PSG College of Arts & Science
Coimbatore – 641 014

Since 1947

Programme: MA Economics

Programme Outcomes	
	On completion of the programme, the student will be able to
PO-1	Demonstrate knowledge on concepts, themes and the latest trend in their respective domains
PO-2	Develop lateral thinking and research skills
PO-3	Inculcate social and life skills to contribute to the changing needs of the society
PO-4	To exhibit leadership skills to lead and solve the issues confronting the society
PO-5	Develop the rounded citizens who are intellectually alert and ethically sound
PO-6	Acquire necessary skills/ competencies/ to excel in their chosen paths viz Employee/ entrepreneur/ researcher

Programme Specific Outcomes	
	On completion of the programme, the student will be able
PSO-1	To have comprehensive and exhaustive knowledge in Modern economics
PSO-2	To acquire the conceptual and empirical skills to analyze, interpret and suggest remedies/ policies to the current Economic Issues
PSO-3	The curriculum taught through augmented Trading and learning centric methods with need based syllabus prepared the students industry ready and also sharpened their skills to have an edge over their contemporaries
PSO-4	To plan and organize a research work of social relevance with Econometrics modeling
PSO-5	To behave ethically and morally in order to become change-makers/trend-setters of the society

Course Outcomes

Course Title	Core ADVANCED MICRO ECONOMIC THEORY I
Code	**19ECP01**
	On completion of the course, students would be able to
CO-1	Analyzethe behavior of consumers and firms
CO-2	Acquire the knowledge to Link the production, productivity and the cost functions
CO-3	Understand different market structures and method of price and output determination.
CO-4	Evaluate collusive and non-collusive models of oligopoly.

Course Title	Core ADVANCED MACRO ECONOMIC THEORY AND ANALYSIS
Code	**19ECP02**
	On completion of the course, students would be able to
CO-1	Understand the forces determining macroeconomic variables such as inflation, employment, interest rates.
CO-2	Describe the meaning of consumption and investment with theories.
CO-3	Analyze the causes and effects of inflation and unemployment
CO-4	Analyse macroeconomic policies

Course Title	Core INTERNATIONAL TRADE AND FINANCE
Code	**19ECP03**
	On completion of the course, students would be able to
CO-1	Distinguish between Theories of international trade and their economic implications
CO-2	Understand how international capital mobility affects an economy.
CO-3	Understand the role the key international institutions play in affecting trade flows across the world.

Course Title	Core RESEARCH METHODOLOGY
Code	**19ECP04**
	On completion of the course, students would be able to
CO-1	Identify the overall process of designing a research study from its inception to its report.
CO-2	To design research questions and hypotheses.
CO-3	Understand the link between research questions and data collection and how they are operationalized in educational practice
CO-4	Acquire knowledge on SPSS and SEM.

Course Title	Core ECONOMIC GROWTH AND DEVELOPMENT
Code	**19ECP05**
	On completion of the course, students would be able to
CO-1	Discuss the important theories and models in economic development and their policy implications
CO-2	To analyze and describe the features of less developed economies and the macroeconomic and microeconomic development challenges they face
CO-3	Acquire a basic understanding of the issues and on-going debates to address economic development challenges by identifying key macroeconomic indicators and measures of economics change, growth, and development
CO-4	Understand and evaluate the unevenness in development
CO-5	To develop analytical and critical thinking skills and use them to judge the appropriateness of economic development policy options

Course Title	Core ADVANCED MICRO ECONOMIC THEORY II
Code	**19ECP06**
	On completion of the course, students would be able to
CO-1	Get an idea about alternative theories of the firm as well as approaches to distribution
CO-2	Examine the salient features of Welfare Economics and General Equilibrium
CO-3	Analyse the Economies of Risk and Uncertainty

Course Title	Core MATHEMATICAL METHODS
Code	**19ECP07**
	On completion of the course, students would be able to
CO-1	Formulate the models of Economics using differential and Integral equations.
CO-2	Analyze the mathematical models to represent and understand economic theories.
CO-3	Acquire the ability to solve problems in mathematics as well as in Economics

Course Title	Core ECONOMETRICS
Code	**19ECP08**
	On completion of the course, students would be able to
CO-1	Describe the theoretical background for the standard methods used in empirical analyses, like properties of least squares estimators and the statistical testing of hypothesis.
CO-2	Interpret and critically evaluate the outcomes of empirical analysis.
CO-3	Understand advanced econometric models and apply in Social Science Research

Course Title	Core MONETARY ECONOMICS
Code	**19ECP09**
	On completion of the course, students would be able to
CO-1	Understand money supply and velocity of circulation
CO-2	Describe the basic theories on Quantity theory of money
CO-3	Examine the structure of interest rate
CO-4	Understand the causes of inflation
CO-5	Analyze the role of central bank during inflation

Course Title	Core PUBLIC ECONOMICS
Code	**19ECP11**
	On completion of the course, students would be able to
CO-1	Understand the concept of Public revenue, Public debt and Budgeting.
CO-2	Analyze the public expenditure theories.
CO-3	Appreciate the concept of fiscal federalism and its functioning

Course Title	Core MARKETING MANAGEMENT
Code	**19ECP12**
	On completion of the course, students would be able to
CO-1	Understand the Marketing and its functions
CO-2	Appreciate the significance of Marketing Communication and Marketing Information System
CO-3	Give special attention to the techniques of Marketing Research
CO-4	Analyse the Marketing Mix.

Course Title	Core COMPUTER APPLICATIONS IN ECONOMICS
Code	**19ECP13**
	On completion of the course, students would be able to
CO-1	Perform basic statistical estimation and analysis on business and economic data and interpret the results.
CO-2	Apply software to analyse real world economic and business issues.

Course Title	Discipline Elective Course – I ORGANIZATIONAL BEHAVIOUR
Code	**19ECP14A**
	On completion of the course, students would be able to
CO-1	Discuss the development of the field of organizational behaviour and explain the micro and macro approaches
CO-2	To analyze and compare different models used to explain individual behaviour related to motivation and rewards
CO-3	To identify the processes used in developing communication and resolving conflicts
CO-4	To explain group dynamics and demonstrate skills required for working in groups (team building)
CO-5	To identify the various leadership styles and the role of leaders in a decision making process
CO-6	To discuss the implementation of organizational change

Course Title	Discipline Elective Course – I BEHAVIOURAL ECONOMICS
Code	**19ECP14B**
	On completion of the course, students would be able to
CO-1	Understand the strengths and weaknesses of the "rational actor" framework used elsewhere in economics, as well as a deeper understanding of the heuristics and biases that affect people’s thinking
CO-2	Analyze the behavioural models and associated mathematical and statistical techniques, along with applications and policy implications of those models
CO-3	Research and investigative skills such as problem framing and solving and the ability to assemble and evaluate complex evidence and arguments
CO-4	Acquire personal effectiveness through task-management, time-management, dealing with uncertainty and adapting to new situations, personal and intellectual autonomy through independent learning

Course Title	Core HEALTH ECONOMICS
Code	**19ECP16**
	On completion of the course, students would be able to
CO-1	Understand key concepts of health economics
CO-2	Appreciate the economic appraisal and demand and supply dimensions of health care.
CO-3	Get an idea about the concepts and theories of Health Insurance.

Course Title	Core OPERATIONS RESEARCH
Code	**19ECP17**
	On completion of the course, students would be able to
CO-1	Formulate a Linear Program (LP) and use the Simplex Method to solve LP.
CO-2	Understand the design and analysis of algorithms: specifically through complexity analysis.
CO-3	Critically analyze and interpret results and present this in both oral and written form.
CO-4	Develop mathematical skills to analyze and solve problems related with queuing theory, inventory control technique and replacement problems that arise in the business concerns.

Course Title	Core ENVIRONMENTAL ECONOMICS
Code	**19ECP18**
	On completion of the course, students would be able to
CO-1	Understand the concept of environmental economics and the economics of resource use.
CO-2	Analyze the social welfare function in the backdrop of social choice mechanism.
CO-3	Explain the basic theories of environmental economics and their applications
CO-4	Acquire knowledge on the methods of valuation of environment.

Course Title	Discipline Elective Course – II ECONOMICS OF INFRASTRUCTURE
Code	**19ECP19A**
	On completion of the course, students would be able to
CO-1	Understand the key issues and problems with respect to regulation, governance and policies for the infrastructure sector
CO-2	Analyze and be able to apply key principles, concepts and tools relevant to the economic regulation of infrastructure industries
CO-3	Examine different government policies for regulation and reform of the infrastructure sector.
CO-4	Determine the rationale for addressing economic regulation issues.

Course Title	Discipline Elective Course – II ECONOMICS FOR COMPETITIVE EXAMINATION
Code	**19ECP19B**
	On completion of the course, students would be able to
CO-1	Understand the links between household behavior and the economic models of demand
CO-2	Understand how different degrees of competition in a market affect pricing and output
CO-3	Apply economic reasoning to understand the operation of an economy
CO-4	Understand the workings and roles of various international economic institutions, such as the International Monetary Fund, the World Bank and the World Trade Organization, and how they may impact the global operation and decision making of Firms
CO-5	Use their knowledge about financial instruments, macroeconomic policy and the mechanics of finance to develop optimal hedging, speculation, risk management, and portfolio allocation strategies

Course Title	IDC ECONOMICS FOR DECISION MAKING
Code	**19GECIDC**
	On completion of the course, students would be able to
CO-1	Identify the key issues facing a business or business subdivision
CO-2	Determine qualitative and quantitative methods to investigate and solve critical business problems
CO-3	Evaluate and integrate ethical considerations when making business decisions
CO-4	Incorporate diversity and multicultural perspectives when making business decisions

Course Title	Core MANAGERIAL ECONOMICS
Code	**18COP12**
	On completion of the course, students would be able to
CO-1	Apply and analyze the various concepts, issues and aspects of Micro and Macro economics.
CO-2	Identify economic reasoning to the problems of business and public policies.
CO-3	Understand and measure the current events and to develop independent logical thinking towards the development of the economy.

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Since 1947

Programme: Master of Social Work

Programme Outcomes	
	On completion of the programme, the student will be able to
PO-1	Identify oneself as a professional social worker by imbibing the knowledge,values and ethics of the profession
PO-2	Ensure equity in practice with diverse populations by applying strategies of advocacy and social change
PO-3	Engage in research, evaluate research studies and apply the findings to develop new intervention strategies for micro, mezzo and macro levels of practices.

Programme Specific Outcomes	
	On completion of the programme, the student will be able
PSO-1	Provide practical exposure to apply theoretical knowledge in practice through concurrent field work, Special visits, Institutional training and Block Placement.
PSO-2	To make the Social work trainees to experience group living in Rural/Tribal setting
PSO-3	To build competencies in offered specialization of the department i.e., Personnel Management & Industrial Relations, Medical & Psychiatric Social Work and Community Development.

Course Outcomes

Course Title	Core INTRODUCTION TO SOCIAL WORK
Code	**19SWP01**
	On completion of the course, students would be able to
CO-1	Understand the value base of the profession and its ethical standards and principles and practice accordingly

Course Title	Core PSYCHOLOGY FOR SOCIAL WORK PRACTICE
Code	**18SWP02**
	On completion of the course, students would be able to
CO-1	Students will demonstrate familiarity with the major concepts, theoreticalperspectives and historical trends in psychology
CO-2	Students will respect and use critical and creative thinking, skepticalinquiry, and, when possible, the scientific approach to solve problemsrelated to behavior and mental processes
CO-3	Students will demonstrate understanding of complex changes in variousstages in the life span of an individual and competence to deal withproblems in those stages

Course Title	Core CONTEMPORARY INDIAN SOCIETY
Code	**18SWP03**
	On completion of the course, students would be able to
CO-1	The elements of Society , Socialization and Social groups, Marriage andFamily System
CO-2	Develop the capacity to deal with Social stratification and SocialChange, Social Problems with special reference to India.

Course Title	Core SOCIAL CASE WORK
Code	**19SWP04**
	On completion of the course, students would be able to
CO-1	Identify and clarify the key issues to the problem situation, gather relevant information from clients and conduct needs and intake assessment to assess and identify severity, key risks and protective factors for intervention
CO-2	Conceptualize and identify appropriate approaches to develop care/ case plan for client.
CO-3	Use different modes of engagement (e.g. home visit, telephone interview, face-to-face interview, etc.) for the purpose of assessment, intervention and monitoring
CO-4	Document and maintain case files and prepare reports according to the required documentation standard

Course Title	Core SOCIAL GROUP WORK
Code	**19SWP05**
	On completion of the course, students would be able to
CO-1	Develop awareness about the specific characteristics of Group Workand its contributions as a method of social work intervention
CO-2	Gain knowledge about group formation and the use of a variety ofgroup approaches
CO-3	Develop understanding of concepts, dynamics and small group theoryin relation to all types of groups, e.g. family, staff, committee, long-termclient groups
CO-4	Identify the various situations and settings where the method could beused in the context of social realities of the country

Course Title	Core COMMUNITY ORGANISATION AND SOCIAL ACTION
Code	**18SWP 07**
	On completion of the course, students would be able to
CO-1	Identify community organization, management, and policy –planning strategies, as well as empirically supported practices for dealing with contemporary social work and social welfare problems
CO-2	Demonstrate beginning level community organization, management, and policy/evaluation competencies in identifying the major internal and external environmental factors that affect the selection of those strategies
CO-3	The ability to utilize selected assessment tools for addressing practice issues (e.g., flow charts, community profiling, asset mapping, community needs and strengths assessment, ethical decision- making models, policy analysis frameworks)

Course Title	Core SOCIAL WORK RESEARCH AND STATISTICS
Code	**19SWP08**
	On completion of the course, students would be able to
CO-1	Apply knowledge on formulating social work research in scientific manner
CO-2	Conduct and analyze research with appropriate tools and techniques
CO-3	SPSS for data analysis

Course Title	Core EMPLOYEE WELFARE & LABOUR LEGISLATION – I
Code	**18SWP09A**
	On completion of the course, students would be able to
CO-1	Carry out the Factories Act 1948 provisions in Industrial Settings
CO-2	Administer the labour welfare programmes/initiatives
CO-3	Approach CBWE, IF Office & TN Labor Welfare Board for the matters pertaining to it

Course Title	Core MEDICAL SOCIAL WORK
Code	**19SWP09B**
	On completion of the course, students would be able to
CO-1	Will have an understanding of the relationship between social work and community health
CO-2	Will get familiarized with the national and international agencies working for community health
CO-3	Will be equipped with the necessary skills required for a professional social worker
CO-4	Will have a thorough knowledge of patient, hospital, hospitalization and treatment

Course Title	Core RURAL COMMUNITY DEVELOPMENT
Code	**18WP09C**
	On completion of the course, students would be able to
CO-1	Critically evaluate Rural Community Development Programmes, Panchayati Raj and develop innovative strategies and development programmes
CO-2	Apply knowledge to ensure sustainable development of rural communities
CO-3	Utilize their knowledge and skills to address Emerging Issues in Rural Development

Course Title	Discipline Specific Elective - I SOCIAL WORK AND DISASTER MANAGEMENT
Code	**18SWP11A**
	On completion of the course, students would be able to
CO-1	Disaster Preparedness Plan
CO-2	Can associate with Disaster Rescue Operations

Course Title	Discipline Specific Elective – I SOCIAL WORK AND PERSONS WITH DISABILITIES
Code	**18SWP11B**
	On completion of the course, students would be able to
CO-1	Demonstrate understanding on the forms of disability and the social impacts of disability
CO-2	Work effectively as a member of the multidisciplinary rehabilitation team
CO-3	Formulate and Implement Intervention Strategies for welfare of persons with disabilities at various levels of practice
CO-4	Advocate for the amelioration of Stigma and Discrimination and rights of persons with disabilities

Course Title	Core EMPLOYEE WELFARE & LABOUR LEGISLATION – II
Code	**18SWP13A**
	On completion of the course, students would be able to
CO-1	Implement the labour laws on the aspects of Recruitment, WorkingConditions, Social Security etc.,
CO-2	Get a clear idea on Income Tax calculation, Professional Tax Act
CO-3	Approach, PF & ESI Office for the matters pertaining to it

Course Title	Core MENTAL HEALTH
Code	**19SWP13B**
	On completion of the course, students would be able to
CO-1	Have a thorough knowledge of the various psychiatric disorders and their classification
CO-2	Understand the difference between mental illness and mental retardation
CO-3	Be able to relate social work with mental health
CO-4	Familiarise with the concept of community health and the nodal agencies working for community health

Course Title	Core URBANCOMMUNITY DEVELOPMENT
Code	**18SWP13C**
	On completion of the course, students would be able to
CO-1	Identify the problems and issues faced by urban communities and develop practice goals to effectively deal with them
CO-2	Formulate intervention strategies, evaluate existing policies and programmes and advocate for changes in the same
CO-3	Utilize the learned skills to work with the urban community, and develop and implement programmes with them

Course Title	Core SOCIAL PROBLEMS AND SOCIAL LEGISLATIONS
Code	**18SWP14**
	On completion of the course, students would be able to
CO-1	Identify the major factors contributing to the emergence of social problems and Understand the role of social worker in dealing with them
CO-2	Demonstrate competence in applying social work knowledge and skills to address the social problems

Course Title	Core SOCIAL WELFARE ADMINISTRATION AND SOCIAL POLICY
Code	**18SWP15**
	On completion of the course, students would be able to
CO-1	Acquire knowledge and skill on social welfare administration and social policy
CO-2	Start a Human service Organization and can progress with sufficient knowledge base

Course Title	Generic Elective Course HUMAN RIGHTS & SOCIAL WORK
Code	**18SWP17**
	On completion of the course, students would be able to
CO-1	Understand the Basic Human rights and the mechanism to protecting the same
CO-2	Apply the Social Work methods in safeguarding Human Rights

Course Title	Core INDUSTRIAL RELATIONS
Code	**18SWP20A / 19SWP21A**
	On completion of the course, students would be able to
CO-1	Carry out theVarious Statutory / legal aspects in terms of ID Act & Standing Order Act, by visiting the above mandatory visits, the Practical Exposure on the same will be ensured
CO-2	Interpersonal relationship strategies and negotiation skills in the Industry

Course Title	Core HOSPITAL ADMINISTRATION
Code	**18SWP20B / 19SWP21B**
	On completion of the course, students would be able to
CO-1	Gain knowledge of the evolution of hospitals and its planning and organisation
CO-2	Understand the role of social workers in various departments in a hospital
CO-3	Acquire the necessary skills for a being a successful professional in the field
CO-4	Be employable in hospitals and forensic wings

Course Title	Core TRIBAL COMMUNITY DEVELOPMENT
Code	**18SWP20C / 19SWP21B**
	On completion of the course, students would be able to
CO-1	Critically evaluate the Tribal Community development, their lifestyle, Problems, Administration and Programmes
CO-2	Apply knowledge to ensure sustainable development of rural communities
CO-3	Utilize their knowledge and skills to address Emerging Issues in Tribal Community Development

Course Title	Core HUMAN RESOURCE MANAGEMENT AND HUMAN RESOURCE DEVELOPMENT
Code	**18SWP21A / 19SWP22A**
	On completion of the course, students would be able to
CO-1	Develop managerial skills in different functional areas of managementwith practical focus on HRM and HRD
CO-2	Develop sound theoretical base in various concepts and theories toenable the student to develop a broad perspective of the management field
CO-3	Distinguish the strategic approach to Human Resources from thetraditional functional approach
CO-4	Understand the relationship of HR strategy with overall corporatestrategy

Course Title	Core PSYCHIATRIC SOCIAL WORK
Code	**18SWP21B / 19SWP22B**
	On completion of the course, students would be able to
CO-1	Have an understanding the theoretical aspects of various psychotherapeutic interventions
CO-2	Acquire the necessary skills to apply these interventions to different psychiatric disorders
CO-3	Be able to competently work as arehabilitation professional

Course Title	Core SOCIAL ENTREPRENEURSHIP & SOCIAL ENTERPRISES
Code	**18SWP21C / 19SWP22C**
	On completion of the course, students would be able to
CO-1	To use the acquired knowledge to become social entrepreneurs themselves or develop social entrepreneurship in the community
CO-2	Participate effectively in various aspects of development
CO-3	Implement participatory planning and management to bring about development

Course Title	Core COUNSELLING
Code	**18SWP22 / 19SWP23A**
	On completion of the course, students would be able to
CO-1	Exhibit knowledge on fundamental theories & approaches and essential competencies of a professional counselor
CO-2	Create an appropriate attitude & climate for establishing a counseling relationship, identify & respond to ethical dilemmas, transference, & counter-transference issues
CO-3	Demonstrate the use of a variety of counseling skills in various counseling situations
CO-4	Demonstrate knowledge of the therapist's role and the values by which the therapist conducts counseling

Course Title	Discipline Specific Elective – I CORPORATE SOCIAL RESPONSIBILITY
Code	**18SWP23A / 19SWP18**
	On completion of the course, students would be able to
CO-1	Understand the scope and complexity of corporate social responsibility
CO-2	Gain knowledge on the impact of CSR implementation on corporate culture, particularly as it relates to social issues
CO-3	Acquire skills to frame CSR policies and practices appropriate to the Indian workplace

Course Title	Discipline Specific Elective – II SCHOOL SOCIAL WORK
Code	**18SWP23B**
	On completion of the course, students would be able to
CO-1	Develop skills in engagement, assessment and intervention with varied school constituents, including pupils, parents, administrators, support staff families and community
CO-2	Understand the multiple roles social workers can assume and selectively use within the home- school- community domain

Course Title	Interdisciplinary INDUSTRIAL RELATIONS AND LABOUR WELFARE
Code	**18PSP14**
	On completion of the course, students would be able to
CO-1	Know the concept and bases of Labour welfare and Industrial Relations
CO-2	Demonstrate on functions of labour welfare and Industrial Relation at National and International level

Course Title	Generic Elective Course – Cluster – III SOCIAL PROBLEMS AND SOCIAL WORK INTERVENTIONS
Code	**18GECIDC**
	On completion of the course, students would be able to
CO-1	Understand social problems and its impact on the society, various issues and challenges
CO-2	Clarity about social issues and challenges in the social work field

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Since 1947

Programme: MATamil

Programme Outcomes	
	On completion of the programme, the student will be able to
PO-1	இலக்கியங்களின்பரந்துபட்டதன்மைகளைஅறிந்துகொண்டதன்வழியாகவாழ்வியல் முறைகளைப்புரிந்துகொண்டனர்
PO-2	இலக்கியங்களைநுட்பமாகமதிப்பிடவும்ஆராயவும்திறன்பெற்றனர்
PO-3	மொழிவளத்தைப்பேணும்வகையில்இலக்கணநுணுக்கங்களைக்கோட்பாடுகளின் வழியாகஅறிந்துகொண்டனர்
PO-4	படைப்பாக்கப்பயிற்சியின்வழியேசிறந்தபடைப்புகளைஉருவாக்கும்திறன்பெற்றனர்

Programme Specific Outcomes	
	On completion of the programme, the student will be able to
PSO-1	இலக்கியங்களின்வழிஇயற்கை, சமுதாயம், தத்துவம், மனிதமனம்குறித்தான ஆராய்ச்சிநுட்பத்தைக்கண்டறியும்ஆளுமைபெற்றனர்
PSO-2	இலக்கியஇலக்கணங்களைக்கற்றதன்வழி, போட்டித்தேர்வுகளைஎதிர்கொள்ளும் ஆற்றல்அடைந்தனர்
PSO-3	பன்முகத்தன்மைவாய்ந்தஇலக்கியங்களைக்கற்றதன்விளைவாகசமூகத்துடன் ஒத்திசைந்து வாழும் வகையை உணர்ந்தனர்

Course Outcomes

Course Title	இலக்கணம் -I தொல்காப்பியம் – எழுத்ததிகாரம் -இளம்பூரணம்
Code	18TAP01
	On completion of the course, students would be able to
CO-1	எழுத்துக்களைப் பிழையின்றிப் பேசவும் எழுதவும் துணை செய்கிறது
CO-2	தமிழ் இலக்கணத்தின் தன்மையினை அறிந்து கொள்ள உதவி செய்கிறது
CO-3	எழுத்திலக்கணக் கோட்பாடுகளையும், ஒலிப்பு முறைகளையும் காலமாற்றத்திற்கு ஏற்ப சொற்களின் தன்மையை அறிந்து கொள்ள உதவிசெய்கிறது

Course Title	இக்கால இலக்கியம
Code	18TAP02
	On completion of the course, students would be able to
CO-1	பாரதி காலத்திற்குப் பிறகு வளர்ந்து வந்த இலக்கிய வடிவங்களை அறிந்து கொண்டனர்
CO-2	புத்திலக்கியங்களின் பாடுப்பொருள் சமூகப் பிரச்சனைகள் சார்ந்து இருப்பதைத் தெரிந்து கொண்டனர்
CO-3	புதிய கதைகள், கவிதைகள் படைக்க தொன்மங்களைப் பயன்படுத்தலாம் என்கிற உத்திமுறையில் தெளிவடைந்தனர்
CO-4	மாணவர்களுக்குக் கவிதை, கதை, நாவல், கட்டுரை இயற்றும் ஆவல் ஏற்பட்டுள்ளது
CO-5	இலக்கியங்கள் வழி சமூகத்தைப் பார்க்கும் பார்வை ஏற்பட்டுள்ளது

Course Title	இலக்கியக் கொள்கைகளும் திறனாய்வுக்கோட்பாடுகளும
Code	18TAP03
	On completion of the course, students would be able to
CO-1	மிகநுட்பமாக இலக்கியங்களைமதிப்பிடவும் ஆராயவும் திறன் பெறுவர்
CO-2	சிறந்ததினாய்வாளராக, விமர்சகர்களாக ஆளுமைத்திறன் பெறுவர்

Course Title	மக்கள் வழக்காற்றியல்
Code	18TAP04
	On completion of the course, students would be able to
CO-1	மக்கள் மரபுவழிப் பண்பாடு-அறிவியல் தொழில்நுட்பம் - பயன்பாட்டு வாழ்வை இன்றைய தலைமுறை அறிந்து பயன்கொள்ளச் செய்தல்

