distributions by using MS-Excel.
3	**II/III**	**DSC-C**	**Statistical Methods and Estimations**	**CO1**	Explain the concept of Bivariate data to understand the relationship between the variables which is used to find the Pearson correlation coefficient and regression coefficient.
				CO2	Demonstrate the different methods of measures of association.
				CO3	Describe Many of the important estimation methods to show how they are interring related examine multivariate data using MS-excel.
4	**II/IV**	**DSC-D**	**Statistical Inference**	**CO1**	Choose the appropriate alpha level based on the degree of consequence of the type 1 and type 2 errors.
				CO2	Learn how to apply the 5-step test procedure for a test of hypothesis concerning A population mean when the sample size is large and small.
				CO3	Compare and Contrast Parametric and Non-Parametric tests.

				CO4	Examine small & large samples using MS-excel.
5	**III/V(A) - PAPER V**	**DSE-A**	**Applied Statistics 1**	**CO1**	Recall the concepts of sampling methods and Classify probability sampling method.
				CO2	Compare probability sampling designs viz., SRS, STRS, SYS.
				CO3	Explain Time series models and apply it appropriately for prediction.
				CO4	Demonstrate the approaches and techniques to assess and improve process and product quality and reliability.
6	**III/V paper VII-(A)**	**DSE- B**	**Applied Statistics II**	**CO1**	Explain and Identify the ANOVA one- way & two- way classification
				CO2	Plan to conduct experiments efficiently, effectively and analyse the resulting data to obtain objective conclusions.
				CO3	Make use of vital statistics to measure mortality rates, fertility rates and life table.
				CO4	Interpret and use a range of index numbers commonly used in business sectors.
7	**III/VI paper VIII**	**DSE-C**	**Operations Research**	**CO1**	Explain basic concepts of OR.
				CO2	Identify and develop OR model from the verbal description of the given problem.
				CO3	To apply the appropriate method in order to find an optimal solution.
				CO4	Translate the Dual problem from Prima
				CO5	Solve to minimize the total cost of transporting goods from the various supply origins to the different demand destinations

BSC (LIFE SCIENCES)

SL.NO	Programme	Programme Outcomes(POs)	Programme Specific Outcomes(PSOs)
1	**BSC (LIFE SCIENCE)**	**PO1:** Acquire knowledge in life sciences and **relate** the fundamental principles, theories, and methods in key areas of science & interdisciplinary subjects with their relevance in day-to-day life. **[L- 2]**. **PO2**: **Develop** critical thinking using analytical and logical skills to provide solutions for scientific requirements using modern tools **PO3** :**Make use of** scientific data and knowledge in their professional responsibilities to deliver reports, documentation, and effective presentations	**PSO- BT M C** **PSO1** – An ability to use the techniques, skills and modern biotechnology tools necessary for science practice. **PSO2** –The students will understand and be able to explain significance of various microbiological applications in industry medicine agriculture and environment. Students will able to experiment with

		PO4: **Identify** the technical ethical and social issues related to subject effectively and **demonstrate** the importance of using life sciences for the sustainable development of environment and growth of mankind **PO5** : T**ake part in** work related to a multidisciplinary environment as an individual, team member or leader. **PO6: Develop** an ability to communicate effectively and enhance skills to identify, analyse and solve problems at professional level. **PO7 : Build** a highly cultured and civilized society with strong ethical social and moral values in personal and professional life PO8:**Analyse**,update with day-to-day knowledge, and **apply** the same in the field of sciences that is self-directed and enhances lifelong learning	basic microbiology, immunology, molecular biology, Recombinant DNA Technology and microbial genetics. Analyse basic and advance microbiology under supervision. **PSO3** –Show a comprehensive understanding fundamentals of chemical physical biological sciences to develop analytical skills required for industries, identify relevant research papers and utilize the results to list the impact of chemicals in environment and society and lead a successful carrier. **PSO- B Z C** **PSO1** – Show comprehensive understanding of fundamentals biological sciences and chemical sciences to inculcate research attitude and aptitude among students where they analyse and apply this knowledge to achieve a successful carrier. **PSO2** – Identify the morphology and functional characteristics at cellular and sub cellular (molecular level) to develop the research aptitude and technical skills for performing experiments In laboratories and conduct field based studies to become a successful researcher, solving problems by applying appropriate tools. To access basic and

			applied research which has societal and environmental values. **PSO3** – Identify (3) and justify (5) the impact of chemicals in environment and society **PSO4** – Develop (6) analytical skills required for industries to lead a successful career **PSO- BT B C** **PSO1 :** An ability to use the techniques, skills and modern biotechnology tools necessary for science practice PSO2: Show comprehensive understanding of fundamentals biological sciences and chemical sciences to inculcate research attitude and aptitude among students where they analyse and apply this knowledge to achieve a successful carrier. PSO3: Show a comprehensive understanding fundamentals of chemical physical biological sciences to develop analytical skills required for industries, identify relevant research papers and utilize the results to list the impact of chemicals in environment and society and lead a successful carrier. **PSO- M Z C** **PSO1:** The students will understand and be able to explain significance of

			various microbiological applications in industry medicine agriculture and environment. Students will able to experiment with basic microbiology, immunology, molecular biology, Recombinant DNA Technology and microbial genetics. Analyse basic and advance microbiology under supervision. **PSO 2:** Identify the morphology and functional characteristics at cellular and sub cellular (molecular level) to develop the research aptitude and technical skills for performing experiments in laboratories and conduct field based studies to become a successful researcher, solving problems by applying appropriate tools. To access basic and applied research which has societal and environmental values. **PSO 3:** Show a comprehensive understanding fundamentals of chemical physical biological sciences to develop analytical skills required for industries, identify relevant research papers and utilize the results to list the impact of chemicals in environment and society and lead a successful carrier.

BSC-LIFE SCIENCE (CHEMISTRY)

S. NO	SEM	Course Code	Course Title	CourseOutcomes (COs)	
1	I/I	BS106	Chemistry – 1	CO1	Explain theories of Chemical bonding & illustrate MOT for different types of molecules, solid state chemistry & materials science
				CO2	List elements into s-block elements, p-block elements and learn their main characteristics, illustrate the atomic structure and apply principles of elementary quantum mechanics
				CO3	Explain structural theory in organic chemistry – acyclic hydrocarbons, alicyclic hydrocarbons, Model the isomerism of carbon compounds and list their conformational analysis
				CO4	Compare the basic principles of gaseous state and liquid state.
				CO5	Identify general principles of inorganic qualitative analysis.
2	I/II	BS206	CHEMISTRY-II	CO1	Outline the main characteristics of p-block, 0-group and of d-block elements and apply this knowledge in formation of oxides, oxyacids, inter halogens.
				CO2	Summarize (2) preparation and properties oxyacid's ethers and carbonyl compounds
				CO3	Model the stereo chemical structure of carbon compounds and formulate them conformational analysis Interpret the different laws and problems related to dilute solutions & colligative properties
				CO4	Explain (2) the concepts of electrochemistry , EMF and their application
				CO5	Develop volumetric analysis, quantitative analysis, acid-base titrations, redox titrations, complexometric titrations
3	II/III	BS306	CHEMISRY-III	CO1	Interpret the principles of phase rule, List the laws and principles of thermodynamics
				CO2	Relate elements of f-block elements
				CO3	Explain structure & properties of coordination compounds, metal carbonyls & organometallic chemistry
				CO4	Interpret synthesis based on understanding of carbanion
				CO5	Develop suitable derivatives of carboxylic acids, phenols, amines, urea, thio-urea, carbohydrates, aldehydes, ketones, amides,

					nitro-hydrocarbons, ester and naphthalene
4	II/III	BS301-1	**SAFETY RULES IN CHEMISTRY LABORATORY AND LAB REAGENT**	**CO1**	Explain the importance of Labelling chemicals in lab and list primary standard and secondary standard
				CO2	Determine the basic knowledge of First aid kits in the laboratory and their application for acid, alkali and fire burns outline the different Personal protective equipment's and their application in laboratories
				CO3	Identify and minimize risk of hazards, classify the types of fires and correlate the Use of fire extinguishers
				CO4	Model different types of Charts for laboratory such as periodic table, first aid and indicator chart. Identify different indicators and buffer solution followed by their preparation.
5	**II/IV**	**BS406**	**CHEMISTRY-IV**	**CO1**	Illustrate the basic principles of Bio-inorganic chemistry – essential elements, biological significance, toxic metal ions, oxygen transport & storage
				CO2	Identify qualitative analysis of organic compounds, functional group analysis and distinguish various reaction mechanism Develop an understanding for preparation and properties of important organic compounds in living organisms – carbohydrates, amino acids & proteins.
				CO3	List the laws and principles of chemical kinetics, Explain the types of colloids and its application in surface chemistry
				CO4	Define hard & soft acids bases, Pearson's concept, stability of compounds, feasibility of reaction
				CO5	Develop suitable derivatives of carboxylic acids, phenols, amines, urea, thio-urea, carbohydrates, aldehydes, ketones, amides, nitro-hydrocarbons, ester and naphthalene
6	**II/IV**	**BS401-SEC-3**	**CHEMISTRY OF COSMETICS AND FOOD PROCESSIONG**	**CO1**	Apply the methods of different Food processing.
				CO2	Demonstrate the basic knowledge of preparation of cosmetics & perfumes.

7	III/V	BS506	**Elective-SPECTROSCOPY AND CHROMATOGRAPHY**	**CO1**	Distinguish Chromatographic techniques – thin layer chromatography, paper chromatography, column chromatography, ion exchange chromatography, gas chromatography, HPLC (high performance liquid chromatography)
				CO2	Outline the principles of various spectroscopy – Beer-Lambert's law, IR spectrophotometer
				CO3	**Examine** molecular structure through various spectroscopic techniques molecular spectroscopy, rotational spectroscopy, infra-red spectroscopy, electronic spectroscopy, proton NMR and Mass spectra.
				CO4	Analyse physical chemistry experiments - distribution law, electrochemistry, cell constant, calorimetry, verification of Beer's law, adsorption, Freundlich adsorption isotherm, surface tension & viscosity of liquids.
				CO5	Experiment with Solvent extraction, cell constant, calorimetry, conductometry viscometer and stalgammometer.
7	III/V	BS606	**Elective-A MEDICINAL CHEMISTRY**	**CO1**	Classify diseases and state the terminology of medicinal chemistry.
				CO2	Discuss about Enzymes & receptors
				CO3	Explain the mechanism of drug action – agonist & antagonist.
				CO4	Relate the therapeutic activity of drugs and their synthesis
				CO5	Evaluate the importance of molecular messengers & health promoting drugs.
				CO6	Experiment with (3) chemical kinetics, electrochemistry, potentiometry, pH metry, conductometry.
8	**III/VI**	**BS601**	**PROJECT**	**CO1**	Understand the basics of research and identify the research problem .
				CO2	Illustrate the experimental work, write synopsis and plan of work.
				CO3	Explain the project experimented examine the data.