Course Title	இலக்கணம் - 2 தொல்காப்பியம் –சொல்லதிகாரம்
Code	18TAP05
	On completion of the course, students would be able to
CO-1	தமிழ் மொழியின் சொற்கள் வழங்கும் விதத்தினை மாணவர்கள் அறிந்துகொண்டனர்
CO-2	பல்வேறுவகையான சொல் பிரிவுகளைத் தெரிந்து கொண்டனர்
CO-3	மரபுச் செய்யுளில் சொற்கள் பயன்படுத்தப் பட்ட முறையினை அறிந்துகொண்டனர்
CO-4	சிறிய ஒலிக்கூறுகள் பொருள் மாறுபாட்டை ஏற்படுத்துவதை உணர்ந்து கொண்டனர்
CO-5	தொல்காப்பியம் நன்னூல் இரண்டையும் ஒப்பு நோக்கி சொற்கள் பொருள் கொள்ளும் தன்மையை அறிந்து கொண்டனர்
CO-6	அகராதி இயலுக்குச் சொல்லதிகாரம் அடிப்படையாய் அமைந்திருப்பதைக் கண்டுகொண்டனர்
CO-7	தொல்காப்பிய நூற்பாக்களுக்குத் தற்கால சான்றுகளைத் தரும் முயற்சியில் ஈடுபட்டனர்

Course Title	பக்தி இலக்கியமும் சிற்றிலக்கியமும்
Code	18TAP06
	On completion of the course, students would be able to
CO-1	மனித மனத்தினைப் பக்தி இலக்கியங்களும் சிற்றிலக்கியங்களும்பண்படுத்துவதை அறிந்து கொண்டனர்
CO-2	தமிழ் வளர்ச்சியில் பக்தி இலக்கியங்களும் சிற்றிலக்கியங்களும் செலுத்திய பங்கினை அறிந்து கொண்டமை
CO-3	யாப்பின் முறைமையைப் பன்முக நிலையில் உணர முடிந்தமை
CO-4	சிற்றிலக்கியங்களின் வாயிலாகப் படைப்பாளுமைத் திறம், கவி நயங்கள் ஆகியவற்றை உணர்ந்து கொண்டமை

Course Title	ஒப்பிலக்கியம்
Code	18TAP07
	On completion of the course, students would be able to
CO-1	இணை இலக்கியங்கள் அறிமுகப்படுத்தப்பட்டன
CO-2	கொள்கைகள் கோட்பாடுகளின் வழியே ஒப்பிலக்கிய ஆய்வுமுறைகள் அறிமுகப்படுத்தப்பட்டன
CO-3	மாணவர்கள் பயிற்சியின் வழியே படைப்புகளை ஒப்பியல் நோக்கில் அணுகினர்

Course Title	ஊடகவியல்(விருப்பப்பாடம் - I)
Code	18TAP08A
	On completion of the course, students would be able to
CO-1	ஊடகச் செயல்பாடுகள் மற்றும் ஊடகங்களின் மக்கள் பணி குறித்து அறியப்பட்டது
CO-2	தன் முயற்சியாக இதழ்களைக் கொண்டு வருகின்ற ஆர்வம் ஏற்பட்டுள்ளது
CO-3	தொலைக்காட்சி ஊடகத்தில் செய்திவாசித்தல் செய்திகளை முறைப்படுத்துதல் போன்ற பணிகள் குறித்த புரிதல் ஏற்பட்டுள்ளது

Course Title	சுற்றுலாவியல் (விருப்பப்பாடம் -I)
Code	18TAP08B
	On completion of the course, students would be able to
CO-1	கற்பதன் மூலம் மாணவர்களிடையே தன்னம்பிக்கை மலர்கிறது
CO-2	தமிழ் கற்கும் மாணவர்களுக்கு சுற்றுலாத்துறையில் வேலைவாய்ப்பு புதிய அறிமுகமாக அமைகிறது
CO-3	மாணவர்களின் நுட்பமான உள்ளர்ந்த கலை உணர்வுகளை வெளிக்கொணர உதவுகிறது
CO-4	இயற்கை எழில்மிகுந்த அழிந்துவரும் இயற்கையின் மீதான ஈடுபாடும் விழிப்புணர்வும் ஏற்படுகிறது. இயற்கையைப் பாதுகாக்கும் எண்ணம் மேலோங்குகிறது

Course Title	இலக்கணம் - III தொல்காப்பியம் –பொருளதிகாரம் -இளம்பூரணம்
Code	18TAP09
	On completion of the course, students would be able to
CO-1	வாழ்வியல் மதிப்புகளின் பயன்பாட்டை உணர்ந்து கொண்டனர்
CO-2	இலக்கணக் கட்டமைப்பு குறித்த அறிவு பெற்றனர்
CO-3	இலக்கிய கோட்பாடுகள் குறித்தான திறனாய்வுச் சிந்தனைகளைத் தெளிந்தனர்
CO-4	ஒப்பீட்டுப் பார்வையில் இலக்கணக் கருத்துகளை அணுகும் திறன் பெற்றனர்
CO-5	உரைநுட்பங்களை அறிந்து கொள்வதன் வாயிலாக ஆராய்ச்சி மேம்பாட்டுத்திறன் பெற்றனர்

Course Title	காப்பியங்களும் கோட்பாடுகளும்
Code	18TAP10
	On completion of the course, students would be able to
CO-1	காப்பியங்களையும் அவைகளின் பாடுபொருளையும் அறிந்து கொள்ள முடிந்தது
CO-2	தமிழ்க்காப்பியங்களின் வழி அக்காலத்திய சமூக அரசியல் அமைப்பை அறிந்து கொள்ள முடிந்தது
CO-3	காப்பியங்களின் வடிவங்களை ஒப்பு நோக்க முடிந்தது
CO-4	காப்பியம் –புதினம் இரண்டையும் ஒப்பு நோக்கும் பார்வை உருவாகி இருக்கிறது

Course Title	அரங்கியல்
Code	18TAP11
	On completion of the course, students would be able to
CO-1	தமிழக வரலாற்றில் பல்வேறு வகையிலான நிகழ்த்துக்கலை வடிவங்கள் இருந்ததை அறியமுடிந்தது
CO-2	நாடக வடிவங்களை இனம் காண முடிந்தது
CO-3	சமூகப்பிரச்சனைகளை நாடகமாக்கும் எண்ணம் ஏற்பட்டுள்ளது
CO-4	இலக்கியப் பிரதிகளில் நாடகக் கூறுகள் இருப்பவற்றை அறிந்துகொள்ளும் ஆற்றலும் அவற்றை நாடகமாக்கும் முனைப்பும் தோன்றியுள்ளது
CO-5	தமிழக அரங்கச் செயல்பாடுகள் பற்றி அறிந்து கொள்ள முடிந்தது

Course Title	ஆய்வு நெறிமுறைகள்
Code	18TAP12
	On completion of the course, students would be able to
CO-1	ஆய்வுநெறி முறைகள் தாளைக் கற்பதன் மூலம் பொது நிலையிலான அணுகுமுறைகளைத் தாண்டி நுணுக்கமாய்க் கற்றுப் பயன் பெறமுடியும்
CO-2	ஆய்வுப்போக்குகளின் மூலம் புதிய சிந்தனைகள், கருத்துகள் ஏற்படும். முரண்பாடுகள் களையப்படும் வாய்ப்பையும் பெறுவர்
CO-3	இலக்கியம், இலக்கணம் மற்றும் அனைத்துத் துறை சார்ந்த விழுமியங்களை ஆய்வதற்கு அடிப்படையாய் அமையும்

Course Title	தமிழ் மொழி வரலாறும், திராவிட மொழிகளின் ஒப்பிலக்கணமும்
Code	18TAP14
	On completion of the course, students would be able to
CO-1	காலந்தோறும் தமிழ்மொழியின் நிலை குறித்த மொழியியல் திறனை வரலாற்று மொழியியல் அணுகுமுறையில் பெறுதல்
CO-2	மொழிக்குடும்பங்களின் அமைப்பினை ஒப்பீட்டு மொழியியல் பார்வையில் அறிந்து கொள்வதற்கான திறன் பெறுதல்
CO-3	திராவிட மொழிக்குடும்பம் குறித்த வாழ்வியலும் வரலாறும் பற்றிய அறிவு பெறுதல்
CO-4	போட்டித்தேர்வுகளுக்குப் பயன்படும் வகையில் மொழியியல் குறித்தான பரிமாணங்களை உணரப் பெறுதல்

Course Title	தொன்மை இலக்கியம்
Code	18TAP15
	On completion of the course, students would be able to
CO-1	உலகத்தின் மூத்தகுடி தமிழ்க்குடி என்ற பெருமையை மாணவர் உணருவர்
CO-2	போட்டித்தேர்வுகளுக்குத் தயார்ப்படுத்திக் கொள்வர்
CO-3	சங்ககாலப் பாடல்களுக்கு நாடக ஆக்கம் தரும் திறனையோ, திரைக்கதையாக்கம் தரும் திறனையோ பெறுவர்

Course Title	மொழிபெயர்ப்பியல்
Code	18TAP16
	On completion of the course, students would be able to
CO-1	மொழி பெயர்ப்புத் துறையின் பல்வேறு கொள்கைகளையும் நுணுக்கங்களையும் பயின்றதன் மூலம் மொழிகளின் பரிணாமங்களையும் அமைப்பு முறைகளையும் அறிந்தனர். பயிற்சிகளின் மூலம் மாணவர்கள் மொழிபெயர்ப்புத்திறன் வளர்ச்சியுற்றது.

Course Title	தமிழர் கலைகள்(விருப்பப்பாடம் -II)
Code	18TAP17A
	On completion of the course, students would be able to
CO-1	மாணவர்கள் சங்ககாலம் முதல் தற்காலம் வரை தமிழக நிலப்பரப்பில் இருந்து வரும் கலைகளை அறிந்து கொண்டனர்
CO-2	தமிழகக் கோவில்களில் இருக்கும் சிற்பங்களையும் ஓவியங்களையும் பார்க்கும் பார்வை மாறி இருக்கிறது
CO-3	கூத்துக்கலையை மாணவர்கள் அறிந்து கொண்டு கல்லூரி விழாக்களின் ஒரு பகுதியாக கூத்தினை நிகழ்த்த வேண்டும் என்கிற எண்ணம் ஏற்பட்டிருக்கிறது
CO-4	மேற்குலக கலைகளைத் தவிர்த்து நிலம் சார்ந்த கலைகளை ஆதரிக்கும் எண்ணம் ஏற்பட்டிருக்கிறது
CO-5	தற்காலத்தில் வாழ்ந்து வரும் மரபுக்கலைஞர்களை அறிந்து கொண்டுள்ளனர்
CO-6	கலையம்சம் மிக்க கோயில்களுக்குச் செல்லும் ஆர்வம் ஏற்பட்டிருப்பதோடு கோவில் பற்றிய கண்ணோட்டம் மாறியிருக்கிறது
CO-7	ஏதோ ஒரு கலையைக் கற்றுக்கொள்ளும் ஆர்வம் ஏற்பட்டிருக்கிறது

Course Title	கொங்கு நாட்டு வரலாற்றியல்(விருப்பப்பாடம் -II)
Code	18TAP17B
	On completion of the course, students would be able to
CO-1	கொங்கு மண்ணின் வரலாற்றுச் சிறப்புகள், தனித்தன்மைகள், இம்மண்ணில் பயிலும் மாணவர்களுக்குப் பெருமை தரக்கூடிய விதத்தில் தன்னம்பிக்கை அளிக்கிறது

Course Title	படைப்பிலக்கியமும் திறனாய்வும்
Code	**Generic Elective Course – Cluster – III**
	On completion of the course, students would be able to
CO-1	ஒரு படைப்பைப் புரிந்து கொள்ளும் ஆற்றல் ஏற்பட்டுள்ளது. படைப்பு உருவாகும் காரணிகளை அறிந்து கொண்டனர்
CO-2	கவிதை சிறுகதை போன்ற படைப்புகளை இயற்றும் தன்னம்பிக்கையும் முயற்சியும் ஏற்பட்டுள்ளது
CO-3	படைப்பைப் பார்க்கின்றப் பார்வை மாறி இருக்கிறது. படைப்பிற்குப் பின்னால் இருக்கும் அரசியல் காரணிகளை அறிந்து கொள்ளும் முனைப்பு ஏற்பட்டுள்ளது
CO-4	நூல்களைத் திறனாய்வு செய்யும் ஆவல் பிறந்திருக்கிறது
CO-5	சமூகத்திற்குப் பயனளிக்கும் படைப்பை உருவாக்கும் எண்ணம் ஏற்பட்டுள்ளது

PSG College of Arts & Science
Coimbatore – 641 014

Since 1947

Programme: MA English

Programme Outcomes	
	On completion of the programme, the student will be able to
PO-1	Become knowledgeable in the subject of English Literatureand apply the principles of the same to the needs of the Employer / Institution / own Business or Enterprise
PO-2	Gain Analytical skills in the field/area of Literature
PO-3	Understand and appreciate professional ethics, community living and nation building initiatives
PO-4	To trace the English canon who are representatives of the age
PO-5	To analyze the elements of language
PO-6	To identify distinct scholarship of writers
PO-7	To acquaint with the contemporary literary texts and theories
PO-8	To appreciate and inculcate divergent culture

Programme Specific Outcomes	
	On completion of the programme, the student will be able
PSO-1	Apply the knowledge of English language in the domain of Literature
PSO-2	Solve the complex problem in the field of human behavior with anunderstanding of the societal, legal and cultural impacts of the solution
PSO-3	Demonstrate knowledge in literary genres
PSO-4	Form a part of member in a team with right attitudes
PSO-5	Conceptualize literary knowledge
PSO-6	Acquire language pedagogy

Course Outcomes

Course Title	Core BRITISH LITERATURE I
Code	**20ENP01**
	On completion of the course, students would be able to
CO-1	Appreciate the role of literary genres from fifteenth century onwards through language growth
CO-2	Interpret the interconnectivity of natural events and philosophies
CO-3	Recognize the work of art that introduces new territory of learning
CO-4	Understand and compare the various genres with the literature of the present

Course Title	Core INDIAN WRITING IN ENGLISH
Code	**20ENP02**
	On completion of the course, students would be able to
CO-1	Gain knowledge of the major traditions of literatures written in English, and an appreciation for the diversity of literary and social voices
CO-2	Develop a passion for language and Indian literature through the background study
CO-3	Express their own ideas as informed opinions that are in dialogue with a larger community of interpreters
CO-4	Explore the entire range of human experience in Indian Literature
CO-5	Develop an ability to read texts in relation to their historical and cultural contexts

Course Title	Core THE STUDY OF ENGLISH LANGUAGE
Code	**20ENP03**
	On completion of the course, students would be able to
CO-1	Gain knowledge in the history of English language
CO-2	Define the areas of graphology, phonology and supra segmental features in phonology
CO-3	Analyze the areas of morphology, grammar, semantics, pragmatics, stylistics and discourse analysis
CO-4	Explore the other branches of linguistics

Course Title	Core AMERICAN LITERATURE
Code	**20ENP04**
	On completion of the course, students would be able to
CO-1	Evaluate the imperative social issues of American history
CO-2	Interpret human diversity and its confrontation with the expressionistic literary medium
CO-3	Evaluate the effectiveness of theatre as an art form with social impact
CO-4	Interpret the interconnectivity of the genre of fiction to understand the world and the resultant emotional response
CO-5	Develop critical thinking skills.

Course Title	Core BRITISH LITERATURE-II
Code	**20ENP06**
	On completion of the course, students would be able to
CO-1	Interpret life from varied experience
CO-2	Appraise fact and imagination for its own merit
CO-3	Recognize collective consciousness of the society
CO-4	Evaluate the significant role of culture
CO-5	Evaluate the impact of intellectual movements in literature

Course Title	Discipline Specific Elective - I POSTCOLONIAL LITERATURE
Code	**20ENP07A**
	On completion of the course, students would be able to
CO-1	Analyze the racial discrimination, impact, sufferings and problems of colonized countries
CO-2	Enable to criticize new perspectives on commonwealth countries and postcolonial literature
CO-3	Enable the learners to appreciate the Postcolonial poetry, criticism, novels and plays

Course Title	Discipline Specific Elective - II INTRODUCTION TO EDUCATIONAL TECHNOLOGY
Code	**20ENP07B**
	On completion of the course, students would be able to
CO-1	Practice the concept of Educational Technology
CO-2	Expertise in learning English Language through e-learning

Course Title	Core LITERARY CRITICISM AND THEORY - I
Code	**20ENP08**
	On completion of the course, students would be able to
CO-1	Judge and understand the basic concepts of criticism
CO-2	Construe and restructure any genre with critical theories
CO-3	Infer and evaluate the basic concepts of Literature and culture
CO-4	Apply critical frameworks and methodologies, specific theoretical concepts, and terms to literary and cultural texts
CO-5	Evaluate the present and future literary work

Course Title	Core ENGLISH LANGUAGE TEACHING (ELT) AND EDUCATIONAL TECHNOLOGY
Code	**20ENP09**
	On completion of the course, students would be able to
CO-1	Outline the origins and recent trends in ELT
CO-2	Comprehend and apply the theories of ELT into their lesson plans
CO-3	Design lesson plans that are relevant to present generation
CO-4	Design meaningful assessment methods for students
CO-5	Use technology in their lessons

Course Title	Core ECO-LITERATURE
Code	**20ENP10**
	On completion of the course, students would be able to
CO-1	Evaluate the interconnection between nature and literature
CO-2	Gain deeper understanding of conserving Nature
CO-3	Develop an ethical and environmental consciousness.
CO-4	Appreciate the symbiotic relationship between nature and human
CO-5	Develop critical understanding of eco-critical theories

Course Title	Core BRITISH LITERATURE-III
Code	**20ENP11**
	On completion of the course, students would be able to
CO-1	Relate the characteristics of the period to the poets and poems
CO-2	Identify the noble aims of literature
CO-3	Recognize the representations of culture in writings
CO-4	Critique belief systems as evident in the text
CO-5	Comprehend the social system of ages

Course Title	Core RESEARCH METHODOLOGY
Code	**20ENP12**
	On completion of the course, students would be able to
CO-1	Carry out a minor research
CO-2	Analyze critically and apply innovative style in writing without Plagiarism
CO-3	Frame Hypothesis, Findings, Solutions and scope for future in writing as a Researcher

Course Title	Discipline Specific Elective – II LITERARY CRITICISM AND THEORY - II
Code	**20ENP13A**
	On completion of the course, students would be able to
CO-1	Remember and understand the concept of literary theories
CO-2	Interpret and ameliorate any genre with the various criticism and theories
CO-3	Analyze and evaluate the basic concepts of Literature and culture
CO-4	Define and apply specific theoretical concepts, theories and terms to literary and Cultural texts
CO-5	Strengthen critical reading, writing and interpretive practices

Course Title	Discipline Specific Elective – II STUDY OF AN AUTHOR –D.H.LAWRENCE
Code	**20ENP13B**
	On completion of the course, students would be able to
CO-1	Able to think critically by comparing and contrasting themes, texts and illustrations and make connections with author's life
CO-2	Forge a deep attachment to books
CO-3	Explain the different kinds of literary voices and styles

Course Title	Core WOMEN'S WRITING
Code	20ENP14
	On completion of the course, students would be able to
CO-1	Able to classify the characteristics of the women writers across the Globe
CO-2	Examine the concepts, theories and themes applied in women writing on various genres
CO-3	Explain the struggles to create a School for women based on their sufferings and problems

Course Title	Core BRITISH LITERATURE IV
Code	20ENP16
	On completion of the course, students would be able to
CO-1	Recognize and relate poetic style, along with its content to life
CO-2	Modify the environment based on the knowledge acquired
CO-3	Interpret and reconstruct the knowledge attained through involvement
CO-4	Produce novelty in life through different approaches
CO-5	Collect inputs from twentieth and twenty-first century literature and synthesise

Course Title	Core AN INTRODUCTION TO WORLD LITERATURE
Code	20ENP17
	On completion of the course, students would be able to
CO-1	Interpret the convergence of literature and civilization
CO-2	Evaluate the richness of the Indian classic tradition
CO-3	Analyze the experience of the universality of the modern philosophies
CO-4	Critique the influence of western ideas on culture and tradition
CO-5	Identify the practical nuances in transference from one genre to the other

Course Title	Core EXPLORING RECENT TRENDS IN LITERATURE
Code	**20ENP18**
	On completion of the course, students would be able to
CO-1	Demonstrate ability to write a write a travelogue based on day to day individual participation in a journey
CO-2	Express a justified opinion on a particular personal issue
CO-3	Enjoy the experience of literary ability through elicit feeling, cultivate imagination and achieve humanity
CO-4	Understand and appreciate poetry as literary form and revel the language of poetry
CO-5	change in whole perspective and improves as a person

Course Title	Core ADVANCED ASPECTS OF TRANSLATION STUDIES
Code	**20ENP19**
	On completion of the course, students would be able to
CO-1	Broaden and deepen understanding of different perspective in tradition, culture aspects under translation
CO-2	Implementation of translation skills to high level whilst integrating practical with professional with professional and theoretical insight
CO-3	Helps to analyze and implement the diverse approaches to the translation work
CO-4	Enable them to get acquainted with various genres of language and evaluate their capabilities of problem solving skills
CO-5	Expand the critical Thinking of strategies and techniques on language usage in translation

Course Title	Core APPROACHES TO SHAKESPEARE
Code	**20ENP20**
	On completion of the course, students would be able to
CO-1	Insight into the principles & the philosophy of Shakespeare
CO-2	Acquaint with the creative images and techniques of Shakespeare works
CO-3	Critically appreciate the works of Shakespeare
CO-4	Deconstruct Shakespeare as a contemporary author
CO-5	Ameliorate the significance of formal and aesthetic categories of literary criticism

Course Title	PROFICIENT ENGLISH FOR PROFESSIONALS
Code	**Generic Elective Course (Cluster IDC) – Cluster IV**
	On completion of the course, students would be able to
CO-1	Understand relationship between ideas and make observations and suppositions about spoken discourse
CO-2	Have increased general critical thinking ability
CO-3	Have enriched vocabulary, analytical skills and aptitude for quick thinking
CO-4	Express ideas with confidence and clarity, supporting persuasive and logical arguments and present information in an organized structure so as to achieve a specific business objective
CO-5	Recognize and locate the role of soft skills in real life situations

Course Title	LAB IV: COMMUNICATION SKILLS – I
Code	**19NMB07**
	On completion of the course, students would be able to
CO-1	Comprehend conversations and short talks delivered in English.
CO-2	Identify the purpose/use of tone, volume, pitch and speak English with a neutral accent, and make what they speak comprehensible to their audience.
CO-3	Participate actively in formal and informal conversations; introduce themselves, their family, friends, colleagues and others, and express opinions in English effectively.
CO-4	Read articles of a general kind in magazines and newspapers
CO-5	Write short essays of a general kind and personal letters and emails in English.

Course Title	LAB VIII: COMMUNICATION SKILLS – II
Code	**19NMB15**
	On completion of the course, students would be able to
CO-1	Comprehend conversations and short talks delivered in English.
CO-2	Identify the purpose/use of tone, volume, pitch and speak English with a neutral accent, and make what they speak comprehensible to their audience.
CO-3	Participate actively in formal and informal conversations; introduce themselves, their family, friends, colleagues and others, and express opinions in English effectively.
CO-4	Read articles of a general kind in magazines and newspapers.
CO-5	Write short essays of a general kind and personal letters and emails in English.

PSG College of Arts & Science
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Since 1947

Programme: MA Journalism and Mass Communication

Programme Outcomes	
	On completion of the programme, the student will be able to
PO-1	Become knowledgeable in the subjects of Communication and apply the principles of the same to the needs of the Employer/Institution/Own Business or Enterprise
PO-2	Gain analytical skills in the field/area of Communication
PO-3	Understand and appreciate professional ethics, community living and nation building initiatives
PO-4	Able to present messages in multiple communication modalities and contexts
PO-5	Evaluate and analyze the media content in different context

Programme Specific Outcomes	
	On completion of the programme, the student will be able
PSO-1	Apply the knowledge of Communication in the domain of Mass Media
PSO-2	Solve the complex problems in the field of Communication with an understanding of the societal, legal and cultural implications
PSO-3	Utilize the knowledge acquired through this programme and will be a harbinger in the field of Mass Communication and Journalism
PSO-4	Form a part of a team with right attitudes

Course Outcomes

Course Title	Core COMMUNICATION MODELS AND THEORIES
Code	**20MCP01**
	On completion of the course, students would be able to
CO-1	Understand the theoretical bases of communication practices; with special referenceto the contemporary societal structure
CO-2	Evaluate and apply theoretical perspectives in addressing demands in their personaland professional lives

Course Title	Core REPORTING AND EDITING
Code	**20MCP02**
	On completion of the course, students would be able to
CO-1	Understand the newsgathering and presentation process
CO-2	Analyze the news coverage in various media

Course Title	Core INDIAN CONSTITUTION AND MEDIA LAWS
Code	**20MCP03**
	On completion of the course, students would be able to
CO-1	Apply ethical principles and practices to their work
CO-2	Articulate the legal dimensions of news

Course Title	Core GRAPHIC DESIGN AND PRODUCTION
Code	**20MCP04**
	On completion of the course, students would be able to
CO-1	Gain working knowledge in the areas like digital printing and colour printing
CO-2	Practice trends in packaging of publications, while acquiring the skills of print media production

Course Title	Core PRACTICAL I : PRINT PRODUCTION
Code	**20MCP05**
	On completion of the course, students would be able to
CO-1	Gain knowledge, practical experience in print production

Course Title	Core PRACTICAL II : EDITORIAL PRACTICES
Code	**20MCP06**
	On completion of the course, students would be able to
CO-1	Gain knowledge, practical experience in recording, editing and post production
CO-2	There will be an opportunity to gain an insight into various production areas

Course Title	Core ENVIRONMENTAL COMMUNICATION
Code	**20MCP07**
	On completion of the course, students would be able to
CO-1	Plan and execute an environmental campaign
CO-2	Identify ways and models to solve the conflicts in environmental communications

Course Title	Discipline Specific Elective – I NEW MEDIA STUDIES
Code	**20MCP08A**
	On completion of the course, students would be able to
CO-1	Define the concept of digital media
CO-2	Describe telecommunication, internet and wireless technology
CO-3	Relate new media theories
CO-4	Compose content for new media

Course Title	Discipline Specific Elective – I BROADCASTING AND ONLINE JOURNALISM
Code	**20MCP08B**
	On completion of the course, students would be able to
CO-1	Develop necessary skills to become online journalists

Course Title	Core MEDIA, SOCIETY & CULTURE
Code	**20MCP09**
	On completion of the course, students would be able to
CO-1	Explore core social theory
CO-2	Understand the social values of the society

Course Title	Core PRACTICAL III: PHOTOGRAPHY
Code	**20MCP10**
	On completion of the course, students would be able to
CO-1	Adapt various techniques and skills in photography
CO-2	Display their visual documentations

Course Title	Core PRACTICAL IV: DIGITAL MEDIA PRODUCTION
Code	**20MCP11**
	On completion of the course, students would be able to
CO-1	Gain knowledge, practical experience in Digital Media Production

Course Title	Core FILM STUDIES
Code	**21MCP12**
	On completion of the course, students would be able to
CO-1	Critically evaluate film as a text
CO-2	Provides conceptual frameworks for understanding film's relationship to reality and the other arts

Course Title	Core COMMUNICATION RESEARCH METHODS
Code	**20MCP13**
	On completion of the course, students would be able to
CO-1	Conduct media research by making use of any of the research methods
CO-2	Write report after evaluation, analysis and interpretation of media content

Course Title	Discipline Specific Elective – II TELEVISION AND RADIO PRODUCTION
Code	**20MCP14A**
	On completion of the course, students would be able to
CO-1	Gain working knowledge in sound recording and editing, script writing, planning, producing, presenting, and live broadcasting
CO-2	Gain an in-depth insight into areas such as pre-recording and live studioproducing as well as outside broadcast coverage of live events

Course Title	Discipline Specific Elective – II MEDIA AND POLITICS
Code	**20MCP14B**
	On completion of the course, students would be able to
CO-1	Analyze political propaganda and the role of media
CO-2	Articulate the various dimensions of news

Course Title	Core PRACTICAL V: TELEVISION AND RADIOPRODUCTION
Code	**20MCP15**
	On completion of the course, students would be able to
CO-1	Gain knowledge, practical experience in recording, editing and post production
CO-2	Gain an insight into various production areas

Course Title	Core CONTENT DEVELOPMENT
Code	**20MCP18**
	On completion of the course, students would be able to
CO-1	Create content for target audience
CO-2	Know about new media audience

Course Title	Core MARKETING COMMUNICATION
Code	**20MCP19**
	On completion of the course, students would be able to
CO-1	Apply basic communication theories and concepts to understand the business environment for a company and understand marketing communication activities
CO-2	Undertake analysis to develop appropriate marketing communication objectivesfor a specified target market considering a range of media and methods available to marketers

Course Title	Core CORPORATE COMMUNICATION
Code	**20MCP20**
	On completion of the course, students would be able to
CO-1	Formulate an updated corporate communication strategy
CO-2	Enforce an effective campaign in the media

Course Title	Core ADVERTISING
Code	**20MCP21**
	On completion of the course, students would be able to
CO-1	Understand and respond to the needs of the advertising world
CO-2	Express their creativity and advertising sense through works

Course Title	Generic Elective Course (Cluster - III) DEVELOPMENT COMMUNICATION
Code	
	On completion of the course, students would be able to
CO-1	Understand factors governing national development
CO-2	Sensitize the need and issues of development

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Since 1947

Programme: MSc Applied Psychology

Programme Outcomes	
	On completion of the programme, the student will be able to
PO-1	To develop demonstrable ability in students to describe key concepts, principles, and overarching themes in psychology, and also to develop a working knowledge of psychology's content domains
PO-2	To facilitate students' understanding of the psychological principles and apply the same to individual, social and organizational issues.
PO-3	To sensitize students to acknowledge, appreciate, and accept differences, understand and follow ethical principles and practices in personal and professional contexts
PO-4	To engage students in integrative thinking, and enabling them to use scientific reasoning to interpret psychological phenomena
PO-5	To provide a strong theoretical foundation and meaningful direction for life after academic life by providing complementary skills and competence that is necessary for progressive career

Programme Specific Outcomes	
	On completion of the programme, the student will be able
PSO-1	To provide a strong theoretical and conceptually strong base in various domain of Psychology like Industrial / Clinical / Educational / Entrepreneurship.
PSO-2	To develop research acumen in students enabling them to approach any behavioral issue of concern with a holistic consideration (of societal, legal and cultural impacts etc,).
PSO-3	To provide an opportunity for self-awareness and reflection and familiarize students to the nature of the role of psychological processes operating within themselves and their environment.

PSO-4	To facilitate the learners in the pursuit of life of happiness, love of learning, moral strength, and sense of abundance, and contribute to the mental and emotional well-being in oneself and others

Course Outcomes

Course Title	**Core** **ADVANCED GENERAL PSYCHOLOGY**
Code	**18PSP01**
	On completion of the course, students would be able to
CO-1	Understand the definition, historical development, brain and other biological aspects of behavior and cognition
CO-2	Explain the natural and altered states of consciousness, various sensation and sense organs, perception and errors in perception
CO-3	Examine the concept of learning, theories of learning, memory and its types, forgetting and its causes and the methods of improving memory
CO-4	Estimate the basic concepts of motivation, theories of motivation, emotion and its theories, stress, its consequences and management
CO-5	Evaluate the forms of cognition like concept, reasoning, problem solving, the concept of intelligence, emotional intelligence, creativity, its nature and characteristics

Course Title	**Core** **ADVANCED SOCIAL PSYCHOLOGY**
Code	**18PSP02**
	On completion of the course, students would be able to
CO-1	Understand the field of social psychology, social cognition and attribution
CO-2	Estimate the process of information used in person’s perception and self
CO-3	Know the formation of attitude, prejudice and the social influence in conformity, compliance and obedience to authority
CO-4	Evaluate the process of inter personal attraction, personal relationships and behavior in groups

CO-5	Understand the gender behavior, helping behavior and aggression

Course Title	**Core** **POSITIVE PSYCHOLOGY**
Code	**18PSP03**
	On completion of the course, students would be able to
CO-1	Restate the principles underlying the science of happiness
CO-2	Examine and review the role of positive emotions on psychological wellbeing, and quality of relationships
CO-3	Analyze factors that build resilience and positive personality in an individual, and to discuss the biological bases of beliefs
CO-4	Justify the role of wisdom, virtues and mindfulness in life

Course Title	**Core** **PERSONALITY PSYCHOLOGY**
Code	**18PSP04**
	On completion of the course, students would be able to
CO-1	Understand the meaning and history of personality study, contemporary approaches of modern theories, and history, major concepts, structure and stages of psychoanalysis
CO-2	Analyze the major concepts, dynamics and structure of Carl Jung's Analytic Psychology, Adler's Individual Psychology, Karen Horeny and Erickson theory
CO-3	Evaluate the intellectual antecedents, major concepts, factors that supports or impeds personal growth, structure & therapy, Albert Bandura's theory, Aaron Beck & cognitive therapy & its Evaluation
CO-4	Review the major concepts, dynamics , structure and therapy of Roger's Person centered perspective, Malsow's Transpersonal Psychology, Trait, proprium, development and functional autonomy of Allport's theory, Cattell's theory and its evaluation
CO-5	Understand the history , major concepts, dynamics, structure of Hindu, Zen, Buddhist, and Sufism tradition

Course	**Core**

Title	PSYCHOLOGICAL TESTING & DIAGNOSIS
Code	18PSP05
	On completion of the course, students would be able to
CO-1	Gain knowledge about the intelligence tests
CO-2	Gain the understanding of educational assesses and disability assessment
CO-3	Students will know the personality assessments an especially projective tests
CO-4	Gain knowledge about career assessments
CO-5	Take case history in the clinical setting and understand the Neuropsychological assessments

Course Title	Core EXPERIMENTAL PSYCHOLOGY: PRACTICALS – I
Code	18PSP06
	On completion of the course, students would be able to
CO-1	The student will be able to assess and interpret the cognitive and psycho-social abilities of an individual
CO-2	The student will be able to assess the various personality pattern of an individual

Course Title	Core INDIAN PSYCHOLOGY
Code	18PSP07
	On completion of the course, students would be able to
CO-1	Appraise the nature of Indian Psychology, and explain the six darshanas / purusharthas as mentioned in the Indian philosophy
CO-2	Differentiate various types of yoga, explain the eight limbs of yoga as in patanjaliyoga sutra
CO-3	Explain the therapeutic application of yoga, and alternative therapies
CO-4	Illustrate the contributions of contemporary spiritual masters
CO-5	Explain and apply the lessons from ancient Indian scriptures

Course Title	Core NEUROPSYCHOLOGY
Code	18PSP08

	On completion of the course, students would be able to
CO-1	Understand the meaning, history of neuropsychology, basic parts of the brain and their function and the various neurological disorders
CO-2	Explain the anatomical parts of the frontal lobe and temporal lobe and their dysfunction like cognitive changes, personality change aphasias and amnesias
CO-3	Discuss the anatomical parts of the parietal lobe and the dysfunctions like somatic sensory disorders, apraxia and spatial neglect
CO-4	Analyze the anatomical parts of the occipital lobe and the dysfunctions like cerebral blindness and visual agnosia and neurological basis of learning disability, cerebral palsy, autism and other disorders
CO-5	Understand the method uses of neurophysiological assessments like CT scan, MRI and EEG and the method and uses of neuropsychological assessment like BGT, LNNB, HRB and other tests

Course Title	**Core** **LEARNING DISABILITIES AND INTERVENTION**
Code	**18PSP09**
	On completion of the course, students would be able to
CO-1	Understand the historical perspectives and theories of learning disability
CO-2	Examine the characteristics of adolescents and adults with learning disability
CO-3	Analyze the behavioral, educational and alternative interventions for learning disability
CO-4	Evaluate the teaching strategies for oral language, reading, writing and mathematics
CO-5	Understand the educational placement, resources room, and emerging issues in the field of Learning Disability

Course Title	**Core** **RESEARCH METHODS**
Code	**18PSP10**
	On completion of the course, students would be able to
CO-1	Understand the meaning of the research, review of literature and various methods of data collections

CO-2	Explain the population, sampling and research hypothesis
CO-3	Analyze the experimental, non experimental and qualitative research designs
CO-4	Discuss the steps in test development, reliability and validity and norms
CO-5	Understand the structure and format of the research report and how to publish it

Course Title	**Core** **EXPERIMENTAL PSYCHOLOGY (PRACTICAL – II)**
Code	**18PSP11**
	On completion of the course, students would be able to
CO-1	Relate various neuro psychological and human resource aspects, administer, assess/ score, evaluate and infer the tests

Course Title	**Core** **CLINICAL PSYCHOLOGY**
Code	**18PSP15**
	On completion of the course, students would be able to
CO-1	The students will be aware of historical background & Classification systems of clinical psychology & able to use the assessment methods of clinical psychology
CO-2	The students will be able to explain various causes of schizophrenia, mood & somatoform disorder and do the diagnostic formulation
CO-3	The students will be able to discuss about the causes and diagnostic criteria for the types of personality, dissociative and sexual disorders
CO-4	The students will be able to analyse the causes and explain the symptoms of anxiety disorders & disorders of childhood and adolescents
CO-5	The students will be able to identify the causes of stress and the effect of traumatic events. Gets trained in the strategies to prevent mental illness and promote mental health

Course Title	**Core** **DEVELOPMENTAL PSYCHOPATHOLOGY**
Code	**18PSP16**
	On completion of the course, students would be able to

CO-1	Analyse normality and abnormality in the developmental process
CO-2	Identify the deviation in development during infancy, toddler and preschool period
CO-3	Interpret the disorders in adolescence
CO-4	Apply the developmental pattern of mental disorder
CO-5	Diagnose and treat mental retardation and associated risk factors

Course Title	**Core** **EXPERIMENTAL PSYCHOLOGY: PRACTICALS –III**
Code	**18PSP17**
	On completion of the course, students would be able to
CO-1	Administer and involve in report writing for the Psychological tests
CO-2	Identify the severity level of the psychological processes through rating scales

Course Title	**Core** **PSYCHOLOGY FOR COMPETITIVE EXAMINATIONS**
Code	**18PSP18**
	On completion of the course, students would be able to
CO-1	Relate and apply the psychological concepts from the competitive examination perspective
CO-2	Display the reasoning skills, numerical ability and soft skills
CO-3	Apply and relate the knowledge of ICT, environment, education and polity from the competitive examination perspective
CO-4	Perform better in the employment selection process
CO-5	Demonstrates good communication skill and displays effective strategies in the selection process

Course Title	**Allied** **PSYCHOMETRIC METHODS AND STATISTICS**
Code	**18PSP21**
	On completion of the course, students would be able to
CO-1	Explain the concept and properties of psychometric methods
CO-2	Apply the Principles of Test construction in tool development

CO-3	Choose appropriate Parametric and Non Parametric tests during the research projects

Course Title	**Discipline Specific Elective – I PSYCHOTHERAPEUTICS**
Code	**18PSP22A**
	On completion of the course, students would be able to
CO-1	Understand the meaning and characteristics of psychotherapy, Psychoanalytic and Adlerian therapy
CO-2	Gain knowledge about Existential and Person centered therapy
CO-3	Get better understanding about Gestalt and Reality therapy
CO-4	Learn how to Apply Behaviour therapy, REBT& Cognitive therapy wherever necessary
CO-5	Gain knowledge about recent updates of psychotherapies

Course Title	**Discipline Specific Elective – I BEHAVIOUR MODIFICATION**
Code	**18PSP22B**
	On completion of the course, students would be able to
CO-1	Gain the knowledge the Behaviour Modification, History and Observing and recording behaviour
CO-2	Grasp the basic principles of behaviour modification
CO-3	Learn the procedures to establish new behaviour
CO-4	Gain the Procedures to increase Desirable Behaviour and Decrease Undesirable Behaviour
CO-5	Acquire the knowledge about Other Behaviour Change Procedures

Course Title	**Core ORGANIZATIONAL BEHAVIOR**
Code	**18PSP24**
	On completion of the course, students would be able to
CO-1	Examine and explain the historical evolution of field of organizational behavior
CO-2	Apply and understand the group development processes, and apply the

	knowledge / insight to life and profession
CO-3	Assess the qualities of leader / leadership that is appropriate to different organizational context
CO-4	Appraise the organizational process in decision-making, problem solving and change management

Course Title	**Core** **MARKETING AND CONSUMER BEHAVIOR**
Code	**18PSP25**
	On completion of the course, students would be able to
CO-1	Explain the marketing concepts, environmental scanning, and marketing Intelligence
CO-2	Apply and understand the micro and macro environmental forces that impacts the business, and the market research process
CO-3	Assess the marketing Segments, Targets, and Positions product / service / brand
CO-4	Elaborate on integrated marketing communication, channel management, dealing with competition, and creating brand equity

Course Title	**Core** **COUNSELLING PSYCHOLOGY**
Code	**18PSP26**
	On completion of the course, students would be able to
CO-1	Understand counselling and its related fields
CO-2	Different approaches to counselling, counselling process and skills of counsellor
CO-3	Psychological tests and their use in counselling, interview techniques in counselling
CO-4	Individual and group counselling, educational counselling
CO-5	Special areas in counselling, guidance and counselling movements in India

Course Title	**Core** **HEALTH PSYCHOLOGY**
Code	**18PSP27**
	On completion of the course, students would be able to

CO-1	Explain the definition, need for health psychology, Bio-Psycho socio model and various systems of the body
CO-2	Demonstrate the Health behaviours, changing health habits, cognitive and behavioural approach to health behaviour, health enhancing behaviours like exercise, Accident prevention, cancer related health behaviours, managing healthy diet and weight control smoking intervention and prevention
CO-3	Relate the concept of stress, its theoretical contribution, Assessment, stressful life events, sources and moderators of stress, coping strategies and stress management
CO-4	Evaluate the meaning and need of health services, using and misusing health services. Patient provider relations, nature of communication, improving adherence , Nature, measurement, causes of pain and its control techniques
CO-5	Discuss the meaning and management, emotional responses, rehabilitation and psychological interventions of chronic illness, terminal illness, and psychological management of terminally ill & health psychology trends for the future

Course Title	**Core** **CASE ANALYSIS: PRACTICAL – IV**
Code	**18PSP28**
	On completion of the course, students would be able to
CO-1	Apply the various psychological principles in problem identification, assessment and interventions
CO-2	Analyze and explain the causes of problem using the given data
CO-3	Demonstrates a professional way of analyzing and interpreting data
CO-4	Formulates and conceptualize cases, plans interventions
CO-5	Applies concept of normal and abnormal behavior to case formulation, diagnosis, and treatment planning in the context of human development and diversity

Course Title	**Core** **PROFESSIONAL SKILLS: PRACTICALS – V**
Code	**18PSP29**

	On completion of the course, students would be able to
CO-1	Gain knowledge about case history, rating scales, basic biological and Psycho-diagnostic measures
CO-2	Get better understanding to apply various relaxation techniques wherever necessary
CO-3	Gain a practical knowledge about Psychotherapeutic procedures
CO-4	Expand the knowledge involved in the process/techniques of Research publication

Course Title	Discipline Specific Elective - II HUMAN RESOURCE MANAGEMENT
Code	18PSP30A
	On completion of the course, students would be able to
CO-1	Explain nature, significance and functions of HRM, strategic HRM and HR policies. Able to formulate a HR policy
CO-2	Explain the importance of human resource planning and able to analyse, describe job and apply recruitment techniques in the organization
CO-3	Employ training methods and apply different techniques for the development of employees in the industries
CO-4	Evaluate and implement performance appraisal methods and explain the importance of employee empowerment
CO-5	Describe the importance of job changes and the ways to handle employees' absenteeism, turnover and health & safety issues in an organization

Course Title	Discipline Specific Elective - II ENVIRONMENTAL PSYCHOLOGY
Code	18PSP30B
	On completion of the course, students would be able to
CO-1	Experience and explain various perspectives on human-environment interrelationships
CO-2	Gain insights into the ways in which the environment influences our feelings and experiences

Course Title	Generic Elective Course UNDERSTANDING HUMAN BEHAVIOR
Code	**18GECIDC**
	On completion of the course, students would be able to
CO-1	Explain the basic concepts of understanding human behaviour
CO-2	Evaluate perception, intelligence and creativity
CO-3	Discuss learning and memory related concepts
CO-4	Explain, and interpret emotion its theories, stress and management
CO-5	Analyze and review the processes in personality and assessments

Course Title	Generic Elective Course APPLIED BEHAVIOURAL SCIENCE
Code	**19ENP05**
	On completion of the course, students would be able to
CO-1	Explain the core concept of behavioural science and psychology methods, and to know the various fields where the concept of Psychology is applied
CO-2	Identify various aspects of consciousness, attention and perception
CO-3	Illustrate the concepts like learning , memory , forgetting and motivation
CO-4	Describe the factors included in cognition, intelligence and intelligence
CO-5	Assess the theories of personality and demonstrate the skills required to provide counseling

PSG College of Arts & Science
Coimbatore – 641 014

Since 1947

Programme: M.Sc Mathematics

Programme Outcomes	
	On completion of the programme, the student will be able to
PO-1	Become knowledgeable in the subject of pure and applied mathematics and apply the principles of the same to theneed of the employer / institution / own business or enterprise
PO-2	Gain analytical skills in the field / area of computational mathematics with mathematical software's to develop the mathematical modeling
PO-3	Understand and appreciate professional ethics, community living and nation building initiatives
PO-4	To train computational scientists who can take an real life challenging problems
PO-5	To motivate for research in mathematical sciences and to cultivate a mathematical altitude and nurture the interest
PO-6	To promote mathematical skills and knowledge for their intrinsic beauty effectiveness in developing proficiency in analytical reasoning and utility in modeling and solving real world problem
PO-7	Continue to acquire mathematical knowledge and skills appropriate to professional activities and demonstrate highest standards of ethical issues in mathematics

Programme Specific Outcomes	
	On completion of the programme, the student will be able
PSO-1	Apply the knowledge of mathematics in the domain of deterministic and probabilistic dynamical systems
PSO-2	Solve the complex problems in the field of pure & applied mathematics with an understanding of the societal, legal and cultural impacts of the solution
PSO-3	Solve the abstract problems in fluid mechanics and control systems and frame mathematical modeling of real world problems
PSO-4	Form a part of member in a team with right attitudes

Course Outcomes

Course Title	Core ALGEBRA
Code	**20MAP01 / 18MAP01**
	On completion of the course, students would be able to
CO-1	Have a working knowledge of important mathematical concepts such as group, subgroup, order of a finite group
CO-2	Understand the basics concepts of ring and field theory
CO-3	Acquire skills in polynomial rings and their properties
CO-4	Work with field extensions, including computing the degree of an extension and the minimal polynomial of a simple extension
CO-5	Know the basic properties of the Galois group of a filed extension

Course Title	Core REAL ANALYSIS
Code	**20MAP02 / 18MAP02**
	On completion of the course, students would be able to
CO-1	Prove a selection of theorems concerning Riemann integrability and the Riemann Stieltjes integrability
CO-2	Recognize the difference between point-wise and uniform convergence of a sequence of functions
CO-3	Prove some of the crucial theorems of the Lebesgue theory of measure and integration

Course Title	Core ORDINARY DIFFERENTIAL EQUATIONS
Code	**20MAP03 / 18MAP03**
	On completion of the course, students would be able to
CO-1	Solve problems in ordinary differential equations, dynamical systems and a number of applications to scientific and engineering problems
CO-2	Demonstrate their ability to write coherent mathematical proofs and scientific arguments needed to communicate the results obtained from differential equation models
CO-3	Implement solution methods using appropriate technology and investigate the qualitative behavior of solutions

Course Title	Core MATHEMATICAL PROGRAMMING
Code	**20MAP04 / 18MAP04**
	On completion of the course, students would be able to
CO-1	Become proficient with tools from optimization, simulation and engineering economic analysis
CO-2	Develop the formulation with constraints of a network model as a linear program and solve the network problems
CO-3	Solve the nonlinear programming by various methods

Course Title	Core FUZZY SETS AND FUZZY LOGIC
Code	**20MAP05**
	On completion of the course, students would be able to
CO-1	Understand the primary purpose to facilitate education in the increasing important areas of Fuzzy Set theory and Fuzzy Logic.
CO-2	Understand the basic concepts and techniques of fuzzy set theory.
CO-3	Understand the operations on Fuzzy Sets.
CO-4	Understand Various types of Uncertainty can be characterized and investigated a theory in Fuzzy Sets and Fuzzy measure.

Course Title	Core COMPLEX ANALYSIS
Code	**20MAP06/ 18MAP05**
	On completion of the course, students would be able to
CO-1	Understand and explain the concepts of analytic functions and Cauchy'sfundamentaltheorembyusingtheelementsofpoint-set topology
CO-2	Prove and apply the Riemann mapping theorem in analytical arcs
CO-3	Evaluate contour integration by using calculus of residues
CO-4	Represent exponentials and Fourier developments by using the general theory of elliptic functions

Course Title	Core PARTIAL DIFFERENTIAL EQUATIONS
Code	**20MAP07/ 18MAP06**
	On completion of the course, students would be able to
CO-1	Demonstrate how physical phenomena are modeled by differential equations and dynamical systems
CO-2	Be competent in solving linear PDEs using classical solution methods
CO-3	Be familiar in solving elliptic, parabolic and hyperbolic equations

Course Title	Core TOPOLOGY
Code	**20MAP08**
	On completion of the course, students would be able to
CO-1	Acquire knowledge of topological spaces and their properties
CO-2	Become proficient in properties of continuous functions on topological spaces
CO-3	Understand the countability and separation axioms and their importance in proving various theorems
CO-4	Analyze the various spaces having the properties such as connected, compact, Hausdorff, regular, normal and metrizable

Course Title	Core MATHEMATICAL STATISTICS
Code	**20MAP09/ 18MAP08**
	On completion of the course, students would be able to
CO-1	Know the most widely used probability distributions and recognize them in applications
CO-2	Describe a random variable through the probability density function, the cumulative distribution function, and the moment generating function
CO-3	Understand the importance of the central limit theorem
CO-4	Prove theorems and thinking out counter examples

Course Title	Core MEASURE THEORY AND INTEGRATION
Code	**20MAP10**
	On completion of the course, students would be able to
CO-1	Understand Lebesgue Measure.
CO-2	Apply Lebesgue Measure in Integral.
CO-3	Evaluate Differentiation of monotone functions
CO-4	Understand Radon-Nikodym theorem.
CO-5	Prove theorems and solve problems.

Course Title	Core FUNCTIONAL ANALYSIS
Code	**20MAP11/ 18MAP09**
	On completion of the course, students would be able to
CO-1	Understand Banach spaces, which is a combination of both algebraic and metric structures and study the linear transformations on them
CO-2	Understand Hilbert Spaces, and study Hahn-Banachtheorem
CO-3	Understand properties on vector spaces
CO-4	Understand Reflexive spaces and applications of reflexive spaces
CO-5	Understand the properties of compact linear operators

Course Title	Core MECHANICS
Code	**20MAP12/ 18MAP10**
	On completion of the course, students would be able to
CO-1	Gain basic knowledge of non relativistic classical dynamics
CO-2	Become proficient in derivation and application of Lagrange's equation
CO-3	Know the Hamiltonian viewpoint of dynamics for the canonical equations of motion and phase space
CO-4	Understand the principle of least action and Hamilton'sprinciple
CO-5	Obtain the concrete procedures for solving problems using canonical transformations

Course Title	Core DIFFERENTIAL GEOMETRY
Code	**20MAP13**
	On completion of the course, students would be able to
CO-1	Identification of important types of curves in surfaces, including principal curves, asymptotic curves and geodesics.
CO-2	Enumerate some standard examples in geometry, such as surfaces of constant Gaussian curvature, compact and non-compact surfaces, and surfaces of revolution.
CO-3	Analyze Gaussian and mean curvatures using variety of methods including patch computations, direct calculation of the shape operator.
CO-4	Articulate connections between geometry and other disciplines, possibly including topology, algebra, analysis, or applied mathematics.