				CO4	Interpret the result

BSC-LIFE SCIENCE (MICRO BIOLOGY)					
S. NO	SEM	**CourseCode**	**Course Title**	**CourseOutcomes (COs)**	
1	**I/I**	**BS, DSC-1A**	**Paper I: General Microbiology-I**	**CO1**	summarize significant contributions of various scientists to the advancement of Microbiology
				CO2	Explain how microscopy works and Explain the specimen must be stained to observe under compound microscope
				CO3	Classify various groups of microorganisms and distinguish prokaryotes with eukaryotes
				CO4	Explain and make use of physic-chemical methods of sterilization and culture media preparation in Microbiology and apply for bacterial growth
				CO5	Plan and apply basic experiments to, sterilize media, isolate and identify microorganisms in the Microbiology Lab.
2	**I/II**	**BS, DSC-1B**	**Paper II Microbial Diversity**	**CO1**	Explain and make use of basic concepts of biodiversity and classification of living organisms
				CO2	Apply for study of microbial richness, and prokaryotic diversity
				CO3	Categorize structural and functional of eukaryotic microbial diversity.
				CO4	Explain and Categorize principles various microbial interactions and microbial ecosystem.
				CO5	Plan experiments to isolate prokaryotic and eukaryotic microorganisms and estimate the role of microbial activities in the ecosystem
3	**II/III**	**BS, DSC-1C**	**Paper III Food and Environmental Microbiology**	**CO1**	Recall basics of fermentation of foods, dairy microbiology and foods, and discuss the importance of pre/ pro-biotic foods.
				CO2	Describe spoilage of foods, outline the toxins of microbial origin, and microbiological analysis of foods for determining their safety
				CO3	Identify occurrence of microbe's in air, important microbial indicators of water pollution and aerobic and anaerobic treatment methods of sewage.
				CO4	Assess relationships of microbial interactions with soil plants and them role in biodegradation of pollutants.
				CO5	Analyse microbiological quality of foods, water/ wastewater, detection of toxins, and isolation of pre/probiotic microbes in the lab.

4	**II/IV**	**BS DSC-1D**	**PAPER IV Medical Microbiology (Theory)**	**CO1**	List normal microbial flora in human body and function of various defence mechanisms involved in immune system.
				CO2	Compare principles of diagnostic microbiology and analyse elements of chemotherapy using therapeutic drugs.
				CO3	Apply the knowledge of pathogenesis, epidemiology, diagnosis air borne, zoonotic, food & waterborne diseases of bacteria & viruses' and take part in prevention measures
				CO4	Examime biochemical reactions for identification of microbes
				CO5	Test for disinfection and antibiotic sensitivity of bacteria.
5	**III/V**	**BS DSC I E**	**Paper V: Microbial Genetics and Molecular Biology**	**CO1**	Recall fundamentals of genetic elements and compare various genetic elements replication mechanism.
				CO2	Compare various physical and chemical factors that modify gene, repair mechanism and relate to its transfer methods in bacteria.
				CO3	Outline concept of gene and its regulation.
				CO4	Extend recombinant DNA technology and its application in industry, agriculture, and medicine
				CO5	Analyse quantitative analysis of biomolecules in biological samples and solve numerical problems related to transcription and translation.
6	**III/V**	**BS, GE**	**Paper V Microbiology and Human health**	**CO1**	Recall historical development of medical microbiology.
				CO2	Illustrate morphological and cultural characteristics of various microbes.
				CO3	Explain the importance of normal microbial flora.
				CO4	Summarize types of pathogenic microbes those cause diseases such as Typhoid and influenza.
7	**III/VI**	**BS, DSE-1A**	**PAPER VI – Industrial microbiology**	**CO1**	explain industrial important organisms and various screening methodsused for isolation.
				CO2	Recall various types off ermentations and choose suitable fermenter
				CO3	Illustrate raw materials used in fermentation industry and principles of up& downstream processes -
				CO4	Explain microbial production of enzymes, antibiotics, organic acids

				CO5	Test for industrially important microbes and quantitate metabolitesproduced byfermentation inthe lab.
8	**III /VI**	**BS**	**Project**		**CO1**: Understand the basics of research and Identify the research problem. **CO2**: Illustrate the experimental work, write the synopsis, and plan of work. **CO3:** Explain the project experiment and examine the data. **CO4:** Interpret the res

B SC-LIFE SCIENCES –ZOOLOGY COURSE OUTCOMES

S.NO	SEM	Course Code	Course Title		Course Outcomes (COs)
1.	**I / I**	**BS 116 DSC 2A**	**Paper I: Animal Diversity Invertebrates**	**CO1**	Relate and Classify the general taxonomy of the Animal kingdom using the taxonomic keys
				CO2	Illustrate the Evolution of different Phyla and learn the general characteristics of non-chordate animals
				CO3	Classify all Phylum's from Porifera Echinodermata up to Class level using examples and explain characteristic features of each Phylum with specific Type study
				CO4	Identify and explain the life cycle of organisms, their economic importance and pathogenicity of harmful Invertebrates
				CO5	Compare the Taxonomy and external characters of all Invertebrate animals using museum models, specimens, slides and Dissect the internal anatomy of Invertebrates and showcase dissecting skill.
2	**I / II**	**BS 216 DSC 2B**	**Paper II Animal Diversity - Vertebrates**	**CO1**	Recall Classify Pro-chordates to Phylum Chordata using Taxonomic key
				CO2	Illustrate the basic concepts about chordates their adaptations and associations in relation to their environment.
				CO3	Explain the Systematic position, distinguishing features and sexual dimorphism in chordates using Type study. Identify poisonous from non-Poisonous snakes.
				CO4	Compare the special features like Flight, aquatic adaptations. Identify poisonous from non-Poisonous snakes, types of Skeletons of Chordates and Histology of organs.
				CO5	Compare the Taxonomy and external characters of all Vertebrate animals using museum models, specimens, slides and dissect the internal anatomy of Vertebrates and showcase dissecting

					skill.
3	**II /III**	**BS 316 DSC-2C**	**Paper III, Animal Physiology and Animal Behaviour**	**CO1**	Recall and Explain the importance of Anatomy and Physiology of all systems of man.
				CO2	Illustrate on the process of Metabolism, Homeostasis and enzymology.
				CO3	Explain the functions of complex physiological systems and identify the malfunctioning organ system, the Biomolecules, its complex functioning and Enzyme kinetics.
				CO4	Identify animal behaviour, its complex social and communications.
				CO5	Interpret the qualitative tests for identification of proteins, carbohydrates and fats. Analyze urine analysis for nitrogenous waste and Examine the percentage of hemoglobin in the given blood samples
4	**II / III**	**SEC- 1**	**SEC1- Sericulture**	**CO1**	Recall and illustrate the history, variety and Life cycle of major species of silkworms.
				CO2	Illustrate the basic concepts and requisite equipment for silk production, sericulture and Horticulture of Mulberry.
				CO3	Develop sericulture and Hori culture as cottage Industry for self-employment.
				CO4	Identify diseases and pests of silk worms and to make use of this knowledge to rear silkworms.
5	**II/ IV**	**BS 405**	**Paper IV: Cell Biology, Genetics and Developmental Biology.**	**CO1**	Explain the Scope of cell biology, as cell is the basic unit of life.
				CO2	Make use of Tools and Techniques like PCR and Electrophoresis in Molecular Biology.
				CO3	Categorize the basic concepts in Genetics and molecular genetics and Inborn Metabolic errors and apply the knowledge of types of division, Sex determination and mutations to understand Genetic disorders
				CO4	Compare the development of organisms, gametogenesis. Analyse different types of foetal membranes and Placenta.
				CO5	Experiment with mounting of stages of cell division in onion root tip and grasshopper testis for study of mitosis, meiosis stages of Embryology. Solve problems related to genetics and Hardy Weinberg Law and.
6	**II / IV**	**SEC 3**	**Vermi culture**	**CO1**	Identify eco-friendly revolution in the agricultural practices and technologies which is the need of the present day
				CO2	Explain the Earthworm diversity and physic chemical parameters for ermiculture. Apply agricultural technologies which are cost-

					effective.
				CO3	Apply the role of earthworm gut microbes in germination of seeds and growth of plants.
				CO4	Analyse applications and financial aids for vermi culture.
7	**III / V**	**DSC 2E, BS 516**	**Paper V Immunology and Animal Biotechnology**	**CO1**	Illustrate the essence of Immunology and Biotechnology from its historic beginnings
				CO2	Extend in-depth knowledge on the role of tissues, cells and molecules involved in host defence mechanisms and understanding types of immunity
				CO3	Identify interactions of antigens, antibodies, complements, other immune components. Immune mechanisms in disease control and process of immune interactions
				CO4	Identify the concept of immunization in the control of fatal diseases, types of cloning, Animal cell culture Stem cell applications and Recombinant DNA Technology in Vaccine production.
				CO5	Analyse the blood cells, Blood grouping and Enumeration of RBC and WBC in given blood samples. Build knowledge in Advanced Biotechnology, using charts and images of instruments. Explore and apply the virtual learning tools for understanding advanced Molecular Biology techniques.
8	**III / V**	**Paper V- GE - 1**	**GE-1 Preventive Medicine**	**CO1**	Illustrate the types of medicine, antiquity & modern, also role of medicine in community care.
				CO2	Identify the dimensions & determinants of health for improving the concept of wellbeing and the standards of life.
				CO3	Identify the measures of epidemiological methods and apply (3) for observational and experimental studies
				CO4	Build the concept of epidemiology, its measures in understanding disease transmission.
				CO5	Analyse the concept of disease ransmission, concepts of control, preventive measure, screening the status of disease transmission. Explore and apply various health programs of India and understand the essence of health care system.
9	**III /VI**	**BS 616N DSC 2F**	**Paper VI Ecology, Zoogeography and Evolution**	**CO1**	Illustrate the structure of Ecosystem, the interaction and association of living things among themselves and with their environment
				CO2	Illustrate the animal behaviour to understand the response of an organism to stimulus and identify the adaptations with their habitat
				CO3	Identify Environmental Pollution and its control

					measures.
				CO4	Explain methods of wildlife conservation, distinguish endangered species, Biodiversity and Biodiversity hotspots.
				CO5	Examine the level of salts, carbonates, Dissolved oxygen in polluted water bodies and analyse pond Ecosystem for pollution levels. Explain the theories & concept of evolution of species.
10	**III /VI**	**BS 660A**	**Project**	**CO1**	Understand the basics of research and Identify the research problem.
				CO2	Illustrate the experimental work, write the synopsis, and plan of work
				CO3	Explain the project experiment and examine the data.
				CO4	Interpret the result.