Course Title	Discipline Specific Elective-I STOCHASTIC DIFFERENTIAL EQUATIONS
Code	**20MAP14A/ 18MAP11A**
	On completion of the course, students would be able to
CO-1	Understand the stochastic differential equations by a more realistic mathematicalmodel
CO-2	Know the mathematical interpretation of the “noise” term in the differentialequation
CO-3	Findthesolutionofmanystochasticdifferentialequationsusingthe Itoformula
CO-4	Solve the 1-D and 2-D linear filteringproblems
CO-5	Become proficient in basic properties and results about Ito diffusions

Course Title	Discipline Specific Elective – I MAGNETOHYDRODYNAMICS
Code	**20MAP14B/ 18MAP11B**
	On completion of the course, students would be able to
CO-1	Understand the fundamental laws of electromagnetism, equation of electromagnetism and boundaryconditions
CO-2	Study of Fundamental laws electromagnetic equations and boundary conditions
CO-3	Study of continuous hypothesis and magnetohydrodynamics
CO-4	Study of magneto hydrostatics, Alfven waves in MHD and Hartmann flow
CO-5	Study of stability and in stability of linear pinch

Course Title	Core OPERATOR THEORY
Code	**20MAP18/ 18MAP14**
	On completion of the course, students would be able to
CO-1	Understand the properties of bounded linear operators
CO-2	Understand the concepts of polar decomposition spectrum and numerical range of an operator
CO-3	Understand the spectrum of an operator and theirkinds
CO-4	Understand the properties of several classes of non-normal operators and further development of bounded linear operators
CO-5	Understand different types of new operators

Course Title	Core CONTROL THEORY
Code	**20MAP19/ 18MAP15**
	On completion of the course, students would be able to
CO-1	Understandthebasictheoryandmethodology for designing control systems
CO-2	Solve observability problems of linear and nonlinearsystems
CO-3	Become proficient in stability analysis of linear and nonlinear systems
CO-4	Know the stabilization of controlsystems
CO-5	Solve optimal controlproblems

Course Title	Core FLUID DYNAMICS
Code	**20MAP20/ 18MAP16**
	On completion of the course, students would be able to
CO-1	Understand the general picture of fluid mechanics and its related fields
CO-2	Derive the governing equations such as continuity equation, momentum equation and energy equation
CO-3	Obtain the derivation of Navier-Stokes equation and Euler equation for viscous / inviscid compressible/incompressible fluids
CO-4	Understand the velocities of flow between two parallel plates, rotating cylinder
CO-5	Obtain the boundary layer equations in 2-D’s and integral equations for boundary layer

Course Title	Core MATHEMATICAL METHODS
Code	**20MAP21**
	On completion of the course, students would be able to
CO-1	Understand the integral equations occurring in real-life situations and find the ways to solve it
CO-2	Solve the integral equations with various techniques
CO-3	Gain the basic knowledge of calculus of variations and in solving the applied problems of science and engineering

Course Title	Discipline Specific Elective – II COMPUTATIONAL METHODS (THEORY)
Code	**20MAP22A**
	On completion of the course, students would be able to
CO-1	Demonstrate how numerical techniques can be applied in real-life situations and find the ways to solveit
CO-2	Know the several numerical techniques to solve the initial-value problems and the system ofequations
CO-3	Solve the boundary-value problems using the Linear Shooting method and the Finite-Differencemethod
CO-4	Solve the elliptic, parabolic and hyperbolic PDE's using theFinite- Difference method
CO-5	Provide a foundation for further study of numerical analysis and scientificcomputing

Course Title	Discipline Specific Elective – II MATLAB (THEORY)
Code	**20MAP22B/ 18MAP17B**
	On completion of the course, students would be able to
CO-1	Acquire knowledge of the software MATLAB
CO-2	Acquire knowledge of array addressing by using MATLAB built
CO-3	Acquire knowledge of script files
CO-4	Acquire knowledge of functions and function files
CO-5	Acquire knowledge to relations and logical operations of MATLAB

Course Title	Generic Elective Course – (Cluster – I) FUZZY LOGIC IDC – OPTIONAL –THEORY
Code	**18STP17A/ 18PHP15A/ 18CMP22A**
	On completion of the course, students would be able to
CO-1	Understand the fuzzy sets and itsproperties
CO-2	Understand fuzzy tolerance and different methods of value assignments
CO-3	Understand the properties of Membershipfunctions
CO-4	Understand the applications of fuzzyarithmetic
CO-5	Understand the fuzzy logic and logicalproofs

Course Title	Generic Elective Course FUZZY LOGIC IDC – OPTIONAL –THEORY
Code	
	On completion of the course, students would be able to
CO-1	Understand the basics of life insurance and its properties
CO-2	Understand the survival models and properties of life table selection.
CO-3	Understand applications of insurance benefits and properties of annuity.

PSG College of Arts & Science
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Since 1947

Programme: MSc Statistics

Programme Outcomes	
	On completion of the programme, the student will be able to
PO-1	Become knowledgeable in the subject of advanced Statistics
PO-2	Gain Analytical skills in the field /area of theoretical and application research aspects of Statistics
PO-3	Understand and appreciate professional ethics, community living and Nation Building initiatives
PO-4	Develop and demonstrate knowledge and understanding skills, qualities and other attributes like intellectual skills, practical skills, and transferable skills
PO-5	Analyze the Statistical needs of manufacturing, service, Government and Private Sectors
PO-6	Apply core concepts and principles in well defined context showing judgment in the selection and application of tools and techniques
PO-7	Derive / Develop Procedures for solving problems in statistics
PO-8	Show lifelong learning / Exhibit interest in lifelong learning

Programme Specific Outcomes	
	On completion of the programme, the student will be able
PSO-1	Apply the knowledge of Statistics in the domain of Data analysis
PSO-2	Solve the complex problems in the field of all Social, Psychological, Biological and Management Sciences with an understanding of the societal, legal and cultural impacts of the solution
PSO-3	Gained experience and show the competence in the transferable skills like IT, (using statistical software), scientific writing, problem solving, and team spirit,

	effective and efficient use of internet resource, management and career planning
PSO-4	Form a part of member in a team with right attitudes

Course Outcomes

Course Title	**Core** **REAL ANALYSIS AND MATRIX ALGEBRA**
Code	**18STP01**
	On completion of the course, students would be able to
CO-1	Understand continuity, derivability of real valued functions
CO-2	Differentiate between Riemann Integral and Riemann – Stieltjes integral
CO-3	Grasp the concept of matrix theory

Course Title	**Core** **PROBABILITY THEORY**
Code	**18STP02**
	On completion of the course, students would be able to
CO-1	Grasp the fundamentals of Probability theory
CO-2	Have an idea of random variables, expectation and probability measure etc. under stochastic situation
CO-3	Understand the convergence in Probability, Weak Law of Large numbers and different theorems applicable in research

Course Title	**Core** **SAMPLING THEORY**
Code	**18STP03**

	On completion of the course, students would be able to
CO-1	Appreciate the uses of sampling
CO-2	Get an overview of Simple random Sampling, Stratified random sampling and other estimation techniques.
CO-3	Know the difference and efficiency of different sampling method
CO-4	Have knowledge about Ratio and Regression estimators

Course Title	Core OPERATIONS RESEARCH
Code	18STP04
	On completion of the course, students would be able to
CO-1	Develop the knowledge about the dual simplex problems and decision analysis and decision trees and its application
CO-2	Solve sensitive analysis and inventory control with decision making problems
CO-3	Find a solution of project activities using PERT and CPM
CO-4	Develop the knowledge about the dynamic problems to shortest route, goal programming and its application
CO-5	Simulate the real life Queuing and inventory problems

Course Title	Core SOFTWARE PRACTICAL I – SPSS
Code	18STP05
	On completion of the course, students would be able to
CO-1	Create data and manage the data in SPSS
CO-2	Identify the nature of the variable and recognize the tools to be used
CO-3	Perform the Statistical analysis using SPSS as per the requirement

Course Title	Core DISTRIBUTION THEORY
Code	18STP06

	On completion of the course, students would be able to
CO-1	Derive Non-central χ^2, t and F distribution from normal distribution and derive the Sampling distributions of sample correlation coefficient and regression coefficient
CO-2	Derive the truncated probability distributions relevant to functions of random variable
CO-3	Perform Statistical tests of the mean(s) vectors of a multivariate normal distribution
CO-4	Use principal component, Factor analysis, Classification theorem and Canonical correlation for typical problems

Course Title	**Core** **ESTIMATION THEORY**
Code	**18STP07**
	On completion of the course, students would be able to
CO-1	Have the knowledge about the estimators and its properties
CO-2	Understand the theorems and its applications
CO-3	Able to estimate the parameters based on methods of estimation
CO-4	Apply the interval estimation and Bayesian estimation in real life problems

Course Title	**Discipline Specific Elective – I** **PROGRAMMING LANGUAGE FOR STATISTICS (C++)**
Code	**18STP08A**
	On completion of the course, students would be able to
CO-1	Solving the given problem using the syntactical structures of C++ Languages
CO-2	Designing and algorithmic the solution for a given problem in C++ Languages
CO-3	Implementing Various object oriented Concepts
CO-4	Using the Programming skill to debug and run the programmes efficiently
CO-5	Solve the statistics problems with the help of C++

Course	**Discipline Specific Elective – I**

Title	DATA MINING AND WAREHOUSING
Code	**18STP08B**
	On completion of the course, students would be able to
CO-1	Describe and demonstrate basic data mining algorithms methods, and tools
CO-2	Apply the techniques of clustering, classification, association finding, feature selection and visualization to real world data
CO-3	Process raw data to make it suitable for various data mining algorithms
CO-4	Analyze large sets of data to gain useful business understanding

Course Title	Core SURVIVAL ANALYSIS AND CLINICAL TRIALS USING STATA
Code	**18STP09**
	On completion of the course, students would be able to
CO-1	Learn about survival& hazard functions, Censoring and its types and Mean residual Life
CO-2	Estimate the survival & hazard functions for Exponential, Weibull, Normal and Gamma distributions
CO-3	Estimation of Survival function using Kaplan –Meier Estimator, Gehan's test and Cox's proportional hazard model
CO-4	Learn about how clinical trials are conducted, its types, phases and ethics of clinical trials
CO-5	Learn to apply Kaplan Meier estimator and Cox proportional hazard model to practical data using statistical software STATA

Course Title	Core SOFTWARE PRACTICAL II – SYSTAT
Code	**18STP10**
	On completion of the course, students would be able to
CO-1	Perform the Statistical analysis using SYSTAT

Course Title	Core STATISTICS PRACTICAL –I
Code	**19STP11**

	On completion of the course, students would be able to
CO-1	Find the critical path and project duration
CO-2	Find the Economic order quantity in various real life situation
CO-3	Compute Expected Money Value and Expected Opportunity Loss (EOL)
CO-4	Estimate the parameters using various types of sampling techniques
CO-5	Test the mean vector covariance matrix using multivariate techniques

Course Title	**Core** **HYPOTHESES TESTING**
Code	**18STP12**
	On completion of the course, students would be able to
CO-1	Define hypothesis, types and its testing methods with theoretical Knowledge
CO-2	Interpret the theories of unbiased test, similar tests and confidence Bounds
CO-3	Identify and Analyze the LRT test with properties and its application Problems
CO-4	Derive the measures of SPRT for various distributions
CO-5	Analyze & apply the relevant Non-parametric tests under various Circumstances

Course Title	**Core** **STOCHASTIC PROCESSES**
Code	**18STP13**
	On completion of the course, students would be able to
CO-1	Classify the nature of Markov chain in discrete & Continuous time with state diagrams recurrence, transient states periodicity and irreducibility
CO-2	Define the calculations with transition Probabilities
CO-3	Elaborate the concept of random walk and Kolmogorov equations
CO-4	Apply the concepts of Poisson process & Branching process
CO-5	Discuss the concept of Renewal process with theorems & Wide –sense Stationary probability with examples

Course Title	**Core** **BIG DATA ANALYTICS AND R PROGRAMMING**

Code	18STP14
	On completion of the course, students would be able to
CO-1	Learn tips and tricks for big data use cases and solutions
CO-2	Develop critical skills, that help build a background as a data analytics and a data scientist
CO-3	Build and maintain reliable, scalable, distributed systems with R Programming
CO-4	Learn programming in R Language and apply to solve the Statistical Problem
CO-5	Understand Data visualization and Hadoop platforms

Course Title	Discipline Specific Elective Course – II DEMOGRAPHIC TECHNIQUES
Code	**18STP15A**
	On completion of the course, students would be able to
CO-1	Identify different source of data for measuring mortality and Morbidity
CO-2	Explain some of the problems relating to the completeness and Quality of data
CO-3	Obtain fertility measures and models under different conditions; also identify causes of fertility changes and its implications
CO-4	Project the population growth and have knowledge in migration
CO-5	Apply the concepts of stochastic processes to real life situations On Birth and Death process

Course Title	Discipline Specific Elective Course – I BIO STATISTICS AND EPIDEMIOLOGY
Code	**18STP15B**
	On completion of the course, students would be able to
CO-1	Learn the foundations of Biostatistics its scope, Types of Distributions and its applications
CO-2	Understand the application of correlation, regression, logistic Regression and survival analysis for clinical data
CO-3	Know about testing of hypothesis applied in Biostatistics
CO-4	Understand the basics of epidemiology, measures of association And risk
CO-5	Have an idea about clinical epidemiology and measures of Diagnostic accuracies

Course Title	Core SOFTWARE PRACTICAL III – R Programming
Code	**18STP16**
	On completion of the course, students would be able to
CO-1	Ability to use different programming application for R in BIGDATA Analysis
CO-2	Use knowledge to analyze, interpret the data and synthesis the information to derive valid conclusions using research methods and problems
CO-3	Solve system of two or more equations, regression equations and correlation, logistic equations and analysis of variance problems of data analysis
CO-4	Understand the value of probability and Statistics in acquiring knowledge and making decisions
CO-5	Develop an ability to apply statistical tests in experiments, as well as to analyze and interpret data

Course Title	Generic Elective Course STATISTICAL TECHNIQUES (THEORY)
Code	**18STP17A/18STP17B/ 18STP17C**
	On completion of the course, students would be able to
CO-1	Gain knowledge of critical understanding of Statistical Methodologies
CO-2	Identify contexts in which a method may be appropriate
CO-3	Perform various Estimation as well as confidence interval for various measures
CO-4	Identify and perform the test of significance as per need of the situation

Course Title	Generic Elective Course STATISTICAL TECHNIQUES - SPSS (Practical)
Code	**18STP18A/18STP18B /18STP18C**
	On completion of the course, students would be able to
CO-1	Describe the basic principles of descriptive and inferential statistics
CO-2	Build, organize and administer databases using the SPSS software
CO-3	Define conceptual/operational null/alternate hypotheses based on research questions
CO-4	Construct and interpret point estimates and confidence intervals
CO-5	Differentiate parametric vs. non-parametric statistics identifying Conditions for

	their use

Course Title	Core LINEAR MODELS AND DESIGN OF EXPERIMENTS
Code	**18STP19**
	On completion of the course, students would be able to
CO-1	Analyze data by appropriately fitting, assessing, and interpreting a Variety of statistical models
CO-2	Explain the essential components of experimental design
CO-3	Design an experiment and conduct analysis of variance on experimental data, interpret the results and present them Meaningfully
CO-4	Understanding the concept of Bio assay, Factorial Experiments And BIBD

Course Title	Core STATISTICAL QUALITY CONTROL
Code	**18STP20**
	On completion of the course, students would be able to
CO-1	Apply the knowledge of quality and calculate the limits
CO-2	Demonstrate, design, use measures to interpret control charts for Attributes and variables as per the need of the industry
CO-3	Apply and describe performance measures of various sampling Plans with the knowledge learned for attributes and variables
CO-4	Estimate life length distributions, using complete or censored data

Course Title	Core ECONOMETRICS AND PLANNING MODELS
Code	**18STP21**
	On completion of the course, students would be able to
CO-1	Understand the technique, methodology and Application of Forecasting Models
CO-2	Gain Knowledge in the Regression Analysis
CO-3	Obtain Auto correlation and Multicollinearity
CO-4	To develop an empirical model of experimental data using Simulation Equation Models and Planning Models

Course Title	Core TIME SERIES AND FORECASTING
Code	**18STP22**
	On completion of the course, students would be able to
CO-1	Learn the basic concepts of Time series, stationarity, auto- Correlation, auto correlation functions
CO-2	Apply smoothing techniques, Holt's and Winter's methods
CO-3	Understand about linear and non-linear stationary models
CO-4	Have understanding about different forecasting methods, basic Steps in models building and model evaluation methods

Course Title	Core STATISTICS PRACTICAL –II
Code	**18STP23**
	On completion of the course, students would be able to
CO-1	Analyse to apply and interpret the results of most powerful Test, SPRT and non parametric test under various circumstances
CO-2	Apply and describe performance measures of various sampling plans with the knowledge learned for attributes and variables
CO-3	Design an experiment and conduct analysis of variance of the experimental data and interpret the results

Course Title	Generic Elective Course STATISTICAL TECHNIQUES (THEORY)
Code	**18GECIDC**
	On completion of the course, students would be able to
CO-1	Gain knowledge of critical understanding of Statistical Methodologies
CO-2	Identify contexts in which a method may be appropriate
CO-3	Perform various Estimation as well as confidence interval for various measures
CO-4	Identify and perform the test of significance as per need of the situation

Course Title	Generic Elective Course STATISTICAL TECHNIQUES – SPSS (PRACTICAL)
Code	**18GECIDC**
	On completion of the course, students would be able to
CO-1	Describe the basic principles of descriptive and inferential statistics
CO-2	Build, organize and administer databases using the SPSS software
CO-3	Define conceptual/operational null/alternate hypotheses based on research questions
CO-4	Construct and interpret point estimates and confidence intervals
CO-5	Differentiate parametric vs. non-parametric statistics identifying Conditions for their use

PSG College of Arts & Science
Coimbatore – 641 014

Since 1947

Programme: M.Sc Physics

Programme Outcomes	
	On completion of the programme, the student will be able to
PO-1	Become knowledgeable in the subject of Physics and apply the principles of the same to the needs of the Institution
PO-2	Gain Analytical skills in the fields of Physics
PO-3	Understand and appreciate professional ethics, community living and Nation Building initiatives
PO-4	Makes the students to apply the knowledge and skills towards research areas in Physics
PO-5	Makes them to compete with their counterparts in national and international levels
PO - 6	Makes feel comfortable in the ambit of fellow researcher/employee

Programme Specific Outcomes	
	On completion of the programme, the student will be able
PSO-1	Apply the knowledge of Physics in the domain of research and development.
PSO-2	Solve the complex problems in the field of science and technology with an understanding of the societal, legal and cultural impacts of the solution
PSO-3	Inculcates scientific temper and motivate student to take up further research career
PSO-4	Form a part of member in a team with righteous attitudes

Course Outcomes

Course Title	Core NUCLEAR PHYSICS
Code	**18PHP01**
	On completion of the course, students would be able to
CO-1	Understanding the ground state properties of the nucleus to study the nuclear structure behavior
CO-2	Understand the structure of the nucleus, radioactive decay, nuclear reactions and the interaction of nuclear radiation with matter
CO-3	Apply the deuteron physics concepts for the better understanding of nuclear forces in Nucleon-Nucleon scattering
CO-4	Apply various aspects of nuclear reactions in view of compound nuclear dynamics
CO-5	Gain knowledge about the nuclear forces and elementary particles

Course Title	Core CONDENSED MATTER PHYSICS
Code	**18PHP02**
	On completion of the course, students would be able to
CO-1	Understand how different kinds of matter are described mathematically and how material properties can be predicted based on microscopic structure
CO-2	Study the free electron model and its shortcomings, band structure in explaining the physical properties of metals
CO-3	Identify the type of defect a crystal contains and can calculate the vacancyconcentration in a crystal at a given temperature
CO-4	Understand the concept of specific heat capacity of solids and effect of the same on electrical and optical properties of different materials
CO-5	Understand the classification of materials based on the magnetic behavior

	andstudy the basic principles of modern nuclear magnetic resonance

Course Title	**Core** **QUANTUM MECHANICS I**
Code	**18PHP03**
	On completion of the course, students would be able to
CO-1	Impart the scientific ideas of various branches of Quantum Mechanics
CO-2	The ideas developed about the various methods with their principle
CO-3	Learned to solve Schrodinger equation to obtain eigenvectorsand energies
CO-4	The approximation methods in Quantum Mechanics are studied
CO-5s	Upgraded understanding of concepts of spin angular matrices

Course Title	**Core** **OPTICAL PHYSICS**
Code	**18PHP04**
	On completion of the course, students would be able to
CO-1	The methods and problems involved in the mathematical foundations ofFourier optics
CO-2	The advanced level of ideas on physical phenomena like polarization andoptical indicatrix by resolving crystal optics properties
CO-3	The implementations of ideas provided about classical and quantummechanical aspects of non linear optics and recent ideas like wave mixingand beam coupling
CO-4	The handling of fundamental instrumentations especially optical microscopes special emphasis on nanoscale applications
CO-5	The physical aspects of optical interactions at nanoscale environment such as microscopy and periodic structures with better understanding

Course Title	Core CLASSICAL MECHANICS
Code	**18PHP05**
	On completion of the course, students would be able to
CO-1	Understanding of Lagrangian mechanics, and Hamiltonian mechanics on phase space, including constraints
CO-2	Understand the general motion of a particle in two dimensions and can determine the components, magnitude, and direction of the particle's velocity and acceleration as functions of time
CO-3	Understand the motion of projectiles in a uniform gravitational field and write down the expressions for horizontal and vertical components of velocity and position as functions of time
CO-4	Gain a theoretical understanding of the concept of canonical transformations and its applications
CO-5	Understand the principal applications of Lagrange's equations in the analysis of small motions of a conservative mechanical system about an equilibrium configuration

Course Title	Core MATHEMATICAL PHYSICS
Code	**18PHP06**
	On completion of the course, students would be able to
CO-1	Use complex analysis in solving in physics problems
CO-2	Use Fourier series and Laplace integral transformation
CO-3	Solve the partial differential equations in the physical sciences
CO-4	Use group theory in day to day life
CO-5	Use the basic knowledge in numerical analysis

Course Title	Core QUANTUM MECHANICS II

Code	18PHP07
	On completion of the course, students would be able to
CO-1	Impart the scientific ideas of various branches of Quantum Mechanics
CO-2	Introduce important formulation of quantum mechanics and make studentsfamiliar with various approximation methods
CO-3	With the basic and advanced methods of quantum mechanics in the situationswhere finding exact solutions are not practical
CO-4	Translate the physical description of a problem into equations that can be used to answer relevant questions
CO-5	Upgrade the understanding of concepts of Second Quantaization

Course Title	Core Analog, Digital Electronics and Microprocessors
Code	**18PHP08**
	On completion of the course, students would be able to
CO-1	Understand the basics of semiconductor and its importance
CO-2	Analyze the operation of semiconductor, logical devices and its applications
CO-3	Understand the functioning of sequential circuits and interpret its practicalapplications
CO-4	Learn the operation of amplifiers and its importance in signal processing
CO-5	Understand the basics of microprocessors and its evolution

Course Title	Core PRACTICAL – I GENERAL PHYSICS
Code	**18PHP10**
	On completion of the course, students would be able to
CO-1	Learnt how to gain knowledge by looking at reality and not an attempt to make reality conform to preconceptions
CO-2	Learnt how to be observant, to really see what happens, and to deal with

	thisinformation with the strictest integrity

Course Title	**Core** **PRACTICAL – II ELECTRONICS**
Code	**18PHP11**
	On completion of the course, students would be able to
CO-1	Understand the principle and fundamental operation of basic electronicinstruments
CO-2	Analyze the circuit operation and can rectify the problems in execution
CO-3	Understand the analog to digital conversion techniques

Course Title	**Core** **APPLIED PHYSICS**
Code	**18SSP04**
	On completion of the course, students would be able to
CO-1	The encryption of scientific ideas of various lasers and fiber optic system inthe minds
CO-2	The enumeration of the various properties of electrical aspects of materialsand electric polarization
CO-3	The classification of physical nature crystals and its related phenomena
CO-4	The resolving the diapara and ferromagnetic properties of materials experimental demonstrations
CO-5	The upgraded understanding of concepts of nanoscience and nanotechnology

Course Title	Core PHOTONICS AND APPLICATIONS
Code	**18PHP12**
	On completion of the course, students would be able to
CO-1	Compare different types of radiation region in electromagnetic spectra and their interaction with matters and able to distinguish ordinary and laser lights
CO-2	Understand the significance of pumping process and condition for framing resonators
CO-3	Differentiate and Describe the large variety of lasers
CO-4	Discuss about the fundamental theories of LASERs involved in different industries along with their applications
CO-5	Elaborate the basics and essential of luminescence based systems

Course Title	Core ELECTROMAGNETIC THEORY
Code	**18PHP13**
	On completion of the course, students would be able to
CO-1	Understand the field equations and mathematical foundations of electromagnetic fields and dielectric materials
CO-2	Lay the foundations of polar dielectrics and dynamic electricity and its governing physical laws
CO-3	Give the foundations of electromagnetic propagation in different media
CO-4	Elaborate the basics and essential of waveguides and types of potentials

Course Title	Discipline Specific Elective – I DIGITAL COMMUNICATIONS
Code	**18PHP14A**
	On completion of the course, students would be able to
CO-1	Understand properly the available communication systems

CO-2	Understand the need of modulation process in various transmission systems
CO-3	Understand the basics of digital communication systems like modulation, transmission and multiplexing techniques
CO-4	Understand the concepts of cellular telephone communication systems
CO-5	Understand different network systems and design simple network system used in cellular telephones

Course Title	**Discipline Specific Elective – I** **MOLECULAR SPECTROSCOPY**
Code	**18PHP14B**
	On completion of the course, students would be able to
CO-1	Compare different types of spectroscopic methods to analyze the physical systems
CO-2	Understand the significance of IR, Raman, resonance spectroscopy and microwave spectroscopy
CO-3	Differentiate and Describe the large variety of instrumentation and technical details spectrophotometric methods
CO-4	Discuss about the fundamental theories of molecular mechanics and Mossbauer spectroscopy for chemical applications
CO-5	Elaborate the applications of spectroscopy for various real time applications

Course Title	**Core** **APPLIED THERMODYNAMICS AND STATISTICAL MECHANICS**
Code	**18PHP17**
	On completion of the course, students would be able to
CO-1	Understand the laws governing thermodynamics and its applications
CO-2	Learn the concept of ensembles that forms the basis of statistics
CO-3	To gain knowledge about distribution laws
CO-4	Know the importance of various distribution laws and their applications

CO-5	Learn about the applications of quantum statistics to various systems

Course Title	**Core** **PROBLEMS IN CORE PHYSICS**
Code	**18PHP18**
	On completion of the course, students would be able to
CO-1	Compare the applications of vector calculus in physical problems like classical dynamics
CO-2	Solve the problems in relation to matrix and its applications
CO-3	Have exposure in solving the problems frequently asked in competitive examination
CO-4	Discuss about the foundations of thermodynamics and experience in solving problems
CO-5	Solving atomic and molecular spectra and their theory and to provide solved and unsolved problems

Course Title	**Core** **CRYSTAL GROWTH, THIN FILMS AND PLASMA PHYSICS**
Code	**18PHP19**
	On completion of the course, students would be able to
CO-1	Get an idea about crystals – naturally occurring crystals man–made crystals
CO-2	Learn the various characterization techniques
CO-3	Understand the various thin films preparation methods and thickness measurement Techniques
CO-4	Fabrication of the various thin film structures and devices
CO-5	Attain the philosophical state of matter and its applications

Course	**Discipline Specific Elective – II**

Title	APPLIED SOLAR ENERGY
Code	18PHP20A
	On completion of the course, students would be able to
CO-1	Aware about the abundance of solar energy and their under utilization along with their measuring instruments
CO-2	Know the scientific background about various configurations of flat plate collectors and the uses
CO-3	Understand about science of solar concentrators and solar stills
CO-4	Elaborate knowledge on solar driers and their fabrication along with solar photo voltaic system

Course Title	Discipline Specific Elective – II NANOSCIENCE AND NANOTECHNOLOGY
Code	18PHP20B
	On completion of the course, students would be able to
CO-1	Discuss on the scientific background on nanomaterials
CO-2	Know on various synthesis and preparation methods of nanomaterials
CO-3	Explain the variety of instrumentations used for characterizing nanosystems
CO-4	Understand the properties of nanomaterials in depth
CO-5	Elaborate knowledge about the wide variety of applications of nanosystems in real time applications

Course Title	Core PRACTICAL III ADVANCED PHYSICS
Code	18PHP21
	On completion of the course, students would be able to
CO-1	Acquire basic knowledge of advanced physics
CO-2	Understand the relationship between theory and experimental results
CO-3	The students will be able to understand the advanced physics behind many

	scientific discoveries through hands on experience
CO-4	Students will acquire enough general skills to handle variety of formulae appears in various physical situation with an ease

Course Title	**Core** **PRACTICAL IV ADVANCED PHYSICS**
Code	**18PHP22**
	On completion of the course, students would be able to
CO-1	Acquire basic knowledge of advanced physics
CO-2	Understand the relationship between theory and experimental results
CO-3	The students will be able to understand the advanced physics behind many scientific discoveries through hands on experience
CO-4	Students will acquire enough general skills to handle variety of formulas appears in various physical situation with an ease

Course Title	**PROJECT & VIVA VOCE**
Code	**21PHP23**
	On completion of the course, students would be able to
CO-1	a. Analytical ability b. Methodological approach c. Skill development through hands on experience d. Interpretation skills and ability e. Ability to arrive at a conclusion f. Envisaging the future scope of the work.

Course Title	Generic Elective Course PHYSICS FOR MATHEMATICAL SCIENCES (THEORY)
Code	**18GECIDC**
	On completion of the course, students would be able to
CO-1	Understand the basic topics of Newton's laws of motion
CO-2	Have an advanced level of ideas on dynamics of motion and its relative parameters
CO-3	Have ideas on molecular speeds of gas and properties of matter
CO-4	Have knowledge in fundamental concepts of heat and thermodynamics
CO-5	Interpret– Bohr model of an atom

Course Title	Generic Elective Course PHYSICS FOR MATHEMATICAL SCIENCES (PRACTICAL)
Code	**18GECIDC**
	On completion of the course, students would be able to
CO-1	Acquire basic knowledge of advanced physics through using MathCAD programs
CO-2	Understand the relationship between theory and experimental results through computer based experiments
CO-3	The students will be able to understand the advanced physics behind many scientific discoveries through programming skills
CO-4	Students will acquire enough knowledge to handle variety of formulae through computer simulations

PSG College of Arts & Science
Coimbatore – 641 014

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Programme: M.Sc Chemistry

Programme Outcomes	
	On completion of the programme, the student will be able to
PO-1	Gaining in-depth knowledge in the fundamentals of Chemistry and apply the Concepts to the needs of the Employer / Institution /own Business or Enterprise.
PO-2	Developing Practical/Analytical skills in the field of Chemistry.
PO-3	Applying and transferring the knowledge to younger generation.
PO-4	Developing the working skills in a global level advanced research atmosphere to pursue PhD.
PO-5	Identifying, Analyzing and solving chemical/environmental problems and exploring recent trends in research.
PO-6	Targeted approach towards qualifying the CSIR-NET and GATE examinations.
PO-7	Understanding and appreciating professional ethics, community living and Nation Building initiatives.
PO-8	Designing a system to meet desired needs and become a chemical analyst with technical knowledge and moral values.

Programme Specific Outcomes	
	On completion of the programme, the student will be able
PSO-1	Apply the knowledge of chemistry to appreciate, apply, develop and test the theoretical aspects for applications in various domains viz., energy, environment, materials, medicines, etc,.
PSO-2	Understand the fundamentals of the various organic/inorganic reactions, molecular rearrangements purification/separation techniques.
PSO-3	Know thesignificance of spectral techniques, nuclear chemistry, thermodynamics, electrochemistry, quantum mechanics and group theory.

PSO-4	Gain complete knowledge in the structure analysis of organic and inorganic compounds employing latest instrumental techniques.

Course Outcomes

Course Title	**Core ORGANIC CHEMISTRY –I**
Code	**18CHP01**
	On completion of the course, students would be able to
CO-1	Give mechanistic pathway of the reaction
CO-2	Recognize the conformation of the molecules
CO-3	Recall the type and mechanism of nucleophilic substitution reactions
CO-4	Predict the structure and synthesis of natural product & heterocyclic compounds

Course Title	**Core INORGANIC CHEMISTRY I**
Code	**18CHP02**
	On completion of the course, students would be able to
CO-1	Calculate CFSE and apply in JT distortion
CO-2	Identify term states, interpret electronic spectra and differentiate magnetic behavior
CO-3	Derive the reaction mechanisms of complexes
CO-4	Elucidate the structure of complexes of all coordination numbers and recall the acid base concepts

Course Title	Core PHYSICAL CHEMISTRY – I
Code	**18CHP03**
	On completion of the course, students would be able to
CO-1	Classify various components in chemical thermodynamics
CO-2	Apply the concept of thermodynamics in chemical equilibrium
CO-3	Solve problems in electrochemistry
CO-4	Apply the concept of phase equilibrium

Course Title	Core ORGANIC CHEMISTRY –II
Code	**18CHP05**
	On completion of the course, students would be able to
CO-1	Give mechanism of any electrophilic substitution reaction
CO-2	Predict the type of elimination reactions
CO-3	Recall the mechanism of addition reactions
CO-4	Predict the various synthetic routes to the targeted molecules
CO-5	Choose the suitable reagents in FG transformation

Course Title	Core INORGANIC CHEMISTRY-II
Code	**18CHP06**
	On completion of the course, students would be able to
CO-1	Classify the metal carbon bonds and assess their stability
CO-2	Recall the catalytic cycle involved in homogeneous catalysis
CO-3	Identify the energy states of metal complexes involved in photochemical reactions
CO-4	Recognize the isolobal fragments in polycarbonyls and carboranes
CO-5	Recall the fundamentals of bio-inorganic and supramolecular chemistry

Course	Core

Title	PHYSICAL CHEMISTRY – II
Code	18CHP07
	On completion of the course, students would be able to
CO-1	Analyze the behavior of micro particles
CO-2	Understand the Different class of objects in the Universe
CO-3	Apply quantum mechanical aspects to various systems
CO-4	Apply group theory to analyze the symmetry and vibrational modes of compounds

Course Title	Discipline Specific Elective – I NANO AND GREEN CHEMISTRY
Code	18CHP08A
	On completion of the course, students would be able to
CO-1	Synthesize and characterize nano particles
CO-2	Know the significance of advanced nano materials
CO-3	Understand the basic concepts of Green Chemistry
CO-4	Develop the knowledge in advanced green method of synthesis

Course Title	Discipline Specific Elective – I POLYMER CHEMISTRY
Code	18CHP08B
	On completion of the course, students would be able to
CO-1	Understand the chemistry of organic and inorganic polymers
CO-2	Know the mechanism of polymerization
CO-3	Choose an appropriate analytical method to characterize a polymer
CO-4	Select an appropriate moulding technique to process a particular polymer
CO-5	Realize the importance of advanced polymers

Course Title	Core ORGANIC CHEMISTRY PRACTICAL I
Code	18CHP09

	On completion of the course, students would be able to
CO-1	Prepare organic reagents
CO-2	Separate and analyze the organic compounds
CO-3	Synthesize organic compounds

Course Title	Core INORGANIC CHEMISTRY PRACTICAL I
Code	18CHP10
	On completion of the course, students would be able to
CO-1	Able to analyze the metals in unknown sample
CO-2	Able to prepare metal complexes
CO-3	Able to estimate the amount of metals by colorimetric method

Course Title	Core ORGANIC CHEMISTRY PRACTICAL II
Code	18CHP11
	On completion of the course, students would be able to
CO-1	Prepare two state organic compounds
CO-2	Extract the organic compounds
CO-3	Estimate the organic compounds

Course Title	Core INORGANIC CHEMISTRY PRACTICAL II
Code	18CHP12
	On completion of the course, students would be able to
CO-1	Estimate metal ions by Complexometric, cerimetric and iodometricethods
CO-2	Quantitative estimation of metals by gravimetric method
CO-3	Students gained in-depth knowledge in electrochemistry
CO-4	Analysis metals ions in inorganic mixtures

Course	Core

Title	ORGANIC CHEMISTRY III
Code	18CHP13
	On completion of the course, students would be able to
CO-1	Identify aromatic and non aromatic compounds
CO-2	Predict the feasibility of organic reactions
CO-3	Understand organic reaction mechanisms
CO-4	Apply Woodward-Hoffmann rules for pericyclic reactions
CO-5	Elucidate the structure of natural products

Course Title	Core INORGANIC CHEMISTRY III
Code	18CHP14
	On completion of the course, students would be able to
CO-1	Analyze inorganic solids using diffraction methods
CO-2	Acquire knowledge in solid state and defects in solids
CO-3	Recall the knowledge in nuclear chemistry

Course Title	Core PHYSICAL CHEMISTRY – III
Code	18CHP15
	On completion of the course, students would be able to
CO-1	Acquire knowledge to apply the kinetic theories for various chemical reactions
CO-2	Learn more about surface reactions and their kinetics
CO-3	Gain in-depth knowledge in statistical thermodynamics

Course Title	Core MOLECULAR SPECTROSCOPY AND ITS APPLICATIONS
Code	18CHP16
	On completion of the course, students would be able to
CO-1	Characterize chemical compounds using spectroscopic methods
CO-2	Predict the structure of organic and inorganic compounds from spectral data

Course Title	Core PHYSICAL CHEMISTRY PRACTICAL –I
Code	**18CHP17**
	On completion of the course, students would be able to
CO-1	Determine the kinetic parameters of chemical reactions
CO-2	Find out the molecular weight of unknown substances
CO-3	Do qualitative and quantitative electrochemical experiments

Course Title	Core PHYSICAL CHEMISTRY PRACTICAL –II
Code	**18CHP18**
	On completion of the course, students would be able to
CO-1	Apply emf measurements for qualitative and quantitative studies
CO-2	Find various physical constants
CO-3	Derive adsorption parameters

Course Title	Core ANALYTICAL CHEMISTRY
Code	**18CHP21**
	On completion of the course, students would be able to
CO-1	Recall the knowledge in chromatography
CO-2	Know the importance of atomic adsorption spectroscopy
CO-3	Apply the electro analytical and thermal methods for studying the compounds
CO-4	Recall the methods for sustainable development

Course Title	Discipline Specific Elective – II ENVIRONMENTAL CHEMISTRY
Code	**18CHP22A**
	On completion of the course, students would be able to
CO-1	Understand the importance of environment and its components
CO-2	Know the effect of pollutants on ecosystem
CO-3	Recall the methods for sustainable development

Course Title	Discipline Specific Elective – II INDUSTRIAL CHEMISTRY
Code	**18CHP22B**
	On completion of the course, students would be able to
CO-1	Analyze the quality and treatment of water
CO-2	Know the petroleum products, lubricants, perfumes and dielectrics
CO-3	Recall the corrosion and batteries

Course Title	PROJECT WORK
Code	**21CHP23**
	On completion of the course, students would be able to
CO-1	learn the new synthetic methodologies
CO-2	expertise the various characterization techniques
CO-3	develop entrepreneurship skills

Course Title	IDC GROUP THEORY AND MOLECULAR SPECTROSCOPY
Code	**18PHP09**
	On completion of the course, students would be able to
CO-1	Understand group theory and its applications
CO-2	Know the various spectroscopic techniques for characterization

Course Title	Generic Elective Course – Cluster – II PHARMACEUTICAL CHEMISTRY – THEORY
Code	**18NDP15A/18BCP15A/18MBP19A/18ESP17A**
	On completion of the course, students would be able to
CO-1	Recall the types of drugs in pharmaceutical chemistry
CO-2	Know the mechanism of action of the drugs in the body
CO-3	Relate the chemistry of drugs for specific diseases

Course Title	Generic Elective Course – Cluster – II PHARMACEUTICAL CHEMISTRY–PRACTICAL
Code	**18NDP16A/18BCP16A/18MBP20A/18ESP18A**
	On completion of the course, students would be able to
CO-1	Extract organic compounds from plants
CO-2	Understand the methods for preparation of drugs
CO-3	Acquire the knowledge of quantitative analysis
CO-4	Analyze the conductivity and solubility product of substances

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Programme: M.Sc Biochemistry

Programme Outcomes	
	On completion of the programme, the student will be able to
PO-1	Become knowledgeable in the subject of Biochemistry and apply the principles of the same to the needs ofthe Employer / Institution/own Business or Enterprise.
PO-2	Gain Analytical skills in the field/area of Biochemistry.
PO-3	Understand and appreciate professional ethics, community living and Nation Building initiatives.
PO-4	Gain knowledge on the mechanism of action of biomolecules, enzymes and their clinical importance.
PO-5	Understand the metabolic activities of a cell.
PO-6	Students will comprehend the knowledge in the biochemical, biophysical, biotechnological and biostatistical areas.
PO-7	Integrating the subjects of Clinical Biochemistry, Immunology and Drug Biochemistry to clarify knowledge on healthand disease.
PO-8	Able to understand and interpret various nuances of bioinformatics tools.

Programme Specific Outcomes	
	On completion of the programme, the student will be able
PSO-1	Apply the knowledge of Biochemistry in the domain of Medicines
PSO-2	Solve the complex problems in the field of Biochemistry with an understanding of the societal, legal and culturalimpacts of the solution
PSO-3	Gain vertical mobility in career which will make them competent to compete in the National/International qualifying exams and to acquaint practical knowledge and skills in Modern biochemical techniques.
PSO-4	Form a part of member in a team with right attitudes.

Course Outcomes

Course Title	Core CHEMISTRY OF BIOPOLYMERS
Code	**18BCP01**
	On completion of the course, students would be able to
CO-1	Relate the existence and interaction between various naturally occurring biopolymers
CO-2	Assess the role of biopolymers in the biological system
CO-3	Rule out the possibility to fortify the biopolymers according to the need for pharmaceutical and food industries

Course Title	Core ANALYTICAL BIOCHEMISTRY
Code	**18BCP02**
	On completion of the course, students would be able to
CO-1	Understand the various methods in purification of molecules
CO-2	Comprehensive knowledge onidentifyingprimary and secondary structure of proteins
CO-3	Gain knowledge on the diagnosis of diseases using PCR and hybridization techniques

Course Title	Core ENZYME AND ENZYME TECHNOLOGY
Code	**18BCP03**
	On completion of the course, students would be able to
CO-1	Comprehend the nature of the enzymes function and their kinetic behavior
CO-2	Appreciate the importance of coenzymes in assisting the enzyme functions
CO-3	Understand the regulatory functions of enzymes in metabolic pathways
CO-4	Learn about the biotechnological applications of enzymes

Course Title	Core CELLULAR BIOCHEMISTRY
Code	**18BCP04**
	On completion of the course, students would be able to
CO-1	Understand the various nuances of membrane biochemistry, basis of membrane transport, mitochondrial electron transport, cell signaling, cell cycle and cancer
CO-2	Enhance their basic knowledge that would have enable them to think and work independently in any research problems in labs or in hospitals
CO-3	Will solve confidently any research problems or questions

Course Title	Core METABOLIC REGULATION
Code	**18BCP05**
	On completion of the course, students would be able to
CO-1	Unravel the complex biochemical pathways along with the underlying mechanismsfor its regulation
CO-2	Correlate the metabolic pathways with its clinical significance
CO-3	Utilize the concepts underlying the metabolic pathways for maintenance

Course Title	Core MICROBIAL BIOCHEMISTRY
Code	**18BCP06**
	On completion of the course, students would be able to
CO-1	Ascertain the various metabolic pathways for glucose utilization
CO-2	Learn the industrial fermentation process for production of metabolites
CO-3	Distinguish between the photosynthesis in microbes and plants

Course Title	Core ADVANCED PLANT BIOCHEMISTRY
Code	**18BCP07**

	On completion of the course, students would be able to
CO-1	Comprehend the organization, and apply specific biochemical functions to all compartments of the plant cell
CO-2	Perceive how light energy is captured and used to provide chemical forms of energy to power the functions of cells and whole plants. The importance ofCO_2 fixation and carbohydrate metabolism will be presented
CO-3	Uncertain central metabolism, its plant-specific components, and their functional significance at multiple levels

Course Title	**Core** **MOLECULAR GENETICS**
Code	**18BCP08**
	On completion of the course, students would be able to
CO-1	Learn DNA structure and properties in prokaryotes and eukaryotes
CO-2	Know regulation of gene expression and Protein-DNA interaction
CO-3	Learn the modern concepts and the scope of cell signaling, virology and action of an anti-HIV drug
CO-4	Apply the above learnt molecular biological knowledge while taking up research

Course Title	**Core** **BIOCHEMISTRY PRACTICAL I AND VIVA**
Code	**18BCP09**
	On completion of the course, students would be able to
CO-1	Learning the techniques of quantitative estimation of various biomolecules and vitamins
CO-2	Assaying and kinetic analysis of various enzymes of biochemical importance
CO-3	Learning the skills of basic microbiological methods

Course Title	**Core** **ADVANCED CLINICAL BIOCHEMISTRY**

Code	18BCP10
	On completion of the course, students would be able to
CO-1	Learn about the diagnostic principles of diseases of common interest
CO-2	Learn about the advanced techniques employed in diagnosis and treatment
CO-3	Study the disorders of various categories of bimolecular
CO-4	Comprehend the defects in different inborn errors of metabolism

Course Title	Core BIOSTATISTICS
Code	**18BCP11**
	On completion of the course, students would be able to
CO-1	Able to prepare a project proposal and writing a research report and thesis
CO-2	Efficiently determining the use and interpreting the results of descriptive statistical methods effectively
CO-3	Understanding of the central concept of Modern Statistical Theory and their Probabilistic foundation
CO-4	Communicating the results of statistical analyses accurately and effectively
CO-5	Obtaining the practical knowledge in electronic data handling software systems

Course Title	Core MOLECULAR BIOTECHNOLOGY
Code	**18BCP12**
	On completion of the course, students would be able to
CO-1	Gain knowledge about how to use microbes and mammalian cells for the production of pharmaceutical products
CO-2	Interpret current applications of biotechnology and advances in the different areas like medical, microbial, environmental, bioremediation, agricultural, plant, animal, and forensic
CO-3	Perceive the general principles of generating transgenic animals

Course	Core

Title	BIOCHEMISTRY PRACTICAL II AND VIVA
Code	**18BCP13**
	On completion of the course, students would be able to
CO-1	Infer the significance of various biomolecules in assessing health status
CO-2	Perceive skills in carrying out immunological techniques
CO-3	Formulate basic molecular biological protocols

Course Title	Core BIOCHEMISTRY PRACTICAL III (BIOINFORMATICS)
Code	**18BCP14**
	On completion of the course, students would be able to
CO-1	Work on any sequence retrieval
CO-2	Select and operate any suitable analytical tool
CO-3	Construct his own multiple sequence analysis
CO-4	Find out genes and ORFS
CO-5	Visualise protein DNA structures

Course Title	Discipline Specific Elective – I BIOINFORMATICS
Code	**18BCP15A**
	On completion of the course, students would be able to
CO-1	Understand various algorithms and various online / offline software in biological sciences and their applications
CO-2	Appreciate various fundamental biochemical concepts in computational biology
CO-3	Verify the basics of biochemistry learn in terms of algorithms
CO-4	Can extend the skill further and work independently on the new problems of both research and project potentials

Course	Discipline Specific Elective – I

Title	ENDOCRINOLOGY
Code	**18BCP15B**
	On completion of the course, students would be able to
CO-1	Demonstrate the mechanism of hormone action
CO-2	Describe the functions of hormones secreted by glance
CO-3	Analyze and interpret the disorders of hormonal imbalance
CO-4	Evaluate disorders male and female reproductive system

Course Title	Discipline Specific Elective - Is IMMUNOLOGY
Code	**18BCP18**
	On completion of the course, students would be able to
CO-1	Understand the role played by innate immunity and acquired immunity in defence
CO-2	Comprehend the detailed mechanisms of humoral and cell mediated types of immunity
CO-3	Understand the technological aspects of monoclonal antibody production and vaccination strategies

Course Title	Discipline Specific Elective – I BIOCHEMISTRY OF DRUGS
Code	**18BCP19A**
	On completion of the course, students would be able to
CO-1	Enhance their knowledge of pharmacology
CO-2	Understanding the fundamental concepts of drug action and drug toxicity in the human body
CO-3	Enabling to know about the development of the lead compound from various sources and their involvement in drug discovery
CO-4	Elaborating the mode of action of existing chemotherapeutic drugs such as anticancer and antiviral agents
CO-5	Interpreting the bio chemical mechanisms involved in adverse reactions to drugs and its abuse

Course Title	Discipline Specific Elective - II NANOBIOTECHNOLOGY
Code	**18BCP19B**
	On completion of the course, students would be able to
CO-1	Perceive the general principles of Nanotechnology
CO-2	Gain an insight into the field of nanotechnology and its applications into biotechnology
CO-3	Apply the concepts of nanotechnology in the health care field for the novel approach in curing diseases

Course Title	PROJECT AND VIVA
Code	**21BCP20**
	On completion of the course, students would be able to
CO-1	They make deep connections between ideas.
CO-2	They become problem solvers
CO-3	They learn project management
CO-4	Progress in publication

Course Title	General Elective Course – Cluster II DIAGNOSTICS AND PLANT THERAPEUTICS – Theory
Code	**18MBP19C/ 18CHP19B/ 18NDP15B/ 18MBP19C/ 18ESP18C**
	On completion of the course, students would be able to
CO-1	Aid in the diagnosis, screening, prognosis and monitoring of diseases by the analysis of biological fluids
CO-2	Exploring the theoretical knowledge of clinical diseases
CO-3	Study of drugs or active principle or phytocompounds of natural origin (Medicinal Plants)
CO-4	Evaluating the various medicinal values of plants and their mode of action
CO-5	Illustrating the herbal formulation process and their quality standardization procedures

Course Title	General Elective Course – Cluster II DIAGNOSTICS AND PLANT THERAPEUTICS – Practical
Code	**18MBP19C/ 18CHP19B/ 18NDP15B/ 18MBP19C/ 18ESP18C**
	On completion of the course, students would be able to
CO-1	Quantify the some important biochemical in the given sample
CO-2	Correlate the changes in enzymes level with organ disease
CO-3	Prepare the polyherbal formulations for diseases

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Programme: M.Sc Foods and Nutrition

Programme Outcomes	
	On completion of the programme, the student will be able to
PO-1	Gain analytical skills and scientific temper in the field of Nutrition Research
PO-2	Utilize creativity and lateral thinking to apply nutritional concepts for generating innovative solutions in their fields
PO-3	Use relevant technologies for disseminating nutritional information to the society
PO-4	Critically evaluate information on health and nutrition issues projected by mass media
PO-5	Design effective solutions for complex problems targeting specified health needs of the public
PO-6	Rationally evaluate and interpret the existing and emerging threats related to food safety in the country and evolve practical solutions
PO-7	Promote independent and collaborative work, while demonstrating professional and ethical responsibilities
PO-8	Promote knowledge sharing by publishing scientific articles in high impact factor journals, and conference proceedings

Programme Specific Outcomes	
	On completion of the programme, the student will be able
PSO-1	Apply the principles and various facets of Food Science, including Quality Assurance and Sensory evaluation, in practical situations, problem solving and product development
PSO-2	Explain the structure and components of food systems and analyze the relationships between nutritional health and food selection. Develop effective strategies to engage populations in promotion of nutritional well being
PSO-3	Ability to identify and resolve nutritional challenges by designing a research

	proposal with suitable methodology and analytical tools
PSO-4	Design need based solutions for lifestyle disorders by integrating nutrition science and ancient wisdom
PSO-5	Succeed in meeting the current challenging issues of the evolving health care system as innovative professionals and entrepreneurs

Course Outcomes

Course Title	**Core** **ADVANCED FOOD SCIENCE**
Code	**18NDP01**
	On completion of the course, students would be able to
CO-1	Conduct appropriate sensory tests to evaluate quality attributes of foods or consumer preferences
CO-2	Recognize the effect of various factors influencing food characteristics
CO-3	Interpret the chemical changes of food components during preparation and storage
CO-4	Articulate the principles of food science appropriately in the context of recipe formulations
CO-5	Comprehend the current trends in the food science and relate its applications to the present scenario.