BSC-LIFE SCIENCE (BOTANY)					
S. NO	SEM	**Course Code**	**Course Title**	**CourseOutcomes (COs)**	
1	I	BS104	**MICROBIAL DIVERSITY AND LOWER PLANTS**	**CO1**	Explain origin of life on the earth, Illustrate diversity among the viruses and prokaryotic organisms and can categorize them.
				CO2	Classify fungi, lichens, algae and bryophytes based on their structure, reproduction and life cycles, Analyse and ascertain the plant disease symptoms due to viruses, bacteria and fungi.
				CO3	Recall and explain the evolutionary trends among amphibians of plant kingdom for their shift to land habitat.
				CO4	Evaluate the ecological and economic value of microbes, thallophytes and bryophytes.
2	II	BS204	**GYMNOSPERMS, TAXONOMYOF ANGIOSPERMS AND ECOLOGY**	**CO1**	Classify and compare Pteridophytes and Gymnosperms based on the morphology, anatomy, reproduction and life cycles.
				CO2	Explain the process of fossilization and compare the characteristics of extinct and extant plants, critically understand various taxonomical aids for identification of Angiosperms.
				CO3	Analyse the morphology of the most common Angiosperm plants of their localities and recognize their families.
				CO4	Evaluate the ecological, ethnic and economic value of different tracheophytes are summarize their goods and services for human welfare.
3	**III**	**BS 304**	**PLANT ANATOMY AND EMBROLOGY**	**CO1**	Understand on the organization of tissues and tissue systems in plants.
				CO2	Illustrate and interpret various aspects of embryology.

				CO3	Provides information on vascular cambium and anomalous secondary growth of stem and root.
				CO4	Gives brief discussion of the structure and morphology of anther, microsporogenesis, megasporogenesis, It deals with the processes like pollination and fertilization
3	IV	BS404	**CELL BIOLOGY GENETIC AND PLANT PHYSIOLOGY**	**CO1**	Comprehend the importance of water in plant life and mechanisms for transport of water and solutes in plants, Evaluate the role of minerals in plant nutrition and their deficiency symptoms.
				CO2	Critically understand the light reactions and carbon assimilation processes responsible for synthesis of food in plants.
				CO3	Explain the organization of a eukaryotic chromosome and the structure of genetic material, demonstrate techniques to observe the cell and its components under a microscope.
				CO4	Discuss the basics of Mendelian genetics, its variations and interpret inheritance of traits in living beings, Elucidate the role of extra-chromosomal genetic material for inheritance of characters, evaluate the structure, function and regulation of genetic material.
4	V	BS502	**BIODIVERSITY AND CONSERVATION**	**CO1**	Serves as an introductory launchpad to understand the basic concepts of biodiversity. It gives an insight into the different levels of plant diversity.
				CO2	It presents an expanded coverage of loss of genetic, species, ecosystem and agrobiodiversity.
				CO3	It also discusses on several prominent organizations responsible for management of plant biodiversity.
				CO4	It describes the principles of conservation of genetic, species and ecosystem biodiversity. It also elaborates on INSITU and EXSITU conservation plant species.
5	VI	BS602	**Plant tissue Culture and biotechnology**	**CO1**	IllustratePast and present of plant cultures in vitro. Equipment of plant culture laboratory, media, sterility.
				CO2	Explain Totipotency and hormonal regulation of organogenesis in plants.
				CO3	Types of plant cell and tissue cultures in vitro, Somatic embryogenesis. Soma clonal variation.
				CO4	Somatic hybrid plants -protoplast fusion.
				CO5	DescribesBioreactors and production of secondary metabolites Culture iodisation.

B.COM (REGULAR)

SL.NO	Programme	Programme Outcomes (POs)	Programme Specific Outcomes (PSOs)

1	**B.COM(COMMERCE)**	**PO1**: Demonstrate conceptual knowledge of Financial Accounting, Business Economics, Advanced Accounting, Cost Accounting, Business Laws, Banking and Finance, Foreign Trade, Taxation, Principles of Management, and Entrepreneurship skills to face challenges of the dynamic business world. (L2) **PO2:** Apply practical knowledge of Business, Accounting and Entrepreneurship skills acquired to develop ideas which enable them to establish their own business idea or in managing a new business. (L-3) **PO3:** Develop communication skills, soft skills and interpersonal skills which aids in interacting with various stakeholders of business. (L-3) **PO4**: Analyse statistical data to undertake qualitative analysis which will help in future research projects. (L-4) **PO5:** Choose skills to excel in fields such as Chartered Accountants, Company Secretaries, Auditors, Accountants in both Government and Private Sectors, Teachers and Researchers. (L-3) PO6: Build critical thinking skills by taking informed actions after identifying the various alternatives from different perspectives. (L-3) **PO7:** Develop self-directed lifelong learning for future personal and professional endeavours. (L-3) **PO8:** Make use of Moral, Ethical and Human Values which will lead to sustainable development both in their business and the environment. (L-3)	**B.COM (REGULAR)** **PSO1:** Gain knowledge and demonstrate the subject skills within various disciplines of commerce, business management, accounting, economics, banking, insurance, finance and auditing. Apply both quantitative and qualitative knowledge in their future careers in business. (L-2, L-3) **PSO2:** Identify the features and roles of businessmen, interpret soft skills to react aptly in decision making, and problem-solving. Choose opportunities in research, report writing, publishing, and communication skills. (L-3) **PSO3**: Acquire basic knowledge of subjects which enables them toselect future career options in core finance and accounting to pursue professional courses and research in the field of commerce & finance. (L-3) **B.COM (COMPUTER APPLICATIONS)** **PSO1**: Gain knowledge and demonstrate the subject skills within various disciplines of commerce, business management, accounting, economics, banking, insurance, finance and auditing. Apply both quantitative and qualitative knowledge in their future careers in business. **PSO2**: Identify the features and roles of businessmen, interpretsoft skills to react aptly in decision making, and problem-solving. Choose opportunities in research, report writing, publishing, and communication skills. **PSO3**: Extendthe concepts of technology at foundational level to understand theimportance

			and acquire programming skills. Acquirenecessary IT skills with the motive to developweb pages and learn about the backend functionalities at a rudimentary level. **B.COM (HONOUR)** **PSO1:** Demonstrate a comprehensive understanding of fundamental business principles spanning various disciplines including finance, marketing and human resources(L2) **PSO2:** Apply theoretical knowledge to analyseand solve complex businesschallenges, strategicallyidentify underlying issues. (L3, L4) **PSO3:** Integrate diverse knowledge domains to develop innovative business solutions that utilise digital tools, understand customer behaviour, and streamline operations, ultimately driving business growth and maintaining a competitive edge. (L3)

	B COM (REGULAR) COURSE OUTCOMES				
S.NO	**SEM**	**Course Code**	**Course Title**		**Course Outcomes (COs)**
1	I	**DSC 101**	**Financial Accounting**	**CO1**	Recall and explain of Journal entries, Subsidiary books using Double Entry System, postings into ledgers and knowledge of accounting cycle.
				CO2	To outline the variations in Cash and Bank Balance and reconcile them.
				CO3	Know and summarize the various types of errors. Demonstrate their rectification
				CO4	Learn and interpret the various methods of depreciation and its accounting treatment
				CO5	Recall and show the preparation of the

					Financial Statement of a sole trading concern.
2	I	**DSC 102**	**Business Organisation & Management**	**CO1**	List the concepts of Business.
				CO2	Classify and compare various forms of Business Organisation
				CO3	Explain various stages of formation of a company, important documents required, sources of finance and the regulations to be complied for the formation of company.
				CO4	Recall the functions, objectives and principles of management. Explain the types of organisations, apply the principles and process of planning to Organisations
				CO5	Apply the principles of management to practical solutions in day-to-day business situations
				CO6	Interpret the construction and characteristics of various photoelectric devices.
3	I	**DSC 103**	**Foreign Trade**	**CO1**	Recall foreign trade, its types and documents used. Demonstrate various bills and certificates
				CO2	Show the components of Balance of Trade & Balance of Payments and explain remedies for correcting balance of payment in International Trade.
				CO3	Understand What is Indian Trade policy, Export& Import policy and its Implementation
				CO4	Define growth, significance, merits-Demerits of Foreign trade &Trade Blocs
				CO5	Explain aims & objectives, features, subsidiaries of the World Bank and other Economic institutions. Understand the concepts of various types of trading practices across the world.
4	II	**DSC 201**	**Financial Accounting II**	**CO1**	Define bills of exchange and demonstrate its accounting treatment
				CO2	Distinguish between consignment and sale .Explain the various types of commission its accounting treatment
				CO3	Name the methods of Joint venture Accounting and Demonstrate the preparation of accounts for Temporary

					Partnership business.
				CO4	Recall accounting under Incomplete Records and demonstrate the concept of conversion of Single Entry into Double Entry system
				CO5	Explain the concept of Accounting for Non-profit organisations and its accounting treatment.
5	II	**DSC 202**	**Business Law**	**CO1**	Explain the legal framework on Business Laws and make use of its orientation for efficient and effective utilisation.
				CO2	Interpret provisions regard to performance of a contract and analyse the circumstances which lead to the remedies in the event of breach of a contract
				CO3	Demonstrate recognition of intellectual property, Identify how computer law affects business Analyse the nature and terminology of contract law.
				CO4	Explain the fundamental principle of companies Act 2013 recall and interpret with company Act 1956. Distinguish a company from partnership, list out the types of companies and understand the corporate personality.
				CO5	Classify the types of meeting conducted its requisites .Explain the types of winding up its procedure, modes of appointment of liquidator with powers and duties and the rules relating to the bankruptcy and insolvency
6	II	**DSC 203**	**Banking and Financial Services**	**CO1**	Understand and Recall the basic concepts in banking industry.
				CO2	Explain and define the role, functions and broad activities of RBI in the Indian financial system .Identify banker, customer relationships.
				CO3	Outline the types of banks and different policies and procedures in the banking sector. Apply the knowledge of negotiable instruments.
				CO4	Understand and classify financial services, identify new financial products and analyse the challenges of the financial sector.
				CO5	Appraise their knowledge of Merchant banking, Venture Capital, leasing and

					factoring.
7	III	**SEC 2**	**Principles of Insurance**	**CO1**	Explain the various types of risks and principles of insurance.
				CO2	Outline the role of insurance in economic development
				CO3	List the constituents of insurance markets and explain its operations.
				CO4	Relate the functioning of Insurance companies under the regulatory body IRDA.
8	III	**DSC 301**	**Advanced Accounting**	**CO1**	solve the problems of change in existing partnership. Differentiate between the dissolution of firm and dissolution of partnership and apply the same in the preparation of final accounts.
				CO2	Analyse the various types of capital structure and evaluate the different situations of capital issue to the public and their representation in the balance sheet of the company.
				CO3	Define bonus shares and know the appropriate time to make use of it in the company
				CO4	Prepare the financial statements of the company and choose an appropriate division of the profits. Show the division of expenses and Incomes to calculate profits between pre- &post-incorporation periods
				CO5	Evaluate and choose the appropriate method for valuing shares and goodwill to measure the financial position accordingly.
9	III	**DSC 302**	**Business Statistics I**	**CO1**	Explain the concepts, tools and techniques used in business statistical analysis and the various methods of collection of data.
				CO2	Illustrate diagrams and graphs to visually display, analyse, clarify and choose numerical data for managerial decision making.
				CO3	Solve problems on averages and apply in business environments
				CO4	Apply the knowledge of various measures of skewness. Explain the various measures of dispersion and its relationships with an average.
				CO5	Understand the concept of correlation and solve problems related to its various methods.