Course Title	**Core** **ADVANCED NUTRITION- I**
Code	**18NDP02**
	On completion of the course, students would be able to
CO-1	Explain the impact of nutrients on health and wellbeing
CO-2	Distinguish the beneficial and ill effects of nutrients during deficiency and toxicity
CO-3	Rationally analyze the changes in nutrient metabolism in deprived and over

	nourished conditions
CO-4	Associate the role of dietary fibre in health and disease prevention

Course Title	**Core** **NUTRITION IN HEALTH**
Code	**18NDP03**
	On completion of the course, students would be able to
CO-1	Discuss the dietary needs of different age groups
CO-2	Design a menu for diverse age groups based on the dietary requirements
CO-3	Objectively evaluate the modern nutrition approaches with scientific evidences
CO-4	Suggest and develop the nutritional plans for sports and expeditions
CO-5	Comprehend the role of nutrients for healthy lifestyle

Course Title	**Core** **TECHNIQUES IN FOOD PROCESSING**
Code	**18NDP04**
	On completion of the course, students would be able to
CO-1	Apply the knowledge for understanding and comprehending emerging concepts of food processing
CO-2	Get acquainted with modern technologies that promote critical thinking and analysis paving way for development of innovative food products
CO-3	Discuss and justify rationale for application of specific processing operations for selective food products
CO-4	Demonstrate the ability to identify the possibilities and constraints of introducing new technology for processing
CO-5	Analyze the scientific validity of issues regarding production, quality preservation and storage

Course Title	**Core** **ADVANCED NUTRITION- II**
Code	**18NDP05**
	On completion of the course, students would be able to

CO-1	Apply knowledge of the nutrients and nutrition principles to an understanding of contemporary nutrition issues
CO-2	Design a solution for nutrition deficiency and toxicity
CO-3	Comprehend nutrient-nutrient interaction
CO-4	Interpret the role of functional foods on human health

Course Title	**Core** **PHYSIOLOGICAL ASPECTS OF NUTRITION**
Code	**18NDP06**
	On completion of the course, students would be able to
CO-1	Explain the action of digestive enzymes on foods
CO-2	Understand the pathway of sense organs
CO-3	Comprehend the action of hormones in the body
CO-4	Deliberate the knowledge on immune response of the body in different conditions
CO-5	Recognize the food and drug interaction and action of common drugs on nutrient demand

Course Title	**Core** **NUTRITION RESEARCH METHODS**
Code	**18NDP07**
	On completion of the course, students would be able to
CO-1	Apply the ethical issues for conducting nutrition based research
CO-2	Design the protocol required for nutritional assessment
CO-3	Evaluate the protein quality and bioavailability of nutrients
CO-4	Practice the methodology of food sample collection, storage and analysis of nutrients

Course Title	**Core** **FOOD QUALITY AND SAFETY MANAGEMENT**
Code	**18NDP08**
	On completion of the course, students would be able to

CO-1	Express the national and international legislations relevant to food industry
CO-2	Develop a food safety plan as per the norms laid down by regulatory agencies
CO-3	Conduct food quality and safety audits for food establishments
CO-4	Identify the areas of concern in food processing and establish a HACCP Plan

Course Title	**Discipline Specific Elective - I** **BASICS OF BIOTECHNOLOGY**
Code	**18NDP09A**
	On completion of the course, students would be able to
CO-1	Demonstrate the steps followed in recombinant DNA Technology
CO-2	Produce enzymes and organic acids
CO-3	Comprehend on pros and cons of genetically modified foods
CO-4	Understand the evolving trends in food Nano technology
CO-5	Use the tissue culture techniques and propagate plans

Course Title	**Discipline Specific Elective - I** **FOOD MICROBIOLOGY**
Code	**18NDP09B**
	On completion of the course, students would be able to
CO-1	Apply the skills for eliminating the microbes in foods
CO-2	Recognize the action of microbes in production of fermented food products
CO-3	Examine the microbial quality of water
CO-4	Interpret the health issues related to food borne disease

Course Title	**Core** **FOOD ANALYSIS PRACTICALS**
Code	**18NDP10**
	On completion of the course, students would be able to
CO-1	Gain expertise in the methods of sample collections, preparation and ideal storage conditions
CO-2	Acquire skills and competency to analyze the food components as per procedures of internationally recognized science associations
CO-3	Modify suitably the procedures based on the nature and property of the food

	samples
CO-4	Interpret, discuss and justify the analytical results and prepare reports on nutrient composition based on scientific reasoning
CO-5	Analyze published research reports on nutrient composition and interpret

Course Title	**Core** **RESEARCH METHODOLOGY AND STATISTICS**
Code	**18NDP11**
	On completion of the course, students would be able to
CO-1	Understand basic probability, the use of probability distributions, sampling and the fundamentals of hypothesis testing
CO-2	Critically review the major methodological and design issues related to implementation of research aspects
CO-3	Describe the conceptual and practical features of several major techniques for analyzing data obtained from the research

Course Title	**Core** **NUTRITION THERAPY**
Code	**18NDP12**
	On completion of the course, students would be able to
CO-1	Demonstrate counseling and education methods to facilitate changes in food behavior and enhance wellness for diverse individuals and groups
CO-2	Understand the role of Registered Dietitians in the delivery of food and nutrition services
CO-3	Use Nutrition Care Process to make decisions, identify nutrition related problems and determine& evaluate nutrition interventions
CO-4	Apply knowledge of the role of nutrition and healthy eating for disease prevention and cure
CO-5	Design and critique evidence based nutrition interventions for the prevention and control of chronic diseases

Course Title	Core NUTRITIONAL BIOCHEMISTRY
Code	**18NDP13**
	On completion of the course, students would be able to
CO-1	Understand biochemical changes which will help in modifying the diet according to the disease condition and nutritional status
CO-2	Play the role of clinical nutritionist in specialized medical units

Course Title	Core COMPUTER APPLICATIONS IN NUTRITION
Code	**18NDP14**
	On completion of the course, students would be able to
CO-1	Use MS office in respective fields
CO-2	Apply statistical packages for analysis of research data
CO-3	Do basic programming and develop applications

Course Title	Generic Elective Course FOOD CHEMISTRY AND QUALITY CONTROL
Code	**18NDP15E**
	On completion of the course, students would be able to
CO-1	Knowledgeable about the various components of Foods and their importance in food quality
CO-2	Application of sensory evaluation in developing new food products.
CO-3	Ability to detect adulteration in commonly used foods through simple techniques and become a food safety aware consumer.

Course Title	Discipline Specific Elective – II NUTRITION PLANS AND POLICIES
Code	**18NDP17A**
	On completion of the course, students would be able to
CO-1	Develop nutrition programs / nutrition educational strategy for a target population (community extension activities)
CO-2	Explain how public policies are formed and implemented

CO-3	Develop effective strategies to engage populations in promotion of nutritional wellbeing
CO-4	Demonstrate effective program planning and evaluation
CO-5	Associate with national and international organizations and
CO-6	Involve in community research

Course Title	**Discipline Specific Elective – II** **NUTRITION IN EMERGENCY**
Code	**18NDP17B**
	On completion of the course, students would be able to
CO-1	Common natural and manmade disasters
CO-2	Role of nutritionists in emergency situations
CO-3	Assessment techniques of food and nutritional requirements in affected population
CO-4	Importance of symbiosis of political leaders, administrators and health care providers

Course Title	**Core** **NUTRITION AND ENVIRONMENTAL HEALTH**
Code	**18NDP18**
	On completion of the course, students would be able to
CO-1	Comprehend the interaction between nutrients, toxins and their effects
CO-2	Cognize the methods of detoxification in day today food preparation
CO-3	Understand the effects of food toxins and drugs on the human system

Course Title	**Core** **BIOCHEMICAL ANALYSIS PRACTICALS**
Code	**18NDP19**
	On completion of the course, students would be able to
CO-1	The students will be efficient in analyzing the blood, serum and urine samples for the selected parameters
CO-2	Students will be able to conduct the balance studies to assess the health status of an individual
CO-3	Estimate the various biochemical parameters in specified body fluids
CO-4	Understand the basics of conducting in vivo experiments and
CO-5	Obtain skills in metabolic studies and isolation techniques

Course Title	PROJECT AND VIVA - VOCE
Code	21NDP20
	On completion of the course, students would be able to
CO-1	Devise schedules based on the purpose of the research study
CO-2	Develop skills in data management and writing/presentation
CO-3	Analyse and interpret journal articles

Course Title	Generic Elective Course FOOD CHEMISTRY AND QUALITY CONTROL
Code	18GECIDC
	On completion of the course, students would be able to
CO-1	Knowledgeable about the various components of Foods and their importance in food quality
CO-2	Application of sensory evaluation in developing new food products
CO-3	Ability to detect adulteration in commonly used foods through simple techniques and become a food safety aware consumer

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Programme: MSc Computer Science

Programme Outcomes	
	On completion of the programme, the student will be able to
PO-1	Become knowledgeable in the subject of Computer Science and apply the principles of the same to the needs of the Employer/Institution/own Business or Enterprise
PO-2	Gain Analytical skills in the field of Information Technology
PO-3	Understand and appreciate professional ethics, community living and Nation Building initiatives
PO-4	Learning the methodologies for doing research
PO-5	Fit for the Information and Communication industry needs
PO - 6	Ability to gain for self learning and doing analytics, acquiring in-depth knowledge in respective domains
PO -7	Promoting to become an entrepreneur

Programme Specific Outcomes	
	On completion of the programme, the student will be able
PSO-1	Apply the knowledge of using Software tools in the domain of Medical, Social and Industry
PSO-2	Solve the complex problems using Computer Science with an understanding of the societal, legal and cultural impacts of the solution
PSO-3	The computer lab programming exercise problems are based on theory courses taught in respective semesters which are of real time applications oriented
PSO-4	Form a part of member in a team with right attitudes

Course Outcomes

Course Title	Core HUMAN COMPUTER INTERACTION
Code	**20CMP01**
	On completion of the course, students would be able to
CO-1	The learning outcomes include students gaining knowledge of Human Computer Network.
CO-2	Another learning outcome is for students to utilize a Human Computer Application for Computer Based Application.
CO-3	Student capability development includes students gaining an understanding the Structure of Various user interface for Mobile Application.
CO-4	Interfaces for Distributed Application and for Various Digital Devices
CO-5	Balancing function for design issues in user interface.

Course Title	Core DATA SCIENCE IN CLOUD COMPUTING AND BIG DATA
Code	**18CMP02**
	On completion of the course, students would be able to
CO-1	Implementation of cloud architectural environment
CO-2	Installation and usage of virtual Environments
CO-3	Knowledge to manage Big Data using Hadoop – Map Reduce
CO-4	Performing Data Analytics on various types of data
CO-5	Able to perform Data Analysis for data on the fly and Data in motion

Course Title	Core DATA MINING AND ITS APPLICATIONS
Code	**18CMP03**
	On completion of the course, students would be able to
CO-1	Learn the concepts of database technology evolutionary path which has led to theneed for data mining and its applications
CO-2	Examine the types of the data to be mined and present a general classification of

	tasks and primitives to integrate a data mining system
CO-3	Apply preprocessing statistical methods for any given raw data
CO-4	Discover interesting patterns from large amounts of data to analyze and extract patterns to solve problems, make predictions of outcomes
CO-5	Develop practical work of Data Mining techniques and design hypotheses based on the analysis to conceptualize a Data Mining solution to a practical problem

Course Title	**Core** **AGILE SOFTWARE ENGINEERING**
Code	**20CMP04**
	On completion of the course, students would be able to
CO-1	Realize the importance of interacting with business stakeholders in determining the requirements for a software system.
CO-2	Perform iterative software development processes: how to plan them, how to execute them.
CO-3	Point out the impact of social aspects on software development success.
CO-4	Develop techniques and tools for improving team collaboration and software quality.
CO-5	Perform Software process improvement as an ongoing task for development terms
CO-6	Show how agile approaches can be scaled up to the enterprise level.

Course Title	**Core** **SOFT COMPUTING**
Code	**18CMP05**
	On completion of the course, students would be able to
CO-1	To understand the concepts of hard computing and soft computing concepts and models
CO-2	Ability to understand the difference between learning and programming and explore practical applications of Neural Networks (NN)
CO-3	Ability to appreciate the importance of optimizations and its use in computerscience and other domains
CO-4	Ability to analyze and appreciate the applications which can use fuzzy logic
CO-5	Students would understand the efficiency of a Neural Network and fuzzy logic and Genetic Algorithm and its various applications. Ability to design inference systems

Course Title	Core WEB APPLICATIONS DEVELOPMENT TECHNOLOGY
Code	**18CMP06**
	On completion of the course, students would be able to
CO-1	Understand about web applications
CO-2	Students learned about input and parameters passing in HTML
CO-3	Students have learned about Perl language and understand its functions
CO-4	Understand Methodology for data tier
CO-5	Student Learned about PHP,ASP and XML functions

Course Title	Core PROGRAMMING LAB – I
Code	**20CMP07**
	On completion of the course, students would be able to
CO-1	Students will get the concepts of Human Computer Interaction
CO-2	Understand core techniques and concepts of Big Data and Hadoop ecosystem.
CO-3	Understand the functionality of the various data mining and data warehousing components.
CO-4	Understand the entire software engineering project process, which consists of object-oriented analysis, design, programming and testing.
CO-5	Ability to analyze and appreciate the applications which can use fuzzy logic.
CO-6	Gain the technical tools and techniques necessary to build dynamic websites and applications.

Course Title	Core PROGRAMMING LAB – II
Code	**20CMP08**
	On completion of the course, students would be able to
CO-1	Ability to handle possible errors during program execution.
CO-2	Understanding a concept of functional hierarchical code organization
CO-3	List and use Object Oriented Programming concepts for problem solving.
CO-4	Demonstrate the use of various OOPs concepts with the help of programs
CO-5	Understand different object oriented modeling techniques.

Course Title	Core SOFTWARE AGENTS
Code	**20CMP09/18CMP08**
	On completion of the course, students would be able to
CO-1	Understand agents and their user experience
CO-2	Able to understand Reactive and Hybrid Agents, Communication and Cooperation
CO-3	Understand Approaches to knowledge base development
CO-4	Understand Methodology for building intelligent agents
CO-5	Understand Building the knowledge base through verifying, validating and maintaining the agent

Course Title	Core SOCIAL NETWORK ANALYTICS
Code	**20CMP10/18CMP09**
	On completion of the course, students would be able to
CO-1	Work on the internal components of the social network
CO-2	Model and visualize the social network
CO-3	Mine the behavior of the users in the social network
CO-4	Predict the possible next outcome of the social network
CO-5	Mine the opinion of the user

Course Title	Core ADVANCED COMMUNICATION NETWORK
Code	**20CMP11/18CMP10**
	On completion of the course, students would be able to
CO-1	Enumerate the layers of the OSI model and TCP/IP. Explain the function(s) of each layer
CO-2	Understand about Data Communications System and its components
CO-3	Identify the different types of network topologies and protocols
CO-4	Understand and building the skills of subnetting and routing mechanisms
CO-5	Familiarity with the basic protocols of computer networks, and how they can be used to assist in network design and implementation

Course Title	Discipline Specific Elective – I DEEP LEARNING AND BLOCK CHAIN TECHNOLOGY
Code	**20CMP12A**
	On completion of the course, students would be able to
CO-1	Learner can be able to set up a machine learning problem with a neural network mindset.
CO-2	Learner understands the key computations underlying deep learning, use them to build and train deep neural networks, and apply it to computer vision.
CO-3	Learner knows how to implement neural networks in TensorFlow.
CO-4	Learner can be able to build and critically evaluate blockchain applications.
CO-5	Learner can evaluate the state of the art and emerging use cases of blockchain.

Course Title	Discipline Specific Elective – I DATA COMPRESSION
Code	**20CMP12B**
	On completion of the course, students would be able to
CO-1	
CO-2	
CO-3	
CO-4	
CO-5	

Course Title	Core BIO-METRICS
Code	**20CMP13/18CMP12**
	On completion of the course, students would be able to
CO-1	Understanding the knowledge in Biological and Behavioral Biometrics
CO-2	It possesses thorough knowledge about theory and scientific methods relevant for design, development and operation of biometric access control systems
CO-3	The student is capable of applying his/her knowledge in new fields of IT-security system
CO-4	Resolving the primary techniques and technologies used in the common Biometrics recognition system
CO-5	Understand the biometric technologies and their advantages and disadvantages

Course Title	Core PROGRAMMING LAB –II
Code	**20CMP15**
	On completion of the course, students would be able to
CO-1	To understand how to control components of a computer system through the use of software interrupts
CO-2	Become a social network analyst
CO-3	Understand the operation of several of the routing protocols
CO-4	The candidate possesses thorough knowledge about scientific methods relevant for design, development and operation of biometric access control systems
CO-5	Demonstrate understanding of basic concepts of probability and statistics embedded in their courses
CO-6	To motivate the students to pursue research in the area of wireless network

Course Title	Core PROGRAMMING LAB –IV
Code	**20CMP16**
	On completion of the course, students would be able to
CO-1	Learner will be able to implement algorithms for data preprocessing, classification, regression, clustering, association rules; it also includes a visualization tools by using WEKA.
CO-2	Learner will learn how to deploy them and how to use them for scalable computation, scoring and reporting by using RAPID MINER.
CO-3	Learner will be able to perform numerical experiments using OCTAVE.
CO-4	The user interacts with the representation; manipulate the structures, shapes and colors to reveal hidden patterns using GEPHI.
CO-5	The user can navigate and manipulate the Photoshop and Corel draw tools.
CO-6	Learners will able to design, create, edit, and manipulate animation using several animation tools and techniques using flash software
CO-7	User learns to develop, create and to manage terminologies and ontologies using Protege.
CO-8	Netgraph helps the learner to store and easily retrieve frequently encountered objects in complex systems

Course Title	Core DIGITAL MARKETING
Code	**20CMP17/ 19CMP15**
	On completion of the course, students would be able to
CO-1	CO1: On Successful completion of this course the learner will be a Digital Marketing Professional with all competencies.
CO-2	CO2: The learner can be a most sought employee of Digital Marketing.
CO-3	CO3: The learner can become an entrepreneur by starting his own venture in Digital Marketing.
CO-4	CO4: The Learner can pursue his research in Digital Marketing with Global Competencies.
CO-5	CO5: The learner will be a Teacher, Guide and a technocrat.

Course Title	Core MACHINE LEARNING
Code	**20CMP18**
	On completion of the course, students would be able to
CO-1	To implement a neural network for an application of your choice using an available tool
CO-2	To implement probabilistic discriminative and generative algorithms for anapplication of your choice and analyze the results
CO-3	To use a tool to implement typical clustering algorithms for different types ofapplications
CO-4	To design and implement an HMM for a sequence model type of application
CO-5	To identify applications suitable for different types of machine learning withsuitable justification

Course Title	Core ERP AND SAP ARCHITECTURE
Code	**20CMP19/18CMP17**
	On completion of the course, students would be able to
CO-1	Understand the Enterprise Activities
CO-2	Understand key business processes in an organization and identify the mainintegration points
CO-3	To be able to identify and describe typical functionality in an ERP system
CO-4	Effectively use SAP ERP to configure, test and execute standard business processes
CO-5	Effectively understanding SAP Business Architecture

Course Title	Core INTERNET OF THINGS - IOT
Code	**20CMP20**
	On completion of the course, students would be able to
CO-1	Apply the concepts of IOT.
CO-2	Identify the different technology.
CO-3	Apply IOT to different applications.
CO-4	Analysis and evaluate protocols used in IOT.
CO-5	Analysis and evaluate the data received through sensors in IOT.

Course Title	Core PROGRAMMING LAB –V
Code	**20CMP21**
	On completion of the course, students would be able to
CO-1	To teach participants how to develop multimedia programs.
CO-2	Mastered the R language for the applications in machine learning Algorithms
CO-3	To make student able to build an understanding of the fundamental concepts of ERP systems, their architecture, and working of different modules in ERP.
CO-4	Various test processes and continuous quality improvement.
CO-5	Gains an overview of all aspects of E-Commerce .

Course Title	Core PROGRAMMING LAB –VI
Code	**20CMP22**
	On completion of the course, students would be able to
CO-1	Understand the development of a client-side browser based web application including its capabilities and limitations.
CO-2	Develop skills in client-side web application development technologies including HTML, Javascript, and Javascript libraries.
CO-3	Master the fundamentals of writing Python script.
CO-4	Explore Python's object-oriented features
CO-5	Understand the different data types in R.
CO-6	Understand the different data structures in R.
CO-7	Performing Data Analytics on various types of data.
CO-8	Able to perform Data Analysis for data on the fly and Data in motion.

Course Title	Core PROJECT 1 AND VIVA VOCE
Code	**21CMP23**
	On completion of the course, students would be able to
CO-1	Do commercial projects on their own and can successfully launch the product.
CO-2	Possessing skills required for software product development.
CO-3	Experience in the use of various software engineering tools.
CO-4	Gain the software project management techniques and tools.
CO-5	Students have got exposure to all software quality assurance techniques and methodologies.

Course Title	Discipline Specific Elective – II ELECTRONIC COMMERCE
Code	**20CMP24A/18CMP21A**
	On completion of the course, students would be able to
CO-1	Enumerate the e-commerce and its limitations
CO-2	Understand about web site designs
CO-3	Identify the functions of different security protection and recovery
CO-4	Understand about Project Management and Monitoring Web Site Traffic
CO-5	Understand about web linking’s

Course Title	Discipline Specific Elective – II DATA AND WEB WAREHOUSING
Code	20CMP24B/ 18CMP21B
	On completion of the course, students would be able to
CO-1	
CO-2	
CO-3	
CO-4	
CO-5	

Course Title	PYTHON AND R PROGRAMMING
Code	20CMP27/ 19CMP24
	On completion of the course, students would be able to
CO-1	Master the fundamentals of writing Python scripts
CO-2	Learn core Python scripting elements such as variables and flow control structures
CO-3	Explore Python's object-oriented features
CO-4	Understand the different data types in R.
CO-5	Understand the different data structures in R.

Course Title	PROJECT 2 & VIVA VOCE
Code	21CMP28
	On completion of the course, students would be able to
CO-1	Students can take up commercial projects on their own and can successfully launch the product.
CO-2	Students would have mastered the skills of software product development.
CO-3	Students have got experience in usage of various software engineering tools.
CO-4	Students have gained the knowledge of software project management techniques and tools.
CO-5	Students have got exposure to all software quality assurance techniques and methodologies.

Course Title	Generic Elective Course (Cluster – I) WEB DESIGN USING HTML & JAVASCRIPT (Theory)
Code	**20MAP12C/20PHP15C/20STP16C**
	On completion of the course, students would be able to
CO-1	Students have learned about Client-server models
CO-2	Understand the importance of HTML tags and documents.
CO-3	Identify the functions of data types and variables.
CO-4	Students have learned about forms and frames.
CO-5	Understand about event-handing in JavaScript.

Course Title	Generic Elective Course (Cluster – I) WEB DESIGN USING HTML & JAVA SCRIPT PRACTICALS
Code	**20MAP13C/20PHP16C/20STP17C**
	On completion of the course, students would be able to
CO-1	Understand the web design programs.
CO-2	Design web page using html tags.
CO-3	Identify the functions of data types and variables in JavaScript programs.
CO-4	Implement mathematical functions using javascript.