10	III	**DSC 303**	**Financial Institutes And Markets**	**CO1**	Explain the components of Indian Financial system and the examine various areas Banks have expanded.
				CO2	Illustrate the various functions of Money market, its components and regulatory authorities
				CO3	Demonstrate the idea of Debt Market in India)
				CO4	Apply the knowledge of financial markets comprising securities, bonds and their ratings
				CO5	Discuss the operations of Equity market and explain its growth. Identify the role of SEBI in India
11	IV	**SEC 4**	**Ractice Of Life And General Insurance**	**CO1**	OUTLINE the knowledge regarding insurance products and associated services for Life Insurance business. Understand underwriting and policy making for Life Insurance business and premium calculation and claims under various circumstances
				CO2	Understand customer service within Life Insurance business and the importance of good customer relationships.
				CO3	Outline the knowledge regarding insurance products and associated services for general insurance business
				CO4	Develop information relating to settlement of claims risk & underwriting, financial planning and tax saving
12	IV	**DSC 401**	**INCOME TAX**	**CO1**	Explain the different types of residential status of an assessed and solve problems related to the same. Summarise agricultural income and state its conditions and provisions.
				CO2	Computation of income from Salary and identify the deductions to be considered. Outline income from house property and learn to utilize its deductions.
				CO3	Explain the concept of income from Business or Profession. Define the concepts of capital gain and income from other sources.
				CO4	Define the structure of clubbing and aggregation of income tax and explain the provision of set off carry forward of losses.
				CO5	Interpret the concept of Tax liability of

					individuals and firms. Outline the concept of income tax assessment procedures.
13	IV	**DSC 402**	**Business Statistics II**	**CO1**	: Explain the techniques of regression analysis and time series to forecast, predict and solve business problems.
				CO2	understand the various types of Index numbers and choose the appropriate type of index number to solve problems of production and employment in business,
				CO3	Explain the components of time series and apply it in various business situations.
				CO4	Explain the concepts of probability and relate it with the business environment
				CO5	Infer various methods of probability distributions and distinguish between theoretical and experimental probabilities
14	**IV**	**DSC 403**	**Corporate Accounting**	**CO1**	Prioritise the payment of the company's debts in preparing accounting records necessary for liquidation
				CO2	Explain the concepts of Amalgamation and learn valuation techniques of mergers & acquisition assessment to apply in decision-making.
				CO3	Appreciate the need for reconstruction of companies and construct the balance sheet after internal reconstruction
				CO4	Develop the ability to prepare the financial statements under the banking regulatory environment.
				CO5	Solve the problems on claim settlement and prepare Final Accounts for insurance companies.
15	IV	**GE**	**Business Economics**	**CO1**	Recall the basic concepts like the nature and characteristics of business economics, laws of diminishing and equip marginal utility
				CO2	Interpret the concept of demand, along with its elasticities under different market conditions to understand consumers' equilibrium and consumer surplus
				CO3	summarise the indifference curve analysis andoutlinethe factors affecting the supply in various market conditions
				CO4	Explain the factors affecting firms such as production, costs and revenue and build the relationship of marginal curves under different market structures

				CO5	: Outline the economic issues and policies of cost and revenue analysis
16	IV	**DSE 501 (a)**	**Cost Accounting**	**CO1**	Recall the different branches of accounting and explain the importance & scope of Cost Accounting its installation &, Essentials.
				CO2	Recognize and choose appropriate theories, principles and concepts relevant to cost accounting.
				CO3	Explain the methods of calculating value of stock and maintain stock level for consumption, methods of calculating wage rates and distribution of overheads to production centres.
				CO4	Demonstrate the knowledge of unit costing in preparation of tenders and quotations. Understand the preparation of Job cost sheet
				CO5	Solve various problems of contract costing to calculate profit.
17	V	**DSE 502 (a)**	**Computerised Accounting**	**CO1**	Understand and demonstrate the role of computerised accounting software in the business environment
				CO2	Grasp the knowledge of creating a company, Classify the groups to create the ledger accounts to make use of them in generating vouchers entries in Tally ERP9.
				CO3	Record accounting voucher entries including advance voucher entries to construct virtual financial statements to measure the financial Position of a company.
				CO4	Apply the process of maintaining inventory and day -to-day transactions in recording with tally accounting software
				CO5	Develop the ability to generate MIS reports and learn to communicate financial positions with third parties.
18	V	**DSE 503 (a)**	**AUDITING**	**CO1**	Classify various concepts of auditing and explain briefly the development of the role of the auditor in modern business society.
				CO2	For major transaction types and account balances, find appropriate assertions at risk and apply appropriate audit procedures to test the assertions identified.
				CO3	Explain auditor's legal liabilities, compare different types of audit reports and explain the procedure for appointment and removal

					of a company auditor
				CO4	Define the necessary quality control procedures.
				CO5	Outline professional ethics including Code of Conduct to specific scenarios.
19	VI	**Paper PR**	**RESEARCH METHODOLOGY & PROJECT WORK**	**CO1**	Define research problem. Identify the steps in selection of research problem and develop various research designs.
				CO2	Illustrate collected by various methods such as interview, questionnaires to develop a hypothesis.
				CO3	Analyse the problem by statistical techniques such as F-test, Chi- Square test, Anuran compile a research report.
20	VI	**DSE 601 (a)**	**COST CONTROL AND MANAGEMENT ACCOUNTING**	**CO1**	Explain the importance of Management Accounting and explain various Managerial functions.
				CO2	Analyse and provide recommendations to improve the operations of organisations through cost and management accounting techniques.
				CO3	Explain various decision-making techniques used for internal reporting.
				CO4	Analyse cost volume profit techniques to determine optimal managerial decisions and define terms such as Budget, Budgeting & Budgetary Control .
				CO5	Compare the actual and predetermined cost through variance analysis.
21	**VI**	**DSE 602 (a)**	**Theory & Practice Of GST**	**CO1**	Explain the terms related to CGST, IGST Act, provisions, levy, collection of GSTS and filing various returns to know ITC and net tax liability
				CO2	Make use of Tally ERP9 accounting software to record, file and generate reports of GST
				CO3	Explain the advance entries and adjustments relating to various transactions
				CO4	Apply the provisions of payment of tax, interest, TDS, TCS, refund and returns
22	VI	**DSC 603 (a)**	**Accounting Standards**	**CO1**	Define concepts, importance of accounting standards and need for convergence of accounting standards with IFR
				CO2	Explain the formulation of accounting standards and the procedure for issue of accounting standards.
				CO3	Outline the accounting standards and understand technical terms related to

					accounting standard
				CO4	Apply accounting standards in preparation of financial statements.
				CO5	Understand the IndAS and explain its importance and benefits.

B COM (COMPUTER APPLICATIONS) COURSE OUTCOMES

S.NO	SEM	Course Code	Course Title		Course Outcomes (COs)
1	I	**DSC 101**	**Financial Accounting**	**CO1**	Recall and explain of Journal entries, Subsidiary books using Double Entry System, postings into ledgers and knowledge of accounting cycle.
				CO2	To outline the variations in Cash and Bank Balance and reconcile them.
				CO3	Know and summarize the various types of errors. Demonstrate their rectification
				CO4	Learn and interpret the various methods of depreciation and its accounting treatment
				CO5	Recall and show the preparation of the Financial Statement of a sole trading concern.
2	I	**DSC 102**	**Business Organisation & Management**	**CO1**	List the concepts of Business.
				CO2	Classify and compare various forms of Business Organisation
				CO3	Explain various stages of formation of a company, important documents required, sources of finance and the regulations to be complied for the formation of company.
				CO4	Recall the functions, objectives and principles of management. Explain the types of organisations, apply the principles and process of planning to Organisations
				CO5	Apply the principles of management to practical solutions in day-to-day business situations
				CO6	Interpret the construction and

					characteristics of various photoelectric devices.
3	I	**DSC 103**	**FUNDAMENTALS OF INFORMATION TECHNOLOGY**	**CO1**	Recall the basic ideas behind networking, hardware, and software in information technology
				CO2	Describe the fundamentals of data representation and number system conversion.
				CO3	Employ word processing, spreadsheets, and presentation software .
				CO4	Understand how operating systems and application software work
				CO5	Utilize your understanding of networking fundamentals to debug small-scale computer networks.
4	II	**DSC 201**	**Financial Accounting II**	**CO1**	Define bills of exchange and demonstrate its accounting treatment
				CO2	Distinguish between consignment and sale .Explain the various types of commission its accounting treatment
				CO3	Name the methods of Joint venture Accounting and Demonstrate the preparation of accounts for Temporary Partnership business.
				CO4	Recall accounting under Incomplete Records and demonstrate the concept of conversion of Single Entry into Double Entry system
				CO5	Explain the concept of Accounting for Non-profit organisations and its accounting treatment.
5	II	**DSC 202**	**Business Law**	**CO1**	Explain the legal framework on Business Laws and make use of its orientation for efficient and effective utilisation.
				CO2	Interpret provisions regard to performance of a contract and analyse the circumstances which lead to the remedies in the event of breach of a contract
				CO3	Demonstrate recognition of intellectual property, Identify how computer law affects business Analyse the nature and terminology of contract law.
				CO4	Explain the fundamental principle of companies Act 2013 recall and interpret with company Act 1956. Distinguish a

					company from partnership, list out the types of companies and understand the corporate personality.
				CO5	Classify the types of meeting conducted its requisites .Explain the types of winding up its procedure, modes of appointment of liquidator with powers and duties and the rules relating to the bankruptcy and insolvency
6	II	**DSC 203**	**PROGRAMMING WITH C & C ++**	**CO1**	Interpret and understand the structure, syntax and semantics of C++ programming
				CO2	Recall structure-oriented concept of C-language to Build structure-oriented C++ programs.
				CO3	Explain the dynamic memory management techniques using pointers, new and delete keywords and constructor, destructor concepts too Compare the static and dynamic polymorphism concepts and model the data abstraction
				CO4	Classify different types of inheritance and utilise the reusability concept in programming Explain what is exception and examine the possibilities of exception in program.
				CO5	Interpret various operations performed on Stacks, Queues and linked list.
7	III	**SEC 2**	**Principles of Insurance**	**CO1**	Explain the various types of risks and principles of insurance.
				CO2	Outline the role of insurance in economic development
				CO3	List the constituents of insurance markets and explain its operations.
				CO4	Relate the functioning of Insurance companies under the regulatory body IRDA.
8	III	**DSC 301**	**Advanced Accounting**	**CO1**	solve the problems of change in existing partnership. Differentiate between the dissolution of firm and dissolution of partnership and apply the same in the preparation of final accounts.
				CO2	Analyse the various types of capital structure and evaluate the different situations of capital issue to the public and their representation in the balance sheet of the company.

				CO3	Define bonus shares and know the appropriate time to make use of it in the company
				CO4	Prepare the financial statements of the company and choose an appropriate division of the profits. Show the division of expenses and Incomes to calculate profits between pre- &post-incorporation periods
				CO5	Evaluate and choose the appropriate method for valuing shares and goodwill to measure the financial position accordingly.
9	III	**DSC 302**	**Business Statistics I**	**CO1**	Explain the concepts, tools and techniques used in business statistical analysis and the various methods of collection of data.
				CO2	Illustrate diagrams and graphs to visually display, analyse, clarify and choose numerical data for managerial decision making.
				CO3	Solve problems on averages and apply in business environments
				CO4	Apply the knowledge of various measures of skewness. Explain the various measures of dispersion and its relationships with an average.
				CO5	Understand the concept of correlation and solve problems related to its various methods.
10	III	**DSC 303**	**RELATIONAL DATABASE MANAGEMENT**	**CO1**	Interpret what is file-based system and DBMS and advantages of DBMS over File based system
				CO2	Outline the three levels of logical DBMS architecture and it's need explain different types of data models and integrity constraints
				CO3	Demonstrate on ER model and can apply it to Develop conceptual models of a database Explain and examine different types of anomalies, data redundancy and apply various types of normalization techniques
				CO4	Compare and contrast different types file organizations like Sequential, indexed, hashed. Demonstrate different types of query commands develop databases and select any type of information from a database by formulating complex queries in SQL.
				CO5	Explain what are concurrent transactions, discover problems in concurrent transactions and choose different locking protocols atom

					do Database recovery Outline the DDBMS and Client-Server architecture
11	IV	**SEC 4**	**RACTICE OF LIFE AND GENERAL INSURANCE**	**CO1**	OUTLINE the knowledge regarding insurance products and associated services for Life Insurance business. Understand underwriting and policy making for Life Insurance business and premium calculation and claims under various circumstances
				CO2	Understand customer service within Life Insurance business and the importance of good customer relationships.
				CO3	Outline the knowledge regarding insurance products and associated services for general insurance business
				CO4	Develop information relating to settlement of claims risk & underwriting, financial planning and tax saving
12	IV	**DSC 401**	**INCOME TAX**	**CO1**	Explain the different types of residential status of an assessed and solve problems related to the same. Summarise agricultural income and state its conditions and provisions.
				CO2	Computation of income from Salary and identify the deductions to be considered. Outline income from house property and learn to utilize its deductions.
				CO3	Explain the concept of income from Business or Profession. Define the concepts of capital gain and income from other sources.
				CO4	Define the structure of clubbing and aggregation of income tax and explain the provision of set off carry forward of losses.
				CO5	Interpret the concept of Tax liability of individuals and firms. Outline the concept of income tax assessment procedures.
13	IV	**DSC 402**	**Business Statistics II**	**CO1**	Explain the techniques of regression analysis and time series to forecast, predict and solve business problems.
				CO2	understand the various types of Index numbers and choose the appropriate type of index number to solve problems of production and employment in business,
				CO3	Explain the components of time series and apply it in various business situations.
				CO4	Explain the concepts of probability and

					relate it with the business environment
				CO5	Infer various methods of probability distributions and distinguish between theoretical and experimental probabilities
14	IV	**DSC 403**	**WEB TECHNOLOGY**	**CO1**	Demonstrate the important HTML tags for designing static pages
				CO2	List the basic html tags and extend his/her knowledge to create dynamic web pages with CSS.
				CO3	List the programming fundamentals like data types, variable, operators, Control structures and apply them for Java script functionality
				CO4	Illustrate about DOM and utilize it with java script to create dynamic UI outline and apply different types of event handling mechanism in dynamic web pages.
				CO5	Demonstrate on XML Query language and Build well-formed XML Document and implement Web Service. Demonstrate and develop simple web application.
15	IV	**GE**	**Business Economics**	**CO1**	Recall the basic concepts like the nature and characteristics of business economics, laws of diminishing and equip marginal utility
				CO2	Interpret the concept of demand, along with its elasticities under different market conditions to understand consumers' equilibrium and consumer surplus
				CO3	summarise the indifference curve analysis and outline the factors affecting the supply in various market conditions
				CO4	Explain the factors affecting firms such as production, costs and revenue and build the relationship of marginal curves under different market structures .
				CO5	Outline the economic issues and policies of cost and revenue analysis.
16	IV	**DSE 501 (a)**	**COST ACCOUNTING**	**CO1**	Recall the different branches of accounting and explain the importance & scope of Cost Accounting its installation &, Essentials.
				CO2	Recognize and choose appropriate theories, principles and concepts relevant to cost accounting.
				CO3	Explain the methods of calculating value of stock and maintain stock level for consumption, methods of calculating

					wage rates and distribution of overheads to production centres.
				CO4	Demonstrate the knowledge of unit costing in preparation of tenders and quotations. Understand the preparation of Job cost sheet
				CO5	Solve various problems of contract costing to calculate profit.
17	V	**DSE 502 (a)**	**Computerised Accounting**	**CO1**	Understand and demonstrate the role of computerised accounting software in the business environment
				CO2	Grasp the knowledge of creating a company, Classify the groups to create the ledger accounts to make use of them in generating vouchers entries in Tally ERP9.
				CO3	Record accounting voucher entries including advance voucher entries to construct virtual financial statements to measure the financial Position of a company.
				CO4	Apply the process of maintaining inventory and day -to-day transactions in recording with tally accounting software
				CO5	Develop the ability to generate MIS reports and learn to communicate financial positions with third parties.
18	V	**DSE 503 (a)**	**E-COMMERCE**	**CO1**	Demonstrate various types of E-commerce and list examples
				CO2	Outline and identify requirements of e-commerce with real time examples
				CO3	Compare and contrast different types of networking protocols explain different types of data encryption techniques and can examine the need of encryption technique for data transfer through network
				CO4	List applications of E-commerce and List different electronic payment systems for E - commerce. Illustrate EDI standards, types, implementation and applications along with legal, security and privacy issues
				CO5	Explain, identify different types of online marketing demonstrate and identify various types of E-advertising techniques.
19	VI	**Paper PR**	**RESEARCH METHODOLOGY & PROJECT**	**CO1**	Define research problem. Identify the steps in selection of research problem and develop various research designs.
				CO2	Illustrate collected by various methods

			WORK		such as interview, questionnaires to develop a hypothesis.
				CO3	Analyse the problem by statistical techniques such as F-test, Chi- Square test, Anuran compile a research report.
20	VI	**DSE 601 (a)**	**COST CONTROL AND MANAGEMENT ACCOUNTING**	**CO1**	Explain the importance of Management Accounting and explain various Managerial functions.
				CO2	Analyse and provide recommendations to improve the operations of organisations through cost and management accounting techniques.
				CO3	Explain various decision-making techniques used for internal reporting.
				CO4	Analyse cost volume profit techniques to determine optimal managerial decisions and define terms such as Budget, Budgeting & Budgetary Control .
				CO5	Compare the actual and predetermined cost through variance analysis. (L-3)
21	VI	**DSE 602 (a)**	**THEORY & PRACTICE OF GST**	**CO1**	Explain the terms related to CGST, IGST Act, provisions, levy, collection of GSTS and filing various returns to know ITC and net tax liability
				CO2	Make use of Tally ERP9 accounting software to record, file and generate reports of GST
				CO3	Explain the advance entries and adjustments relating to various transactions
				CO4	Apply the provisions of payment of tax, interest, TDS, TCS, refund and returns
				CO5	Explain the time value and place value of supply.
22	VI	**DSC 603 (a)**	**CYBER SECURITY**	**CO1**	**Explain** the significance of cybersecurity
				CO2	Identify basic security protocols used in network communication. Interpret the relationship between security policies, procedures, and risk management strategies.
				CO3	Utilize cybersecurity tools and techniques to identify vulnerabilities in systems and networks Implement security measures to safeguard against common cyber threats
				CO4	Analyse security and incidents to identify root causes and recommend preventive measures. Describe the differences between symmetric and unsymmetrical encryption

					algorithms.
				CO5	Create incident response plans to effectively manage and mitigate cybersecurity incidents.

	B COM (HONOURS) COURSE OUTCOMES				
S.NO	**SEM**	**Course Code**	**Course Title**		**Course Outcomes (COs)**
1	I	**DSC 101**	**Financial Accounting**	**CO1**	Recall and explain of Journal entries, Subsidiary books using Double Entry System, postings into ledgers and knowledge of accounting cycle.
				CO2	To outline the variations in Cash and Bank Balance and reconcile them.
				CO3	Know and summarize the various types of errors. Demonstrate their rectification
				CO4	Learn and interpret the various methods of depreciation and its accounting treatment
				CO5	Recall and show the preparation of the Financial Statement of a sole trading concern.
2	I	**DSC 102**	**Business Organisation & Management**	**CO1**	List the concepts of Business.
				CO2	Classify and compare various forms of Business Organisation
				CO3	Explain various stages of formation of a company, important documents required, sources of finance and the regulations to be complied for the formation of company.
				CO4	Recall the functions, objectives and principles of management. Explain the types of organisations, apply the principles and process of planning to Organisations
				CO5	Apply the principles of management to practical solutions in day-to-day business situations
				CO6	Interpret the construction and characteristics of various photoelectric devices.
				CO1	Recall foreign trade, its types and documents used. Demonstrate various bills and certificates
				CO2	Show the components of Balance of Trade & Balance of Payments and explain remedies for correcting balance of payment in

3	I	**DSC 103**	**FOREIGN TRADE**		International Trade.
				CO3	Understand What is Indian Trade policy, Export& Import policy and its Implementation
				CO4	Define growth, significance, merits-Demerits of Foreign trade &Trade Blocs
				CO5	Explain aims & objectives, features, subsidiaries of the World Bank and other Economic institutions. Understand the concepts of various types of trading practices across the world
4	I	**DSC 104**	**Business Economics**	**CO1**	Recall the basic concepts like the nature and characteristics of business economics, Interpret the concept of demand and supply.
				CO2	Summarise the indifference curve analysis andoutline the factors affecting the supply in various market conditions.
				CO3	Explain the factors affecting firms such as production, costs and revenue and outline the concept of Managerial Economics and examine the tools used. Explain the roles and responsibilities of a managerial economist
				CO4	Compare the techniques of demand forecasting and select the best forecasting technique.
				CO5	Classify market structure and analyse the price and revenue of the firm under different market conditions.
				CO6	Recall and relate to the concepts of macroeconomics such as business cycle, national income and GDP. Analyse the concept of Inflation, Deflation and Stagflation in addition to monetary policy, fiscal policy anditsobjectives
5	II	**DSC 201**	**Financial Accounting II**	**CO1**	Define bills of exchange and demonstrate its accounting treatment
				CO2	Distinguish between consignment and sale .Explain the various types of commission its accounting treatment
				CO3	Name the methods of Joint venture Accounting and Demonstrate the preparation of accounts for Temporary Partnership business.
				CO4	Recall accounting under Incomplete Records and demonstrate the concept of conversion of Single Entry into Double Entry system