Course Title	Core COMPUTER PROGRAMMING IN “C” LANGUAGE
Code	**18ELU12**
	On completion of the course, students would be able to
CO-1	To Understand the fundamentals of C programming
CO-2	To Gain Knowledge in various types of operators
CO-3	Ability to expertise in using all data types
CO-4	Ability to analyze and design Array, pointers, structure
CO-5	Ability to produce any application using file

Course Title	Core COMPUTER PROGRAMMING IN “C” LANGUAGE PRACTICALS
Code	**18ELU13**
	On completion of the course, students would be able to
CO-1	Ability to design various operators and to implement in the program
CO-2	Ability to implement Array Program
CO-3	Ability to analyze and design pattern occurrence
CO-4	Ability to create structure using Mark Sheet Preparation
CO-5	Ability to implement function and pointers in various application

Course Title	Core WEB DESINGING USING JAVASCRIPT
Code	**18ELU17**
	On completion of the course, students would be able to
CO-1	To Understand the fundamentals of JavaScript programming
CO-2	To Gain Knowledge in Web Design
CO-3	Ability to expertise in using all data types and variables
CO-4	Ability to analyze and design Array, Functions, Forms and Frames
CO-5	Ability to produce any Web Application using Java Script

Course Title	Core PRACTICAL VI-WEB DESINGING USING JAVA SCRIPT LAB
Code	**18ELU20**
	On completion of the course, students would be able to
CO-1	Ability to design various operators and to implement in the program
CO-2	Ability to implementHTML in Web Application program
CO-3	Ability to analyze and design using Java Script
CO-4	Ability to implement function in various Web applications

Course Title	SKILL ENHANCEMENT COURSE – I (PART-IV) INFORMATION SECURITY
Code	**18SECU01**
	On completion of the course, students would be able to
CO-1	Possess a fundamental knowledge of Information Security
CO-2	Understand what vulnerability is and how to address most common vulnerabilities
CO-3	Know basic and fundamental risk management principles as it relates to information Security
CO-4	Have the knowledge needed to practice safer computing and safeguard your information
CO-5	Understand basic technical controls in use today, such as firewalls and Intrusion Detection systems and exposure to cyber laws

Course Title	SKILL ENHANCEMENT COURSE CYBER SECURITY (offered to all PG Courses)
Code	**18SECP01**
	On completion of the course, students would be able to
CO-1	Possess a fundamental knowledge of Cyber Security
CO-2	Understand what vulnerability is and how to address most common vulnerabilities
CO-3	Know basic and fundamental risk management principles as it relates to Cyber Security
CO-4	Have the knowledge needed to practice safer computing and safeguard your information
CO-5	Understand basic technical controls in use today, such as firewalls and Intrusion Detection systems

PSG College of Arts & Science
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Since 1947

Programme: MSc Applied Microbiology

Programme Outcomes	
	On completion of the programme, the student will be able to
PO-1	Become knowledgeable in the subject of Microbiology and apply the principles of the same to the needs of the Employer / Institution /own Business or Enterprise
PO-2	Gain Analytical skills in the field/area of Microbiology
PO-3	Understand and appreciate professional ethics, community living and Nation Building initiatives
PO-4	To provide fundamental and advanced knowledge and expertise in order to produce competent, creative and imaginative professionals with a strong scientific acumen
PO-5	To practice Microbiology in support of the design of interdisciplinary Lifescience systems through the application of the acquired knowledge, skills, and tools pertinent to Microbiology
PO-6	To promote independent and collaborative work, while demonstrating the professional and ethical responsibilities of the profession
PO-7	To promote development of intellectual property by publishing articles in high impact factor journals, conference proceedings, patents

Programme Specific Outcomes	
	On completion of the programme, the student will be able
PSO-1	Develop strong basic theoretical knowledge and empower oneself for applications in various domains namely environmental, agricultural, medical, biotechnology, industrial and Food Microbiology

PSO-2	Acquire analytical skills using latent techniques and tools along with needed practical skills with an understanding of scientific, societal, safety, legal impacts, able to design and execute experiments in various fields of Microbiology
PSO-3	Continue to develop professionally through life-long learning, higher education and other creative pursuits in their areas of expertise
PSO-4	Identify, formulate, research literature and analyze complex problems reaching substantiated conclusions and succeed obtaining employment appropriate to their interests, education and will become productive and valued professional and ultimately meeting regional, national and global requirements
PSO-5	Exercise multidisciplinary Professional and Leadership qualities in responsive, ethical and innovative manner, through collaboration and outreach to disseminate knowledge to other professionals, stakeholders, policy makers and public

Course Outcomes

Course Title	**Core** **INTRODUCTORY MICROBIOLOGY, MICROBIAL SYSTEMATICS AND DIVERSITY**
Code	**19MBP01**
	On completion of the course, students would be able to
CO-1	Understand early developments of Microbiology. Perform Techniques in Microbiology
CO-2	Demonstrate concepts and classification of different groups of microorganism and its salient features
CO-3	Integrated and conceptual approach of the distribution of microorganisms and their diversity
CO-4	Diversification of various microorganisms

Course Title	Core MICROBIAL PHYSIOLOGY METABOLISM AND BIOLOGICAL CHEMISTRY
Code	**18MBP02**
	On completion of the course, students would be able to
CO-1	Understand the various nutrient transport systems
CO-2	Understand Growth, morphogenesis, endospore formation and Photosynthesis
CO-3	Follow nutrient utilization and metabolic process in microorganisms
CO-4	Regulation and interrelationships within metabolic pathways
CO-5	Molecular level architecture of cell

Course Title	Core CELL AND MOLECULAR BIOLOGY
Code	**18MBP03**
	On completion of the course, students would be able to
CO-1	Understand the cellular mechanism
CO-2	Overview the concepts of genome and gene structure and DNA replication
CO-3	Understand the transcription and translation process
CO-4	Follow the metabolic pattern and regulation of gene expression

Course Title	Core BIORESEARCH INSTRUMENTATION
Code	**18MBP04**
	On completion of the course, students would be able to
CO-1	Understand techniques in Microscopy, Spectrophotometry, centrifugation, chromatography, and electrophoresis
CO-2	Perform the instrumentation handling techniques in Microscopy, Spectrophotometry, centrifugation, chromatography, and electrophoresis
CO-3	Understand and perform Molecular Diagnostic techniques
CO-4	Apply instrumentation knowledge in various microbial and molecular diagnostic and separation techniques

Course Title	Core FOOD AND DAIRY MICROBIOLOGY
Code	**18MBP05**
	On completion of the course, students would be able to
CO-1	Students should be able to explain the interactions between microorganisms and the food environment, and factors influencing their growth and survival
CO-2	Student should describe the characteristics of foodborne, waterborne and spoilage microorganisms, and methods for their isolation, detection and identification
CO-3	Student should know the significance of microorganisms in food fermentations and its parameters required
CO-4	Should be able to apply and incorporate the principles of food science in practical, real-world situations and problems
CO-5	Should define a problem, identify potential causes and possible solutions, and make thoughtful recommendations

Course Title	Core MICROBIOLOGY PRACTICALS I
Code	**18MBP06**
	On completion of the course, students would be able to
CO-1	Perform hands on techniques in General Microbiology
CO-2	Perform hands on techniques in Microbial physiology
CO-3	Perform hands on techniques in Cell and Molecular Biology
CO-4	Perform hands on techniques in Bioinstrumentation
CO-5	Perform hands on techniques in Food and Dairy Microbiology

Course Title	Core MICROBIAL GENETICS AND GENETIC ENGINEERING
Code	**19MBP07**
	On completion of the course, students would be able to
CO-1	Understand the blue print of life and the information centers called genes
CO-2	Expose the mechanism and function of gene transfer methods
CO-3	Follow the knowledge of the basic tools in genetic engineering
CO-4	Understand conceptsof genetic recombination, sequencing and geneamplification

Course Title	Core FERMENTATION AND BIOPROCESS TECHNOLOGY
Code	**18MBP08**
	On completion of the course, students would be able to
CO-1	The student will be able to define fermentation and its type
CO-2	The student will be enabled to differentiate the steps involved in upstream and downstream processing
CO-3	The student will be able to learn the kinetic parameter with respect to fluid methodology
CO-4	The student will be able to visualize the various geometrical patterns of the fermentors and its application
CO-5	The student will learn about the industrial production of fermentative products

Course Title	Core APPLIED VIROLOGY
Code	**19MBP09**
	On completion of the course, students would be able to
CO-1	Understand General concepts on viruses
CO-2	Understand animal virus and their mode of action
CO-3	Understand plant virus and their mode of action
CO-4	Understand bacteriophages and their mode of action

Course Title	Core ENVIRONMENTAL AND AGRICULTURAL MICROBIOLOGY
Code	**19MBP10**
	On completion of the course, students would be able to
CO-1	Learn the occurrence, abundance, distribution and role of microorganisms in the environment, learn different methods for their detection and characterization
CO-2	Student gain knowledge in positive and negative role of microorganisms in soil and its usefulness in treating liquid and solid waste
CO-3	Understand plant microbes interactions especially rhizosphere, phyllosphere and mycorrhizae and their applications especially the biofertilizers and their production techniques
CO-4	Comprehend the various methods to determine the Sanitary quality of water and sewage treatment methods employed in waste water treatment
CO-5	Understand the basic principle of using microorganisms in pest control and its applications

Course Title	Core MICROBIOLOGY FOR COMPETITIVE EXAMINATIONS
Code	**20MBP11**
	On completion of the course, students would be able to
CO-1	Understand the importance and application of CSIR-NET syllabus and preparation
CO-2	Prepare for competitive exams like CSIR/GATE
CO-3	Able to present better for employability
CO-4	Critical thinking ability by practicing MCQs for the CSIR contents

Course Title	Core MICROBIOLOGY PRACTICALS II
Code	**18MBP12**
	On completion of the course, students would be able to
CO-1	Perform hands on techniques in Environmental Microbiology
CO-2	Perform hands on techniques in Agricultural Microbiology
CO-3	Perform hands on techniques in Microbial Genetics
CO-4	Perform hands on techniques in Fermentation Technology

Course Title	Core MEDICAL BACTERIOLOGY, MYCOLOGY & PARASITOLOGY
Code	**21MBP14/18MBP13**
	On completion of the course, students would be able to
CO-1	Understand the characteristics of Gram positive and Negative microorganisms
CO-2	Study the infectious diseases and their control measures
CO-3	Know about the fungal infections and treatment
CO-4	Understand the parasitic lifecycle and their infections
CO-5	Gain knowledge on the collection and processing of patients samples

Course Title	Core IMMUNOTECHNOLOGY
Code	**21MBP15/18MBP14**
	On completion of the course, students would be able to
CO-1	Study in detail the components of the immune system
CO-2	Get idea on the antigen and antibody reactions
CO-3	Understand the hypersensitivity and autoimmune disorders
CO-4	Learn the immunological basis of infectious diseases
CO-5	Understand the concepts of transplantation immunology

Course Title	Core BIOSTATISTICS AND RESEARCH METHODOLOGY
Code	**21MBP16/18MBP15**
	On completion of the course, students would be able to
CO-1	Able to learn the various tools in statistics and ability to choose a tool based on data
CO-2	Able to apply the statistical concepts in the execution of project work in dissertation
CO-3	Apply to have scientific and systematic approach in research
CO-4	Able to take up research as a carrier with confidence
CO-5	Able to learn the nuances of writing research articles

Course Title	Discipline Specific Elective - I PHARMACEUTICAL MICROBIOLOGY
Code	**21MBP17A/ 20MBP16A/19MBP17A**
	On completion of the course, students would be able to
CO-1	Students should well accustom with basic chemistry of pharmaceuticals
CO-2	Students will be able to comprehend the basic mechanisms of action of antimicrobials and resistance mechanisms developed against them
CO-3	Determine the basic pharmacokinetic parameters that describe drug absorption and disposition
CO-4	Students should be able to do purify the drug, to evaluate the sterility, biomedical potency and its safety measures
CO-5	Should develop expertise in drug therapy, synergism, antagonism and adverse reactions

Course Title	Discipline Specific Elective - I GMP, GLP and Quality Control
Code	**21MBP17B/20MBP16B/19MBP17B**
	On completion of the course, students would be able to
CO-1	To understand the good manufacturing practices and quality control
CO-2	To learn the food quality standards and hazard analysis
CO-3	To know about the Quality analysis standards
CO-4	To have an idea on internal and external quality assessment

Course Title	Core MICROBIOLOGY PRACTICALS III
Code	**21MBP18/ 20MBP17/ 19MBP18**
	On completion of the course, students would be able to
CO-1	Perform hands on techniques in Medical Microbiology
CO-2	Perform hands on techniques in Immunology
CO-3	Perform hands on techniques in Serology
CO-4	Perform hands on techniques in Virology
CO-5	Perform hands on techniques in Bioinformatics

Course Title	Core PRINCIPLES OF GENETIC ENGINEERING, APPLIED BIOTECHNOLOGY
Code	**21MBP21/ 20MBP20**
	On completion of the course, students would be able to
CO-1	follow the knowledge of the basic tools in genetic engineering & applications of biotechnological tools
CO-2	understand the concepts of vector construction, and screening
CO-3	apply the concepts of DNA sequencing and amplification
CO-4	study the engineering in plants and animals to create transgenic varieties, understand the concept for treating various genetic diseases
CO-5	know about the concepts of IPR rules and regulations

Course Title	Discipline Specific Elective – II INTRODUCTION TO BIOINFORMATICS, GENOMICS & PROTEOMICS
Code	**21MBP22A/20MBP21A**
	On completion of the course, students would be able to
CO-1	Understand the basics of bioinformatics, proteomics and genomics
CO-2	Gain knowledge on the big data analysis of biological information
CO-3	Learn the sequence alignment by using various tools
CO-4	Understand the concept of phylogenetic analysis
CO-5	Know about the sequencing of nucleic acids and proteins

Course Title	Discipline Specific Elective – II MICROBIAL NANOTECHNOLOGY
Code	**21MBP22B/20MBP21B**
	On completion of the course, students would be able to
CO-1	The student will be able to differentiate particles at macro, micro and nano level
CO-2	The student will be able to explore the interdisciplinary applications of nanotechnology
CO-3	The student will be able to synthesize nanoparticles at the laboratory scale
CO-4	The student will be able to apply the basics of Nanosciences
CO-5	The student will learn the positive and negative aspects of nanotechnology and its present status in India

Course Title	Generic Elective Course – Theory CLINICAL MICROBIOLOGY
Code	
	On completion of the course, students would be able to
CO-1	Understand the basics and techniques in Microbiology
CO-2	Understand the methods in clinical diagnosis of microorganisms
CO-3	Learn the different culture techniques for microorganisms
CO-4	Know about the control of microorganisms by physical and chemical agents
CO-5	Study about the different characteristics of viruses

Course Title	Generic Elective Course – Practical
Code	
	On completion of the course, students would be able to
CO-1	Perform hands on skill in General Microbiology techniques
CO-2	Perform techniques in staining and micrometry
CO-3	Prepare different media and cultivate microorganisms
CO-4	Perform the different pure culture techniques
CO-5	Identify some important clinically important strains

Course Title	Certificate Course Paper INDUSTRIAL QUALITY CONTROL
Code	18MBPC01
	On completion of the course, students would be able to
CO-1	Quality Control and Quality assurance practices
CO-2	Prepare SOP’s for industrial production
CO-3	Become a GMP Professional
CO-4	Quality authority in Food and Pharmaceutical industries

Course Title	Certificate Course Paper INDUSTRIAL QUALITY CONTROL PRACTICUM
Code	18MBPC02
	On completion of the course, students would be able to
CO-1	Quality Control and Quality assurance practices
CO-2	Prepare SOP’s for industrial production
CO-3	Become a GMP Professional
CO-4	Quality authority in Food and Pharmaceutical industries

PSG College of Arts & Science
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Since 1947

Programme: MSc Environmental Science

Programme Outcomes	
	On completion of the programme, the student will be able to
PO-1	Become knowledgeable in the subject of Environmental Science and apply the principles of the same to the needs of the Employer / Institution /own Business or Enterprise
PO-2	Gain Analytical skills in the field/area of Environmental Science
PO-3	Understand and appreciate professional ethics, community living and Nation Building initiatives
PO-4	Competency in applying acquired knowledge and skills to manage Problems associated with environment
PO-5	Apply decision making methodologies to evaluate solutions for Efficiency, effectiveness and environmental sustainability
PO-6	Analyze issues and problems of local, national and international Concerns pertain to environment domain and act aptly
PO-7	Apply effective, creative and innovative solutions, both independently and cooperatively, to present and future Environmental problems
PO-8	Initiative to create social consciousness on various environmental Problems

Programme Specific Outcomes	
	On completion of the programme, the student will be able
PSO-1	Apply the knowledge of interdisciplinary sciencesin the domain of Environmental Science
PSO-2	Solve the complex problems in the field of Environmental Sciencewith an understanding of the societal, legal and cultural impacts of the solution
PSO-3	Initiate technocratic, ecofriendly and sustainable developments
PSO-4	Form a part of member in a team with right attitudes

Course Outcomes

Course Title	Core PRINCIPLES OF ECOLOGY AND ENVIRONMENT
Code	**18ESP01**
	On completion of the course, students would be able to
CO-1	Understand various ecosystem's structure, function and characteristics
CO-2	Acquired knowledge on species inter and intraspecies interaction
CO-3	Know Charactersation of community and its dominance as well as coexisting with other community
CO-4	Realise the importance of protection and conservation of biodiversity
CO-5	Differentiate various habitats and its salient feature

Course Title	Core AIR POLLUTION AND MANAGEMENT
Code	**18ESP02**
	On completion of the course, students would be able to
CO-1	Gain knowledge on atmospheric layer and its importance
CO-2	Acquired the details about source, types and impacts of air pollution
CO-3	Know the sampling and analysis of the air pollutants of ambient environment
CO-4	Understand the various air pollution control measures
CO-5	Aware of various polices related to air pollution prevention and control

Course Title	Core ENERGY AND ENVIRONMENT
Code	**18ESP03**
	On completion of the course, students would be able to
CO-1	Understand the basic aspects of energy
CO-2	Realise the importance of energy production
CO-3	Facilitate to differentiate renewable and non-renewable energy resources
CO-4	Gain knowledge on energy production from waste
CO-5	Assist to envisage a need for cleaner energy technologies development

Course Title	Core ENVIRONMENTAL TOXICOLOGY
Code	**18ESP04**
	On completion of the course, students would be able to
CO-1	Know the route of entry and its response of toxins and toxicants
CO-2	Know comprehensively about the types of toxicant and contaminants
CO-3	Mobilization and disposition of toxins in human system
CO-4	Gain the knowledge on risk of contaminants when exposed
CO-5	Understand the risk associated with various contaminants

Course Title	Core INSTRUMENTAL METHODS OF ANALYSIS
Code	**18ESP06**
	On completion of the course, students would be able to
CO-1	Understand the analytical techniques with applications
CO-2	Gain information about working mechanism of instruments
CO-3	Acquire knowledge on qualitative and quantitative techniques
CO-4	Recognize the suitable instrumental technique for analyzing environmental samples
CO-5	Get confidence to carryout statistical analysis and infer the results

Course Title	Core WATER POLLUTION AND MANAGEMENT
Code	**18ESP07**
	On completion of the course, students would be able to
CO-1	Justify the water as an universal solvent
CO-2	Understand various types water pollutants
CO-3	Differentiate the water quality need for any designated purpose like agriculture, industrial, domestic and recreational requirements
CO-4	Realize the difference between the polluted water andunpolluted water
CO-5	Gain knowledge on wastewater treatment and recycling

Course Title	Core SOIL POLLUTION AND SOLID WASTE MANAGEMENT
Code	**18ESP08**
	On completion of the course, students would be able to
CO-1	Comprehend the structure and characteristics of soil
CO-2	Gain knowledge on hazardous and biomedical waste management
CO-3	Realize the importance of waste segregation and waste specific treatment/ safe disposal technique
CO-4	Understand the importance of recycling, reusing of the valuable components from the end of use products
CO-5	Become conscious on emergency planning in various industrial sector

Course Title	Core ENVIRONMENTAL IMPACT ASSESSMENT
Code	**18ESP09**
	On completion of the course, students would be able to
CO-1	Realize the role EIA in decision making
CO-2	Identify various impacts of any proposed projects
CO-3	Understand the procedures for environmental clearance
CO-4	Gain knowledge on environmental audit and its outcomes
CO-5	Understand the role of various sectors on disaster management

Course Title	Core ENVIRONMENTAL MICROBIOLOGY
Code	**18ESP12**
	On completion of the course, students would be able to
CO-1	Gain knowledge on microbial diversity
CO-2	Know about microbiological standards for water
CO-3	Compare microbial diversity among the environmental compartments
CO-4	Acquire knowledge on microbes aid in containments degradation
CO-5	Explore various updated methods of bioremediation technique

Course Title	Core CLIMATE CHANGES AND MANAGEMENT
Code	**18ESP13**
	On completion of the course, students would be able to
CO-1	Understand and differentiate the meteorological and climaticfeatures
CO-2	Recognize the human influence on climatic change
CO-3	Differentiate sector wise impact on climate change
CO-4	Realize various mitigation measures and actions taken against theclimate change
CO-5	Understand to relate the climate change with the concept of El Niño andLa Niño actions

Course Title	Core REMOTE SENSING AND GIS APPLICATIONS IN ENVIRONMENTAL MANAGEMENT
Code	**18ESP14**
	On completion of the course, students would be able to
CO-1	Understand the characteristics of GIS and Remote sensing
CO-2	Gain knowledge on Toposheet and digital maps usage
CO-3	Acquire knowledge on scanner and sensor in application
CO-4	Know about the importance of image processing and enhancement of GISand Remote sensing
CO-5	Attempt GIS and RS applications on various domains of environmentalstudies

Course Title	Discipline Specific Elective – I ENVIRONMENTAL ENGINEERING
Code	**18ESP15A**
	On completion of the course, students would be able to
CO-1	Understand the design feature of water treatment
CO-2	Know about aerobic and anaerobic water treatment technology
CO-3	Understand various factors affecting the water treatment
CO-4	Know the advantages of anaerobic treatment over aerobic treatment
CO-5	Gain knowledge on design and suitability of air pollution control devices

Course Title	Discipline Specific Elective – I INDUSTRIAL HAZARDS
Code	**18ESP15B**
	On completion of the course, students would be able to
CO-1	Evaluate the safety measures taken at work place
CO-2	Acquire knowledge on mechanical hazards
CO-3	Identify and determine the electrical hazards
CO-4	Compare various standards of safety in work place
CO-5	Think about proactive safety measures against various hazards

Course Title	Core INDUSTRIAL PROCESS AND WASTE MANAGEMENT
Code	**18ESP20**
	On completion of the course, students would be able to
CO-1	Gain knowledge on various industrial process
CO-2	Characterize and differentiate industrial emissions
CO-3	Evaluate specific pollutants of various industries
CO-4	Acquire knowledge on waste to wealth conversion
CO-5	Update the knowledge on control measures

Course Title	Discipline Specific Elective - II NATURAL RESOURCES AND CONSERVATION
Code	**18ESP21A**
	On completion of the course, students would be able to
CO-1	Understand the value of natural resources
CO-2	Investigate pros and cons of non-renewable energy utilization
CO-3	Understand environmental implications of resource extraction
CO-4	Awareness on natural resources conservation practices
CO-5	Need for the conservation of the genetic resources

Course Title	Discipline Specific Elective - II SAFETY IN PROCESS PLANTS

Code	18ESP21B
	On completion of the course, students would be able to
CO-1	Inculcate safety as an integral part of industrial process
CO-2	Understand emergency planning and preparedness
CO-3	Know plant layout specifications and other requirements pertain to safety
CO-4	Realize the importance of periodical medical checkup and documentation
CO-5	Know about the functions of respiratory and non-respiratory personal protective devices.