				CO5	Explain the concept of Accounting for Non-profit organisations and its accounting treatment.
6	II	**DSC 202**	**Business Law**	**CO1**	Explain the legal framework on Business Laws and make use of its orientation for efficient and effective utilisation.
				CO2	Interpret provisions regard to performance of a contract and analyse the circumstances which lead to the remedies in the event of breach of a contract
				CO3	Demonstrate recognition of intellectual property, Identify how computer law affects business Analyse the nature and terminology of contract law.
				CO4	Explain the fundamental principle of companies Act 2013 recall and interpret with company Act 1956. Distinguish a company from partnership, list out the types of companies and understand the corporate personality.
				CO5	Classify the types of meeting conducted its requisites .Explain the types of winding up its procedure, modes of appointment of liquidator with powers and duties and the rules relating to the bankruptcy and insolvency
7	II	**DSC 203**	**Banking and Financial Services**	**CO1**	Understand and Recall the basic concepts in banking industry.
				CO2	Explain and define the role, functions and broad activities of RBI in the Indian financial system .Identify banker, customer relationships.
				CO3	Outline the types of banks and different policies and procedures in the banking sector. Apply the knowledge of negotiable instruments.
				CO4	Understand and classify financial services, identify new financial products and analyse the challenges of the financial sector.
				CO5	Appraise their knowledge of Merchant banking, Venture Capital, leasing and factoring.
8	V	**DSC 204**	**FINANCIAL MANAGEMENT**	**CO1**	Demonstrate their knowledge of wealth Maximisation and role of finance managers in the current business situations.
				CO2	Apply the concepts of long-term decision making to practical solutions in business

				CO3	Identify the need for operating cycles and demonstrate a knowledge of working capital components.
				CO4	Assess the theories of capital structures and explain the factors leading to financial decision making.
				CO5	Discuss the various types of dividend policies and its importance.
9	III	**SEC 2**	**Principles of Insurance**	**CO1**	Explain the various types of risks and principles of insurance.
				CO2	Outline the role of insurance in economic development
				CO3	List the constituents of insurance markets and explain its operations.
				CO4	Relatet he functioning of Insurance companies under the regulatory body IRDA.
10	III	**DSC 301**	**Advanced Accounting**	**CO1**	solve the problems of change in existing partnership. Differentiate between the dissolution of firm and dissolution of partnership and apply the same in the preparation of final accounts.
				CO2	Analyse the various types of capital structure and evaluate the different situations of capital issue to the public and their representation in the balance sheet of the company.
				CO3	Define bonus shares and know the appropriate time to make use of it in the company
				CO4	Prepare the financial statements of the company and choose an appropriate division of the profits. Show the division of expenses and Incomes to calculate profits between pre-&post-incorporation periods
				CO5	Evaluate and choose the appropriate method for valuing shares and goodwill to measure the financial position accordingly.
11	III	**DSC 302**	**Business Statistics I**	**CO1**	Explain the concepts, tools and techniques used in business statistical analysis and the various methods of collection of data.
				CO2	Illustrate diagrams and graphs to visually display, analyse, clarify and choose numerical data for managerial decision making.
				CO3	Solve problems on averages and apply in business environments
				CO4	Apply the knowledge of various measures of skewness. Explain the various measures of dispersion and its relationships with an average.

				CO5	Understand the concept of correlation and solve problems related to its various methods.
12	III	**DSC 303**	**FINANCIAL INSTITUTES AND MARKETS**	**CO1**	Explain the components of Indian Financial system and the examine various areas Banks have expanded.
				CO2	Illustrate the various functions of Money market, its components and regulatory authorities
				CO3	Demonstrate the idea of Debt Market in India)
				CO4	Apply the knowledge of financial markets comprising securities, bonds and their ratings
				CO5	Discuss the operations of Equity market and explain its growth. Identify the role of SEBI in India
13	III	**DSC 304**	**INVESTMENT MANAGEMENT**	**CO1**	Explain the concept of Investment Management. Apply their knowledge of investment decisions.
				CO2	Make use of their ability to assess risk and return in financial markets
				CO3	Make use of their ability to assess risk and return in financial markets
				CO4	Demonstrate the knowledge of time value of money.
				CO5	Compare traditional and modern methods of risk diversification. Assess the expected return and risk portfolio.
14	IV	**SEC 4**	**RACTICE OF LIFE AND GENERAL INSURANCE**	**CO1**	OUTLINE the knowledge regarding insurance products and associated services for Life Insurance business. Understand underwriting and policy making for Life Insurance business and premium calculation and claims under various circumstances
				CO2	Understand customer service within Life Insurance business and the importance of good customer relationships.
				CO3	Outline the knowledge regarding insurance products and associated services for general insurance business
				CO4	Develop information relating to settlement of claims risk & underwriting, financial planning and tax saving
15	IV	**DSC 401**	**INCOME TAX**	**CO1**	Explain the different types of residential status of an assessed and solve problems related to the same. Summarise agricultural income and state its conditions and provisions.
				CO2	Computation of income from Salary and

					identify the deductions to be considered. Outline income from house property and learn to utilize its deductions.
				CO3	Explain the concept of income from Business or Profession. Define the concepts of capital gain and income from other sources.
				CO4	Define the structure of clubbing and aggregation of income tax and explain the provision of set off carry forward of losses.
				CO5	Interpret the concept of Tax liability of individuals and firms. Outline the concept of income tax assessment procedures.
16	IV	**DSC 402**	**Business Statistics II**	**CO1**	: Explain the techniques of regression analysis and time series to forecast, predict and solve business problems.
				CO2	understand the various types of Index numbers and choose the appropriate type of index number to solve problems of production and employment in business,
				CO3	Explain the components of time series and apply it in various business situations.
				CO4	Explain the concepts of probability and relate it with the business environment
				CO5	Infer various methods of probability distributions and distinguish between theoretical and experimental probabilities
17	IV	**DSC 403**	**CORPORATE ACCOUNTING**	**CO1**	Prioritise the payment of the company's debts in preparing accounting records necessary for liquidation
				CO2	Explain the concepts of Amalgamation and learn valuation techniques of mergers & acquisition assessment to apply in decision-making.
				CO3	Appreciate the need for reconstruction of companies and construct the balance sheet after internal reconstruction
				CO4	Develop the ability to prepare the financial statements under the banking regulatory environment.
				CO5	Solve the problems on claim settlement and prepare Final Accounts for insurance companies.
18	IV	**DSC**	**HUMAN RESOURCE MANAGEMENT**	**CO1**	Explain human resource management and its scope and recent trends in India.
				CO2	Identify the need for HR planning and responsibilities

		404		**CO3**	Compare the traditional and modern methods of recruitment and selection. Categorise the selection process in public and private sectors in India
				CO4	Determine the concept of Human resource training, techniques and importance of training and evaluation
				CO5	Evaluate the need of employee review, examine the types of employee appraisal and evaluation.
19	IV	**GE**	**EXCEL FOUNDATION**	**CO1**	Define what is a spreadsheet and what Excel' s capabilities are.
				CO2	Recall what is worksheets, workbooks and how to enter data in Excel, Builds and edit charts and graphics. Illustrate and choose different types of cell references to Modify a worksheet and workbook
				CO3	Demonstrate different types of worksheet operations and select and apply ranges. Explain the concept of tables and various operations that can be performed on table.
				CO4	Demonstrate and make utilize sorting and filtering concepts of table to sort and filter the table data. (L2-Understanding) (L3-Applying)Compare and contrast the files and templates and examines different security options for files.
				CO5	Create and modify different types of Excel templates(L5creating)Illustrate how to Import and export data and choose various printing option.
20	IV	**DSE 501 (a)**	**COST ACCOUNTING**	**CO1**	Recall the different branches of accounting and explain the importance & scope of Cost Accounting its installation &, Essentials.
				CO2	Recognize and choose appropriate theories, principles and concepts relevant to cost accounting.
				CO3	Explain the methods of calculating value of stock and maintain stock level for consumption, methods of calculating wage rates and distribution of overheads to production centres.
				CO4	Demonstrate the knowledge of unit costing in preparation of tenders and quotations. Understand the preparation of Job cost sheet
				CO5	Solve various problems of contract costing to calculate profit.

21	V	**DSE 502 (a)**	**Computerised Accounting**	**CO1**	Understand and demonstrate the role of computerised accounting software in the business environment
				CO2	Grasp the knowledge of creating a company, Classify the groups to create the ledger accounts to make use of them in generating vouchers entries in Tally ERP9.
				CO3	Record accounting voucher entries including advance voucher entries to construct virtual financial statements to measure the financial Position of a company.
				CO4	Apply the process of maintaining inventory and day -to-day transactions in recording with tally accounting software
				CO5	Develop the ability to generate MIS reports and learn to communicate financial positions with third parties.
22	V	**DSE 503 (a)**	**AUDITING**	**CO1**	Classify various concepts of auditing and explain briefly the development of the role of the auditor in modern business society.
				CO2	For major transaction types and account balances, find appropriate assertions at risk and apply appropriate audit procedures to test the assertions identified.
				CO3	Explain auditor's legal liabilities, compare different types of audit reports and explain the procedure for appointment and removal of a company auditor
				CO4	Define the necessary quality control procedures.
				CO5	Outline professional ethics including Code of Conduct to specific scenarios.
23	V	**DSE 504 (a)**	**MARKETING MANAGEMENT**	**CO1**	Demonstrate knowledge of Product mix, product line decisions and product life cycle. Apply their knowledge of banding for new products
				CO2	Illustrate the role of pricing in markets. Discover Ideas for new product pricing based on cost and demand.
				CO3	Explain product promotion. Analyse its objectives and explain the concept of sales promotion.
				CO4	Examine the functions of marketing and its various types.
				CO5	Analyse marketing strategy and planning of corporates. Examine the implementation of a marketing plan.
				CO1	Define research problem. Identify the steps in

24	VI	**Paper PR**	**RESEARCH METHODOLOGY & PROJECT WORK**		selection of research problem and develop various research designs.
				CO2	Illustrate collected by various methods such as interview, questionnaires to develop a hypothesis.
				CO3	Analyse the problem by statistical techniques such as F-test, Chi- Square test, Anuran compile a research report.
25	VI	**DSE 601 (a)**	**COST CONTROL AND MANAGEMENT ACCOUNTING**	**CO1**	Explain the importance of Management Accounting and explain various Managerial functions.
				CO2	Analyse and provide recommendations to improve the operations of organisations through cost and management accounting techniques.
				CO3	Explain various decision-making techniques used for internal reporting.
				CO4	Analyse cost volume profit techniques to determine optimal managerial decisions and define terms such as Budget, Budgeting & Budgetary Control .
				CO5	Compare the actual and predetermined cost through variance analysis. (L-3)
26	VI	**DSE 602 (a)**	**THEORY & PRACTICE OF GST**	**CO1**	Explain the terms related to CGST, IGST Act, provisions, levy, collection of GSTS and filing various returns to know ITC and net tax liability
				CO2	Make use of Tally ERP9 accounting software to record, file and generate reports of GST
				CO3	Explain the advance entries and adjustments relating to various transactions
				CO4	Apply the provisions of payment of tax, interest, TDS, TCS, refund and returns
27	VI	**DSC 603 (a)**	**Accounting Standards**	**CO1**	Define concepts, importance of accounting standards and need for convergence of accounting standards with IFR
				CO2	Explain the formulation of accounting standards and the procedure for issue of accounting standards.
				CO3	Outline the accounting standards and understand technical terms related to accounting standard
				CO4	Apply accounting standards in preparation of financial statements.
				CO5	Understand the IndAS and explain its importance and benefits.
28	VI	**DSC 604 (a)**	**International Finance**	**CO1**	Define International Finance. Explain its nature and scope. Examine the role of

					international finance manager in multinational corporations
				CO2	Understand the rules, institutions and agreements of international finance. Outline the evolution and major components of the international monetary system.
				CO3	Explain the major participants of foreign exchange markets. Examine the features and speculation in foreign exchange market
				CO4	Explain the methods of conversion of foreign currency to Indian Currency and vice versa
				CO5	Demonstrate an understanding of international payments.

		M SC(STATISTICS)
SL.NO	**Programme**	**Programme Outcomes (POs)**
1	**M.SC(STATISTICS)**	**PO1**: Students will be able to **recall** fundamental statistical Concepts, theories, and methods.
		PO2: Students will recall fundamental concepts of probability and statistics, and demonstrate a clear understanding of these principles. They will be able to explain basic statistical theories, probability distributions, and their applications in various contexts.
		PO3: Students will **apply** statistical techniques to **solve** complex problems in various fields.
		PO4: Students will critically **evaluate** statistical methods and research findings, making informed decisions based on data analysis.
		PO5: Students will **develop** the ability to thoroughly **examine** and **interpret** the results obtained from statistical analyses
		PO6: Students will **develop** the ability to **create** and apply novel statistical methods and techniques to **solve** emerging and comp problems across various fields.

M SC (STATISTICS) COURSE OUTCOMES				
SEM	**Course Code**	**Course Title**		**Course Outcomes (COs)**
I/I	**STS1-I**	**MATHEMATICAL ANALYSIS &**	**CO1**	Define and understand the Riemann-Stieltjes integral, grasping its fundamental concepts and differences from the standard Riemann integral.

		LINEAR ALGEBRA	**CO2**	Apply implicit differentiation techniques to find derivatives of implicitly defined multivariable functions. Extend complex functions into Taylor and Laurent series, understanding their convergence properties.
			CO3	Use Schmidt orthogonalization process to orthogonalize a set of vectors, providing a systematic method for constructing an orthonormal basis. Explore and apply the conditions that characterise the existence and uniqueness of the Moore-Penrose pseudo inverse.
			CO4	Solve characteristic equations to determine the eigenvalues of a matrix. Apply real quadratic forms in optimization problems, such as quadratic programming, and understand their role in modelling and solving real-world problems.
I/I	STS1-II	**PROBABILITY THEORY**	**CO1**	Define and work with sigma algebras, probability spaces, and measurable sets, understanding their role in constructing a probability measure.
			CO2	Compute and interpret the expectation (mean) of continuous random variables, connecting it to integration concepts. Apply the Law of Iterated Expectations to compute conditional expectations and relate them to unconditional expectations.
			CO3	Apply probability inequalities to analyse and derive bounds on the tail probabilities of random variables, demonstrating their utility in probability theory. Apply convergence in probability concepts to analyse empirical processes, emphasising their role in statistical modelling and hypothesis testing.
			CO4	Apply the Law of Large Numbers to analyse the behaviour of sample averages, demonstrating its importance in statistical estimation and modelling. Analyse the robustness of the Central Limit Theorem under various conditions, recognizing its applicability to different types of random variables.
I/I	STS1-III	**DISTRIBUTION THEORY**	**CO1**	Define and work with sigma algebras, probability spaces, and measurable sets, understanding their role in constructing a probability measure.(L1,L2)
			CO2	Compute and interpret the expectation (mean) of continuous random variables, connecting it to

				integration concepts. Apply the Law of Iterated Expectations to compute conditional expectations and relate them to unconditional expectations.
			CO3	Apply probability inequalities to analyse and derive bounds on the tail probabilities of random variables, demonstrating their utility in probability theory. Apply convergence in probability concepts to analyse empirical processes, emphasising their role in statistical modelling and hypothesis testing.
			CO4	Apply the Law of Large Numbers to analyse the behaviour of sample averages, demonstrating its importance in statistical estimation and modelling. Analyse the robustness of the Central Limit Theorem under various conditions, recognizing its applicability to different types of random variables.
I/I	STS1-IV	**ESTIMATION THEORY**	**CO1**	Gain a solid understanding of the fundamental concepts of estimation theory, including parameter estimation, Interval estimation, able to apply the Cramér-Rao Inequality to derive lower bounds on the variance of unbiased estimators for various parameter estimation problems.
			CO2	able to interpret the results obtained from applying the completeness criterion to assess the performance of estimators and their suitability for practical applications.
			CO3	Should be able to apply mathematical techniques required for each estimation method, such as optimization algorithms for MLE, moment equations for method of moments.
			CO4	Understand the practical applications of interval estimation in various fields, including business, economics, healthcare, and environmental science, and be able to apply these techniques to analyse real-world data and make informed decisions.
			CO5	Able to apply CAN and BAN estimators to solve estimation problems in various statistical settings, including parametric and non-parametric models, and situations involving complex dependencies or conditional distributions.
I/II	STS2-I	**SAMPLING TECHNIQUES**	**CO1**	Define and Explain the fundamental concepts and terminology related to unequal probability sampling.

				Apply various unequal probability sampling techniques to real-world data collection scenarios.
			CO2	To analyse the statistical properties of ratio estimators, such as bias and mean squared error, assessing their efficiency and effectiveness in different sampling contexts.
			CO3	Relate various cluster sampling techniques to real-world data collection scenarios. Examine the statistical properties of cluster samples, including variance, bias, and intra-cluster correlation.
			CO4	Interpret and accurately report research results that account for non-sampling errors. Identify non-sampling errors in various stages of the research process.
I/II	**STS2-II**	**PARAMETRIC INFERENCE**	**CO1**	Understand and address ethical and practical considerations in hypothesis testing. Students will apply UMPTs to real-world datasets and interpret the results in the context of the research problem.
			CO2	Interpret and accurately report the results obtained from likelihood ratio tests and confidence interval estimation.
			CO3	will be able to describe terms such as decision boundaries, likelihood ratio, stopping rules, and error probabilities. Construct a sequential probability ratio test for a given sequential decision-making problem.
			CO4	Students will learn how to define decision rules, select appropriate loss functions, and determine decision boundaries based on optimization principles.
I/II	**STS2-III**	**LINEAR MODELS AND DESIGN OF EXPERIMENTS**	**CO1**	Define and explain the concept of Best Linear Unbiased Estimation (BLUE) for linear functions of parameters. Will learn about the Gauss-Markov theorem, the method of ordinary least squares (OLS), and the properties of the generalised inverse in computing BLUE estimators.
			CO2	Gain proficiency in techniques used to estimate model parameters in linear regression and multiple regression models.
			CO3	Apply factorial designs to real-world research and experimental settings. Students will learn about assumptions such as linearity, homogeneity of

				regression slopes, homoscedasticity, and normality of residuals, and how to assess these assumptions using diagnostic plots and tests.
			CO4	Students will design studies with appropriate controls for confounding variables, analyse data using techniques to adjust for confounding, and interpret study findings in light of potential confounding effects.
I/II	**STS2-IV**	**MULTIVARIATE ANALYSIS**	**CO1**	Students will understand how to obtain marginal distributions from joint distributions by integrating or summing over other variables.(L2)
			CO2	Students will be able to relate terms such as Wishart distribution, degrees of freedom, null hypothesis, and null distribution.(L2)
			CO3	Will learn how to interpret the results of hypothesis tests and distance measures obtained using these statistics, and how to communicate findings effectively in written and graphical formats.(L4)
			CO4	Learn how to interpret and apply results obtained from principal component analysis and factor analysis.
II/I	STS3-I	**NON PARAMETRIC INFERENCE**	**CO1**	Understand nonparametric regression methods for estimating relationships between variables. Apply non-parametric estimation methods to real-world data analysis problems.
			CO2	Analyse the advantages and disadvantages of using non-parametric tests compared to parametric methods for two-sample problems.
			CO3	Will develop a robust skill set in statistical analysis, enabling them to effectively analyse various types of data and draw meaningful conclusions in research and professional settings.
			CO4	Inspect the theoretical foundations of Rao's second order efficiency and Hodges–Lehmann's deficiency.
II/I	STS3-2	**QUALITY CONTROL AND OPTIMIZATION TECHNIQUES**	**CO1**	Students will understand the concept of cumulative sums, how V-Masks are applied to Cu-sum charts, and how decision intervals are used to find out process status.
			CO2	students will apply their understanding to evaluate and

				formulate rectifying sampling plans.
			CO3	Students will make use of the purpose of acceptance sampling, its advantages over 100% inspection, and its application in ensuring product quality in manufacturing processes.
			CO4	Analyse how dual variables and shadow prices quantify the marginal contribution of resources and the economic value of constraints within the primal LP problem.
II/I	STS3-III(A)	**APPLIED REGRESSION MODELS**	**CO1**	Students will understand how to formulate network constraints mathematically, including specifying the relationships among variables and constraints using mathematical expressions.
			CO2	Demonstrate the methods used for parameter estimation in non-linear regression.
			CO3	Students will apply their knowledge of logistic regression to build predictive models for binary classification problems
			CO4	Students will make use of robust regression techniques to handle datasets with outliers and apply GLMs to model complex relationships in various domains, interpreting the results to inform decision-making.
II/I	STS3-IV	**ADVANCED DESIGN OF EXPERIMENTS (ADE)**	**CO1**	To apply appropriate statistical techniques, such as analysis of variance (ANOVA) for BIBD, to analyse experimental data, interpret the results, and draw meaningful conclusions.
			CO2	Illustrate the practical applications of PBIBD(2) in various fields.
			CO3	Utilize RSM to solve practical optimization problems in various fields such as engineering, manufacturing, and product design.
			CO4	Develop a comprehensive understanding of the principles and concepts underlying mixture experiments.
II/II	STS4-I	**STOCHASTIC PROCESS**	**CO1**	construct proficiency in utilising computational tools to classify and analyse stochastic processes.
			CO2	To organise transition probabilities into a matrix format, understand its structure, and interpret the entries as probabilities of transitioning from one state to another in a Markov chain.

			CO3	Students will learn to construct branching process models, compute relevant probabilities such as the probability of ultimate extinction, and analyse the behaviour of branching processes under different parameter values.
			CO4	Students will evaluate probabilities, mean times, variances, and other important metrics to understand the behaviour of these processes over time.
II/II	**STS4-II**	**Time Series Analysis**	**CO1**	Gain a thorough understanding of the auto covariance and autocorrelation functions and their importance in analysing time series data.
			CO2	Develop the ability to interpret the coefficients of models, forecast future values, and analyze diagnostic statistics, allowing them to derive insightful conclusions regarding the underlying processes that influence the observed time series data.
			CO3	To interpret model coefficients, forecast values, and diagnostic statistics to draw meaningful conclusions about the underlying processes driving the observed time series data.
			CO4	students will develop a solid understanding of forecasting techniques and their applications, enabling them to effectively analyse data and make informed decisions in various research and industry contexts.
II/II	STS4 -III (A)	**RELIABILITY THEORY**	**CO1**	Construct a comprehensive understanding of coherent systems and their significance in reliability theory.
			CO2	grasp the concept of life distribution, understanding how it relates the probability distribution of lifetimes or failure times of components or systems.
			CO3	To construct mathematical models and use simulation techniques to estimate the reliability of coherent systems, considering various factors such as component dependencies, repair policies, and environmental conditions.
			CO4	grasp the concepts of reliability estimation, understanding how to estimate parameters of these distributions to model the failure times or lifetimes of components or systems.
			CO1	Gain proficiency in analysing and applying optimization

II/II	STS4 – IV	ADVANCED OPERATION RESEARCH		algorithms to solve non-linear programming problems.
			CO2	apply dynamic programming methods to real-world optimization and decision problems, analyse solution quality, and propose improvements.
			CO3	construct a thorough comprehension of decision analysis and its pivotal role in facilitating rational decision-making amidst uncertain conditions. Apply Linear Fractional Programming techniques to solve real-world optimization problems.
			CO4	To evaluate understanding of theoretical concepts and methodologies related to replacement problems.

		MA(PSYCHOLOGY)
SL.NO	Programme	Programme Outcomes (POs)
1	M.A(PSYCHOLOGY)	**PO1:**Sound understanding of the theories related to the core areas of psychology such as counselling, clinical, health and cognitive.
		PO2: Competency in application of psychological principles and theories to understand, describe and predict human behaviour. Understanding and skills to design, conduct, analyse and interpret data related to empirical psychological studies.
		PO3: Make use of ICTs to analyse and enhance research methodology. Survey and analysis of current research from online applications like google scholar. Basic knowledge of statistical tools like SPSS.
		PO4:Relate the knowledge and skills derived from the study of human Psychology for social interaction and unbiased approach towards clients
		PO5: Competency to professionally communicate with much clearly in a written or oral format. Acquire values that enable an individual to direct his/her behaviour towards constructive society through effective communication skills and leadership traits
		PO6: Empathetic approach towards clients. Extend Moral and Ethical values with educational function that ensures the understanding for connectivity of individuals in society.
		PO7: Understand environmental and ecological concerns; formulate and apply methods to save the earth and thereby achieve sustainable development
		PO8: Competent in understanding implication aspects and enhancing implication of all research done. Demonstrate the ability to engage in

		self-reliant and life-long learning which leads to personal and professional progress.

M A (PSYCHOLOGY) COURSE OUTCOMES				
SEM	**Course Code**	**Course Title**		**Course Outcomes (COs)**
I/I	**101**	**STATISTICS IN PSYCHOLOGY**	**CO1**	Demonstrate the importance of statistics and make use of measurement scales and techniques and present data using various graphical representations.
			CO2	Practical Demonstration of Identifying nature of measurements in psychological studies.
			CO3	Distinguish Type I and Type II error, Appraise probabilistic and non-Probabilistic sampling methods, Implement Hypothesis testing, compare one tail and two tail test .
			CO4	Differentiate Parametric and Nonparametric test, Use types of Graphs Pie, bar, Line and Ogive, Appraise types of correlation and simple regression, Contrast types of special correlation like Biserial-Point Biserial- Tetrachoric, Multiple and partial correlation.
			CO5	Compare Multivariate and Discriminant Analysis.
I/I	**102**	**APPLIED COGNITIVE PSYCHOLOGY**	**CO1**	Describe echoic and Iconic memory, Compare spotlight approach, schema theory of attention, Differentiate Bottom-up and Top-Down process of perception, Interpret working memory functioning.
			CO2	Contrast subdivisions of Long term memory, Appraise models of semantic organization of knowledge, Evaluate views of forming concepts and Categorizing new instances.
			CO3	Appraise Language, thought and Bilingualism, Contrast Modularity and Whorfian hypothesis of language and cognition.
			CO4	Examine characteristics of creative people. Relate expected and Multiattribute utility theories of Decision making, Formulate a technique to solve the problem.
			CO5	Appraise Expert/Novice differences in cognition, recognize human computer interaction, Examine the

				effects of circadian rhythm and fatigue on performance.
I/I	104B	ADVANCED SOCIAL PSYCHOLOGY	CO1	To visualize and discuss about the role of Schemas and Nonverbal behavior in everyday life.
			CO2	Describing selfhood, Social emotion and, Friendship and Love.
			CO3	Distinguishing between Prejudice, Stereotyping and Discrimination, Analysing theories of intergroup conflict.
			CO4	Investigate and Apply Social Psychology in law, environment and health.
			CO5	Gauge interventions in Applied SocialPsychology.
I/I	105(A)	PERSONALITY THEORIES AND ASSESSMENT	CO1	To figure out how Hinduism and Buddhismhelped in understanding personality.
			CO2	To distinguish between Behavioristic, Cognitive, Trait, Type and Factor Approaches to Personality.
			CO3	To reconstruct on the significance and usage of personality inventories, different techniques of personality assessment.
			CO4	To describe how Neo-Freudians modified Freud's ideas to create new theories about Personality.
			CO5	To compare Humanistic and Existential approaches to Personality.
I/II	201	PSYCHOPATHOLOGY	CO1	Critically evaluate and use the classification system of psychopathology to arrive at differential diagnoses for cases of psychopathology.
			CO2	To describe the symptoms of different types of abnormal behavior.
			CO3	To apply the treatment for various Psychological disorders.
			CO4	To study the underlying cause of different types of psychological disorders.
			CO5	To distinguish between various spectrum of disorders based on criteria provided by DSM.
I/II	202	PSYCHOLOGICAL TESTING	CO1	Differentiate the speed, verbal, aptitude, intelligence and power test, Examine ethical considerations of psychological testing, Locate concept of errors in psychological measurement.
			CO2	Construct a new test, compare item difficulty and

				discrimination, Select a method of item correlation.
			CO3	Contrast absolute and relative reliability, Judge types reliability, Implement Kuder-richardson and Cronbach alpha forreliability coefficient.
			CO4	Compare types of validity, Examine various sources of evidence and factors influencing validity, relate reliability and validity, Examine types of Norms.
			CO5	Examine significant psychological tests in educational, counselling, clinical and forensic setting, appraise differences in testing with physically disabled and psychomotor disabilities, Contrast traditional vs Behavioral assessment, Appraise computer based testing, scoring and interpretation.
I/II	**204-A**	**CRIMINAL AND FORENSIC PSYCHOLOGY**	**CO1**	Describes theories of crime to understand criminal behaviour.
			CO2	Discusses on various psychological characteristics that contribute to Criminal Behavior.
			CO3	Distinguishes among different concepts of violent criminal behavior.
			CO4	Outlining the concepts of Criminal Profiling, Victimization and role of Forensic psychologists.
			CO5	Determining the Assessment and evaluation processes Involved in detecting crime scene.
I/II	**205-A**	**Child Psychology**	**CO1**	Analyse stages of development and tasks Appraise the influence of family on the development of child examine prenatal influences on child development assess psychological impact of physical development assess psychological impact of physical development and puberty on growth of adolescent.
			CO2	Contrast piaget & vygotsky's developmental theories, List out components of language development, Assess the influence of others on emotional development & expression of child, Discuss Kohlberg's theory of moral development.
			CO3	Classify Disorders in children and adolescents.
			CO4	Contrast behaviour and dialectical behaviour and cognitive behaviour therapy, Analyse storytelling

				techniques in children.
II/I	**301**	**RESEARCH METHODOLOGY AND EXPERIMENTAL DESIGNS**	**CO1**	Recognize good scientific research, Investigate different reviews of literature , formulate the objectives of the study, Defend the research designed proposed, select data collection, appropriate for study.
			CO2	Differentiate applied vs basic research, Qualitative vs Quantitative research, Contrast Experimental and action research.
			CO3	Explain basic principles of Experimental design, contrast within subject and between subject experimental design determine types of extraneous variables.
			CO4	Classify experimental designs compare pre experimental quasi experimental design. Appraise small N designs.
			CO5	Compare research proposal and research report, Compile research proposal, Analyse ethical and legal aspects according to APA format.
II/I	**302**	**Theoretical approaches to Counselling**	**CO1**	Able to describe and gain knowledge regarding counselling and become efficient professional.
			CO2	Develop knowledge regarding a variety of therapeutic procedures and techniques that can be used in counselling settings.
			CO3	Differentiate between counseling and psychotherapy, goals and approaches of counseling and ethical issues in counseling.
			CO4	Comparing therapeutic process, client's experience and Therapist's role among differenttherapies.
			CO5	To build and categorize on the importance of Group counseling.
II/I	**304-B**	**Family and Marital Counseling**	**CO1**	Able to adapt and deal with family and marital issues.
			CO2	To develop a competency in understanding theclients with family and martial problems from a wider perspective.
			CO3	To identify suitable therapeutic techniques in a disrupted family and marital structure.

			CO4	Distinguishing between healthy and unhealthy pattern of relationships in a family as well as among couples.
II /I	**305 A**	**Applications of Psychology**	**CO1**	Identify relationship between arousal, anxiety and performance, Distinguish intrinsic and extrinsic motivation appraise external and internal attributions of motivation & sport compile psychological skills and intervention for training personal in sports.
			CO2	Choose psychological assessments for personnel selection in the military, Deduce tools of psychological warfare, Appraise soldier resilience, Formulate familiar pathwaysto soldier effectiveness.
			CO3	Examine power of situations and dispositions on political behavior, differentiate homo economics and homo psychologic us, analyze personality & belief systems, Compare affective intelligence theory and motivated reasoning theory of political behavior.
			CO4	Deduce gender diversity and sexual orientation, Estimate transgender issues at workplace, Compile rules to be a meaningful ally to transgender at workplace.
II/II	**401**	**Positive Psychology**	**CO1**	Evaluate the importance of positive, psychology, compare eastern and western perspectives in the view of positive psychology, Appraise concepts of both individualism and collectivism.
			CO2	Compare Gallup's - VIA- Search's strength finder, create positive outcome of self by assessing personal strength, compilesuccessful ageing through resilience factors from childhood and positive youth development.
			CO3	Distinguish positive and negative emotion apply PERMA model of wellbeing itself adapt to a lifestyle using concepts of mindfulness and self-efficacy.
			CO4	Appraise the effects of positive psychology in close relationships differentiate primary and secondary prevention of Bad construct strategies for primary

				and secondary enhancement of good.
			CO5	Explain components of positive schooling deduce a plan to avoid burnouts in work setup determine factors which make work as calling and gainful employment.
II/II	**402**	**Basic Counseling Skills**	**CO1**	Discussing on the requisites of counselling skillsto enable students to practice in real-life situations.
			CO2	Understand the core conditions of counseling including unconditional positive regard, genuineness, and empathy.
			CO3	Explore the role of counsellor and develop realistic assessment of skills and potential.
			CO4	Learn the difference between Eagan and Nelson Jones's Models of counselling skills.
			CO5	To study, practice, observe, and experience in basic counseling.
II/II	**404 B**	**Basics of Clinical Psychology**	**CO1**	Appraise the nature of clinical psychologist, based on the theory and research theory apply deduce the clinical identity of clinical psychologist based on education and training contrast clinical psychology with psychiatry counselling school psychology and social work.
			CO2	Compile a clinical assessment conduct a clinical interview evaluate the ethical issues in releasing assessment data
			CO3	Compile case history of a patient conduct mental status examination.
			CO4	Choose course of intervention for psychological issues, compare psychodynamic humanistic existential behavioural cognitive perspectives in group and family issues list out thico legal and cultural issues in clinical psychology.