Course Title	Generic Elective Course – Cluster II ENVIRONMENTAL POLLUTION AND MANAGEMENT - THEORY
Code	
	On completion of the course, students would be able to
CO-1	Understand the basics of environmental pollution
CO-2	Acquire knowledge on water treatment technologies
CO-3	Know how to collect and analyze the air samples
CO-4	Gain knowledge on pollution reduction technologies
CO-5	Realize various environmental issues, policies and its impact regarding pollution and management

PSG College of Arts & Science
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Since 1947

Programme: MSc Electronics

Programme Outcomes	
	On completion of the programme, the student will be able to
PO-1	Become knowledgeable in the subject of Applied Electronics and apply the principles of the same to the needs of the employer / institution/own business or enterprise
PO-2	Gain analytical skills in the field/area of Applied Electronics
PO-3	Understand and appreciate professional ethics, community living and nation building initiatives
PO-4	Acquire in-depth knowledge in the broad area of Microcontrollers and allied disciplines, with an ability to discriminate, evaluate, analyze and synthesize the acquired knowledge
PO-5	Learn to use the engineering software, hardware, design and modeling techniques that are the latest in the field of electronics
PO-6	Develop the ability to understand clearly the steps in designing electronic systems which are in tune with current technology and adaptable for future changes in technology
PO-7	Ability to design and develop practical solutions for real-time problems in the domain of Applied Electronics
PO-8	An ability to apply the acquired knowledge in the field of Applied Electronics

Programme Specific Outcomes	
	On completion of the programme, the student will be able
PSO-1	Apply the knowledge of Electronics in the domain of Embedded System
PSO-2	To enhance and develop electronic system and also to evaluate the system based on the academia and industry relationship
PSO-3	To work professionally and ethically in applied electronics and related areas
PSO-4	Form a part of member in a team with right attitudes

Course Outcomes

Course Title	Core COMMUNICATION SYSTEMS
Code	**18ELP01**
	On completion of the course, students would be able to
CO-1	Apply the concept of analog modulation and digital modulation techniques in communication system
CO-2	Apply the basic knowledge of waveguide and microwave resonator circuits and microwave semiconductor devices
CO-3	Recognize and classify the structures, types of losses and able to analyze various coupling losses and able to know the connection establishment in wireless PAN

Course Title	Core ANALOG AND DIGITAL CIRCUIT DESIGN
Code	**18ELP02**
	On completion of the course, students would be able to
CO-1	Design any analog circuits using op-amp
CO-2	Develop the digital circuits of any real-time application
CO-3	Know the performance and analyze of the analog and digital circuits

Course Title	Core POWER ELECTRONICS
Code	**18ELP03**
	On completion of the course, students would be able to
CO-1	Express the design and control of rectifiers, inverters
CO-2	Design of power electronic converters in power control applications
CO-3	Ability to express commutation methods
CO-4	Ability design AC voltage controller and Cyclo converter and Chopper circuits

Course	Core

Title	8-BIT MICROCONTROLLER
Code	18ELP04
	On completion of the course, students would be able to
CO-1	Write assembly/Embedded C language code for 8- bit PIC Microcontroller
CO-2	Interface different Peripherals
CO-3	Construct and troubleshoot a microcontroller circuit for various applications

Course Title	Core PRACTICAL - I ANALOG AND DIGITAL CIRCUIT DESIGN LAB
Code	18ELP05
	On completion of the course, students would be able to
CO-1	Develop the designing knowledge of analog circuits using op-amp
CO-2	Design the combinational and sequential logic circuits
CO-3	Perform the circuit designing knowledge in both analog and digital circuits

Course Title	Core PRACTICAL – II POWER ELECTRONICS LAB
Code	18ELP06
	On completion of the course, students would be able to
CO-1	Understand the behavior of semiconductor devices operated as power switches
CO-2	Analyze and design dc-to-dc converters and dc to ac inverters
CO-3	Design, set up, and test power electronic circuits

Course Title	Core PRACTICAL - III 8 – BIT MICROCONTROLLER LAB
Code	18ELP07
	On completion of the course, students would be able to
CO-1	Gain knowledge in programming PIC microcontroller
CO-2	Know the operation of ADC and DAC
CO-3	Know the operation of peripheral interfacing

Course	Core

Title	COMPUTER NETWORKS AND OPERATING SYSTEMS
Code	**18ELP08**
	On completion of the course, students would be able to
CO-1	Identify terms and concepts related to networks and operating systems
CO-2	Recognize basic network components and its functions
CO-3	Describe the characteristics, application of operating systems
CO-4	Understandoperation of networks and OS
CO-5	Understand the working principles of computer networks and internals of operating systems

Course Title	Core ADVANCED DIGITAL SYSTEM DESIGN
Code	**18ELP09**
	On completion of the course, students would be able to
CO-1	Capable of knowing the basic fundamentals of Verilog HDL
CO-2	Learn the programming concept for designing digital circuits
CO-3	Design and use programming tools for implementing digital circuits of industry standards

Course Title	Core PROGRAMMABLE LOGIC CONTROLLER
Code	**18ELP10**
	On completion of the course, students would be able to
CO-1	Gain knowledge on Programmable Logic Controllers
CO-2	Create ladder diagrams and functional block diagrams for industrial applications
CO-3	Gain knowledge on SCADA hardware, software and protocols

Course Title	Core 16 – BIT MICROCONTROLLER
Code	**18ELP11**
	On completion of the course, students would be able to
CO-1	Develop the depth of knowledge in MSP430 Microcontroller
CO-2	Learn the programming concept of MSP430 Microcontroller

CO-3	To know the programming knowledge of the peripherals of MSP430

Course Title	**Core** **PRACTICAL – IV - ADVANCED DIGITAL SYSTEM DESIGN LAB**
Code	**18ELP12**
	On completion of the course, students would be able to
CO-1	Map it onto FPGA platform and carry out a series of validations design starting from design entry to hardware testing
CO-2	Design and carry out simulations of simple digital circuits
CO-3	Develop the digital circuits with user specification

Course Title	**Core** **PRACTICAL – V PROGRAMMABLE LOGIC CONTROLLER LAB**
Code	**18ELP13**
	On completion of the course, students would be able to
CO-1	Ability to learn the concept of ladder diagrams using PLC
CO-2	Know the interfacing and programming control using PLC
CO-3	Ability to design PLC programs for industrial applications

Course Title	**Core** **PRACTICAL - VI 16 – BIT MICROCONTROLLER LAB**
Code	**18ELP14**
	On completion of the course, students would be able to
CO-1	Utilize the MSP 430 microcontroller for various applications
CO-2	Assess flash controller programming - data flash with erase, verify and fusing
CO-3	Program MSP 430 microcontroller and its usage

Course Title	**Generic Elective Course – Cluster – IV** **PC HARDWARE AND TROUBLESHOOTING**
Code	
	On completion of the course, students would be able to
CO-1	Gain knowledge on computer hardware
CO-2	Develop knowledge in troubleshooting and maintaining the PC

CO-3	Know the basics of laptop maintenance

Course Title	**Core** **MICROPROCESSOR AND INTERFACING**
Code	**18SSP26**
	On completion of the course, students would be able to
CO-1	Gain through knowledge on processors
CO-2	Develop software using assembly language programming
CO-3	Know the Interfacing concepts of various peripherals

Course Title	**Core** **MICROPROCESSOR AND INTERFACING LAB**
Code	**18SSP30**
	On completion of the course, students would be able to
CO-1	Use various instructions of processor practically
CO-2	Develop software in Assembly Language program
CO-3	Design hardware circuits and interface it with the processor

Course Title	**Core** **BASIC ELECTRONICS FOR CHEMISTS**
Code	**18CHP04**
	On completion of the course, students would be able to
CO-1	Identify terms and concepts related to AC, DC and electronic devices
CO-2	Recognize basic electronic components used for different electronic functions
CO-3	Describe the characteristics , application of operational amplifier and Timer IC
CO-4	Understandoperation of flip-flop, counters, registers, ADC and DAC circuits
CO-5	Understand the working principles of electronic instruments used in laboratories and select them according to their needs

Course	**Core**

Title	DIGITAL SIGNAL PROCESSING
Code	18ELP15
	On completion of the course, students would be able to
CO-1	Perform frequency transforms for the signals
CO-2	Design IIR and FIR filters
CO-3	Finite word length effects in digital filters

Course Title	Core 32-BIT MICROCONTROLLER
Code	18ELP16
	On completion of the course, students would be able to
CO-1	Develop the depth of knowledge in ARM Cortex M4 Processor
CO-2	Learn the programming concept of CC32xx Microcontroller
CO-3	Develop the programming knowledge of the peripherals of CC32xx

Course Title	Core ADVANCED PROGRAMMING LANGUAGES
Code	18ELP17
	On completion of the course, students would be able to
CO-1	Identify terms and concepts related to Programming Language
CO-2	Understand different types of Programming Languages
CO-3	Describe the applications of Programming Languages

Course Title	Discipline Specific Elective - I INSTRUMENTATION AND CONTROL SYSTEM
Code	18ELP18A
	On completion of the course, students would be able to
CO-1	Gain knowledge in using transducer and instruments
CO-2	Improve the system performance by selecting a compensator for a specific application
CO-3	Apply various time domain and frequency domain techniques to assess the system performance

Course Title	Discipline Specific Elective - I EMI AND EMC TECHNIQUES
Code	**18ELP18B**
	On completion of the course, students would be able to
CO-1	Identify terms and concepts related to interferences
CO-2	Recognize basic regulations and standards interferences
CO-3	Understand to control the various interferences

Course Title	GENERIC ELECTIVE COURSE – CLUSTER – IV PC HARDWARE AND TROUBLESHOOTING
Code	**18ELP19D**
	On completion of the course, students would be able to
CO-1	Gain knowledge on computer hardware
CO-2	Develop knowledge in troubleshooting and maintaining the PC
CO-3	Know the basics of laptop maintenance

Course Title	Core PRACTICAL VII - DIGITAL SIGNAL PROCESSING LAB
Code	**18ELP20**
	On completion of the course, students would be able to
CO-1	Understand the concepts of filter designs
CO-2	Able to design and implement convolution techniques
CO-3	Understand the concept of graphics designs

Course Title	Core PRACTICAL - VIII - 32 – BIT MICROCONTROLLER LAB
Code	**18ELP021**
	On completion of the course, students would be able to
CO-1	Utilize the CC32xx microcontroller for various applications
CO-2	Assess ARM Cortex M4 processor programming - data flash with erase, verify and fusing
CO-3	Program CC32xx microcontroller and its usage

Course Title	Core IoT AND ITS APPLICATIONS
Code	**18ELP22**
	On completion of the course, students would be able to
CO-1	Understand the design architecture of IoT
CO-2	Make choice of protocols and deployment in solutions
CO-3	Comprehend the design perspective of IoT based products/services

Course Title	Core AUTOMOTIVE ELECTRONICS
Code	**18ELP23**
	On completion of the course, students would be able to
CO-1	Develop fundamentals of Automotive Electronics, fuel injection and ignition systems
CO-2	Gain application knowledge of electronics in Automobile engineering
CO-3	Understand knowledge about automotive protocols

Course Title	Discipline Specific Elective – II ROBOTICS AND AUTOMATION
Code	**18ELP24A**
	On completion of the course, students would be able to
CO-1	Software design and testing using multithreading and debugging
CO-2	Students will learn the function and purpose of each hardware and software component associated with it
CO-3	Students can write and develop their own code and then build their own fully functioning robotics system

Course Title	Discipline Specific Elective – II DIGITAL IMAGE PROCESSING
Code	**18ELP24B**
	On completion of the course, students would be able to
CO-1	Apply image enhancement and restoration techniques
CO-2	Use image compression and segmentation techniques

CO-3	Represent features of images

Course Title	**Core** **PRACTICAL – IX - IOT PROGRAMMING LAB**
Code	**18ELP25**
	On completion of the course, students would be able to
CO-1	Understand the design architecture of IoT
CO-2	Make choice of protocols and deployment in solutions
CO-3	Comprehend the design perspective of IoT based products/services

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PSG College of Arts & Science
Coimbatore – 641 014

Programme: MSc Costume Design & Fashion

Programme Outcomes	
	On completion of the programme, the student will be able to
PO-1	Become knowledgeable in the subject of Costume Design & fashion and apply the principles of the same to the needs of the Employer/ Institution/ own Business or Enterprise.
PO-2	Gain Analytical skills in the field of Designing & Merchandising
PO-3	Understand and appreciate professional ethics, community living and Nation Building initiatives
PO-4	Able to design and develop designs and Pattern to skilled as a pattern designer
PO-5	Fashion Freelance designer and client Consultant for photo shoot, Advertisements, etc.
PO-6	Join as a Quality controller in Apparel Industry.
PO-7	Join in Buying Agencies for Woven/Knitted/Home textiles.
PO-8	Fashion Stylist in film industry

Programme Specific Outcomes	
	On completion of the programme, the student will be able
PSO-1	Apply the knowledge of textiles and fashion in the domain of Costume Design & Fashion.
PSO-2	Solve the complex problems in the field of development of garment samples to meet the international buyer requirements with the federal standards with an understanding of the societal, legal and cultural impacts of the solution.
PSO-3	Expose their creativity by learning and designing trend through fashion shows and become an energetic Entrepreneur to run his own business.
PSO-4	Form a part of member in a team with right attitudes

Course Outcomes

Course Title	Core ADVANCED TEXTILE SCIENCE
Code	18CDP01
	On completion of the course, students would be able to
CO-1	Identify the recent textile fibres and their process
CO-2	Know about the advanced & recent fibres
CO-3	Gain the knowledge on manufacturing process of yarns

Course Title	Core FABRIC MANUFACTURING AND TECHNOLOGY
Code	18CDP02
	On completion of the course, students would be able to
CO-1	Outline the process flow for woven & knitted fabric manufacturing
CO-2	Explain the various mechanisms involved in the fabric manufacturing
CO-3	Create the new designs in the fabric formation
CO-4	List out the Application of weft and warp knit fabric in Technical Textiles
CO-5	Calculate the Production of knitting machines and its cycle process & Analysis the Seamless knitting

Course Title	Core APPAREL MANUFACTURING TECHNOLOGY
Code	18CDP03
	On completion of the course, students would be able to
CO-1	Develop Managerial skill to maintain the apparel industry
CO-2	Improve management skill to increase production & Standard of living
CO-3	Become a Category Manager in Apparel industry
CO-4	Identify the production preplanning to succeed in productivity

Course Title	Core JEWELLERY & ACCESSORIES DESIGNING PRACTICAL
Code	18CDP04
	On completion of the course, students would be able to

CO-1	Become an entrepreneur in the field of jewellery making
CO-2	Become an designer in the field of accessory design
CO-3	Enhance the style of their own creativity

Course Title	**Core** **FASHION DRAPING & CONSTRUCTION PRACTICAL**
Code	**18CDP05**
	On completion of the course, students would be able to
CO-1	Improved manual skills of draping
CO-2	Work with professionals
CO-3	International boutique ambient
CO-4	Improve their (draping) portfolio

Course Title	**Core** **FREELANCE PORTRAYAL PRACTICALS-I**
Code	**18CDP06**
	On completion of the course, students would be able to
CO-1	Designing for boutiques & manufacturing units
CO-2	Their creativity on costume designing
CO-3	Freelance designs

Course Title	**Core** **CASE STUDY PRACTICAL – I**
Code	**18CDP07**
	On completion of the course, students would be able to
CO-1	Gain vast knowledge in the selected area and understand the industrial needs
CO-2	Identify industrial problem and solutions for it
CO-3	Learn SWOT analysis

Course Title	**Core** **ADVANCED PROCESSING AND FINISHING**
Code	**18CDP08**

	On completion of the course, students would be able to
CO-1	Ability to work with the dyeing industry
CO-2	To get skills in the dye fixation, shade % methods
CO-3	Ability to solve problems in the effluent treatment industry
CO-4	Application in the various research fields.

Course Title	Core TECHNICAL TEXTILES
Code	18CDP10
	On completion of the course, students would be able to
CO-1	Design about wearable computers by interactive electronic textiles
CO-2	Design new dress with the acquired knowledge in the fire fighting clothing
CO-3	Develop stab protecting and bullet proof vests

Course Title	Core FREELANCE PORTRAYAL PRACTICAL – II
Code	18CDP11
	On completion of the course, students would be able to
CO-1	Do freelance designing
CO-2	Enhance the style of their own creativity
CO-3	Approach for modeling of garments from fashion drawings
CO-4	Communicate fashion ideas in a visual form with illustration origin

Course Title	Core APPAREL PROCESSING AND FINISHING PRACTICAL
Code	18CDP12
	On completion of the course, students would be able to
CO-1	Textile dyeing and printing
CO-2	Print designing
CO-3	Textile pre treatment such as bleaching, sizing, scouring etc.

Course	Core

Title	ADVANCED APPAREL DESIGNING & CONSTRUCTION PRACTICAL
Code	**18CDP13**
	On completion of the course, students would be able to
CO-1	Become an industrial garment designer
CO-2	Handle various fabrics for garments of different needs
CO-3	Become a bridal designers

Course Title	Core CASE STUDY II – PRACTICAL
Code	**18CDP14**
	On completion of the course, students would be able to
CO-1	Know about R&D in textiles industry
CO-2	Get an idea about how to choose their research project.
CO-3	Learn SWOT analysis on the topic/ department choosed

Course Title	Discipline Specific Elective – I NON WOVEN
Code	**18CDP15A**
	On completion of the course, students would be able to
CO-1	Understand the fiber preparation processes
CO-2	Understand the nonwoven fabric and its techniques
CO-3	Knowledge on various web structures and formation
CO-4	Understand the web bonding processes
CO-5	Understand the advanced non woven finishing processes

Course Title	Discipline Specific Elective – I NANO TECHNOLOGY
Code	**18CDP15B**
	On completion of the course, students would be able to
CO-1	Understand the concepts of nano technology
CO-2	Analyze the Structural properties of nano materials

CO-3	Synthesis the metal nano particles and application of same on textile materials
CO-4	Finish the textile materials for imparting functional properties

Course Title	**Core** **TEXTILE QUALITY ASSURANCE**
Code	**18CDP16**
	On completion of the course, students would be able to
CO-1	Gain knowledge about advance methods and techniques for fibre testing
CO-2	Understand about mechanical and functional properties of fabric
CO-3	Quality parameters for fabrics suitable for various end uses
CO-4	Acquire knowledge in understanding comfort properties, fabric appearance and garment quality

Course Title	**Core** **APPAREL TESTING & QUALITY STANDARDS PRACTICAL**
Code	**18CDP17**
	On completion of the course, students would be able to
CO-1	Prepare test reports for fiber, yarn ,fabric and garment
CO-2	Analyze the given woven and knitted fabrics
CO-3	Interpretation of the results with statistical significance

Course Title	**Core** **HOME TEXTILES PRACTICAL**
Code	**18CDP18**
	On completion of the course, students would be able to
CO-1	Gain knowledge in the field of home textiles
CO-2	Innovation in the theme based designing
CO-3	Design Coordinator to interior designer
CO-4	Do trend setup for the upcoming home textile products

Course Title	**Core** **SAMPLING & DOCUMENTATION PRACTICAL**
Code	**18CDP19**

	On completion of the course, students would be able to
CO-1	Know the documentation procedures of the garment industry
CO-2	Gained the knowledge on industry based design for the current market
CO-3	Understand the sampling department works

Course Title	Core COMPUTER AIDED FASHION AND TEXTILE DESIGNING PRACTICAL
Code	18CDP20
	On completion of the course, students would be able to
CO-1	Create logo designs with corel draw
CO-2	Develop portfolio boards
CO-3	Create basic croquie with garment in Illustrator
CO-4	Gain knowledge on basic pattern making techniques and methods
CO-5	Create designs using design studio software

Course Title	Core INTERNSHIP
Code	18CDP21
	On completion of the course, students would be able to
CO-1	Understand the industrial environment work culture and the machineries and processes of industries
CO-2	Reproduce the techniques like Production Planning, Quality Assurance, Environment and Pollution Control, Management Information
CO-3	Avail knowledge on various sector skills in apparel, textile and designing areas

Course Title	Discipline Specific Elective – II FASHION BRANDING
Code	18CDP23A
	On completion of the course, students would be able to
CO-1	Identify the fashion branding
CO-2	Know about the global branding techniques
CO-3	Gain the knowledge on strategy and concepts of branding

Course Title	Discipline Specific Elective – II VISUAL MERCHANDISING
Code	**18CDP23B**
	On completion of the course, students would be able to
CO-1	Know the actual concepts of fashion display principles
CO-2	Acquire knowledge on visual merchandising
CO-3	Know to use the design elements for visual merchandising and gain

Course Title	Cores TOTAL QUALITY MANAGEMENT IN APPAREL INDUSTRY
Code	**18CDP24**
	On completion of the course, students would be able to
CO-1	Gained knowledge about Textile quality concepts and know about the quality assurance
CO-2	Developed knowledge in understanding quality and importance of TQM
CO-3	Learned about application of TQM tools
CO-4	Gained knowledge about the various national, international standards and certification agencies

Course Title	Core COSTUMES, GROOMING & PHOTOGRAPHY PRACTICAL
Code	**18CDP25**
	On completion of the course, students would be able to
CO-1	Enable to start their own beauty salon
CO-2	Enhance their self grooming skills
CO-3	Establish themselves as makeup artist
CO-4	To became an effective fashion photographer

Course	Core

Title	FASHION PORTFOLIO PRESENTATION
Code	18CDP26
	On completion of the course, students would be able to
CO-1	Work with any given concepts and themes
CO-2	Well versed in fashion designing software
CO-3	Final presentation will convince the industrial demand

Course Title	PROJECT WORK
Code	18CDP27
	On completion of the course, students would be able to
CO-1	Develop the awareness of various textile/ apparel fields
CO-2	Prepare the textile products by their own for industry uses
CO-3	Gained knowledge on present industry trend and market

Course Title	FASHION DESIGN AND VISUAL MERCHANDISING -
Code	18GECIDC
	On completion of the course, students would be able to
CO-1	Explore career choice in visual merchandising
CO-2	Analyze principle of design
CO-3	Students will be familiar with fashion concepts
CO-4	Apply knowledge in the field of designing and visual merchandising
CO-5s	Identify opportunity in designing

PSG College of Arts & Science
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Programme: MSc Biotechnology

Programme Outcomes	
	On completion of the programme, the student will be able to
PO-1	Become knowledgeable in the subject of Biotechnology and apply the principles of the same to the needs of the Employer / Institution /own Business or Enterprise.
PO-2	Gain Analytical skills in the field/area of Basic and Applied Biotechnology.
PO-3	Understand and appreciate professional ethics, community living and Nation Building initiatives
PO-4	Shall be a transformational leader in multifaceted longitudinal domains
PO-5	Develop strategies to identify and alleviate societal health
PO-6	Commensurate the analytical skills acquired to its relevant applications
PO-7	Shall be competent to handle industrial scale process and product quality assessment
PO-8	Translate the research impetus gained through education to SME's

Programme Specific Outcomes	
	On completion of the programme, the student will be able
PSO-1	Apply the knowledge of Biotechnology in the domain of Agriculture / Medicine /Environment / Pharma Biotech
PSO-2	Solve the complex problems using Computer Science with an understanding of the societal, legal and cultural impacts of the solution.
PSO-3	Create sustainable entrepreneurship ventures in Bio business
PSO-4	Form a part of member in a team with right attitudes

Course Outcomes

Course Title	Core CELL DYNAMICS
Code	**18BTP01**
	On completion of the course, students would be able to
CO-1	Quantify and purify different cell types
CO-2	Prudently use recently emerging role of specific integrins asMechano transducers
CO-3	Devise new molecular tools for prognosis of cancer
CO-4	Relate the cell cycle to onset of cancer
CO-5	Model signaling networks and use tools to compute dynamical properties of biological systems

Course Title	Core STRUCTURAL BIOLOGY AND CHEMISTRY OF PROTEINS
Code	**18BTP02**
	On completion of the course, students would be able to
CO-1	Use protein architecture for research
CO-2	Discover the interactions that hold proteins together
CO-3	Elucidate protein structure
CO-4	Comprehend the most important domain structures of proteins
CO-5	Correlate structure and functions of proteins

Course Title	Core MOLECULAR BIOLOGY
Code	**18BTP03**
	On completion of the course, students would be able to
CO-1	Identify the structure and organization of genetic material
CO-2	Appreciate the accuracy and precision of replication
CO-3	Correlate the relation of biomolecules in the regulation of genes
CO-4	Classify protein modifications and transport
CO-5	Enlist various reasons and effects of DNA modifications

Course Title	Core BASICS OF NEUROSCIENCE
Code	18BTP04
	On completion of the course, students would be able to
CO-1	Correlate neuronal signaling and other signaling cascades and their interplay
CO-2	Apply the basic knowledge of neuroscience and relate them to real lifesituations
CO-3	Devise methods for treating neuro diseases
CO-4	Apply knowledge to comprehending neurodegenerative diseases
CO-5	Participate in cutting edge neuroscience research

Course Title	Core METABOLIC REGULATION
Code	18BTP05
	On completion of the course, students would be able to
CO-1	Recognize the different types of biochemical reactions/ pathwaysessential for life
CO-2	Interpret how allosteric regulators may inhibit or stimulate theactivity of an enzyme
CO-3	Correlate basic energy metabolism to health status
CO-4	Enlist the role of various organs and organelles in metabolism
CO-5	Inter relate biochemical processes with specific control sites and key junctions

Course Title	Core INTRODUCTION TO BIOCHEMICAL & MICROBIOLOGY TECHNIQUES PRACTICAL
Code	18BTP06
	On completion of the course, students would be able to
CO-1	Comprehend and understand biochemical reactions
CO-2	Interpretation of Microbial techniques
CO-3	Commensurate the practical knowledge to its application
CO-4	Exploit the basis for research integration
CO-5	To get appraised for job openings in the field of biochemistry andmicrobiology

Course Title	Core RECOMBINANT DNA TECHNOLOGY
Code	**18BTP07**
	On completion of the course, students would be able to
CO-1	Have Technical knowhow on manipulating genes and genomes
CO-2	Will have knowledge to construct vectors and apply them for cloning
CO-3	Will be competent in handling PCR and related techniques
CO-4	Will be proficient in conducting genetic engineering experiments
CO-5	Will be competent enough to handle recombinant strains at industrial scale

Course Title	Core GENOMICS AND PROTEOMICS
Code	**18BTP08**
	On completion of the course, students would be able to
CO-1	Interpret genome proteome data obtained through high throughput techniques
CO-2	Critically analyze and solve gene/ protein structure function relationship
CO-3	Use genome proteome information on agri, health sector
CO-4	Comprehend the techniques for drug design
CO-5	Apply the acquired knowledge for pharmacogenomics

Course Title	Core INTRODUCTION TO BIOINFORMATICS
Code	**18BTP09**
	On completion of the course, students would be able to
CO-1	Use advanced information and computational technologies for problems inbiology most commonly molecular biology
CO-2	Analyze and identify sequence similarity with skills that can empower biologists to make use of their own data for understanding of biological processes
CO-3	Employ tools for analysis and identification of disease genes
CO-4	Characterize genes, determine structural and physiochemical properties ofprotein, phylogenetic analysis and perform simulations
CO-5	Be compatible to perform in silico analysis

Course Title	Core IMMUNOTECHNOLOGY
Code	**18BTP10**
	On completion of the course, students would be able to
CO-1	Explain the recognition and response of an immune system
CO-2	Comprehend the functionality of the immune cells
CO-3	Analyze the dissimilarities in cell signaling and activation
CO-4	Distinguish between the types of immune response
CO-5	Develop new immuno diagnostic products

Course Title	Core MOLECULAR BIOLOGY, rDNA TECHNOLOGY AND IMMUNOTECHNOLOGY PRACTICAL
Code	**18BTP11**
	On completion of the course, students would be able to
CO-1	Precisely isolate of nucleic content from various biological sources
CO-2	Isolate and assess genome and proteome content
CO-3	Clone specific gene to produce recombinant products
CO-4	Interpret antigen antibody relativity
CO-5	Identify viral/ pathogenic infections at least concentrations

Course Title	Core BIOINFORMATICS PRACTICAL
Code	**18BTP12**
	On completion of the course, students would be able to
CO-1	Promotes acquisition of knowledge on Genome and proteome data mining
CO-2	Enables students to perform analyses of sequences, database searches, sequencecomparison, visualization and analysis of protein structures and phylogenetic analyses
CO-3	Describe the most important principles in gene prediction methods
CO-4	The student can explain the principles of computational methods for theprediction of secondary structure elements from protein sequence, prediction and modeling of three-dimensional protein structures homology modeling, threading and abinitio methods
CO-5	Enables better understanding key aspects related to the longitudinal processes of the bioinformatics learning tightly linked to knowledge and skills in the biotechnology curriculum such as multiple modeling representations of a gene or a protein, thetransition between DNA-RNA-protein levels

Course Title	Discipline Specific Elective – I BIOPROCESS TECHNOLOGY
Code	**18BTP13A**
	On completion of the course, students would be able to
CO-1	Apply the knowledge on fermentation technology
CO-2	Have idea to produce economically important products
CO-3	Find out newer methods and applications of microorganisms.
CO-4	Have the essential capacity for an entrepreneurial venture
CO-5	Translate the knowledge acquired for hi tech research

Course Title	Discipline Specific Elective – I BIOPHYSICS
Code	**18BTP13B**
	On completion of the course, students would be able to
CO-1	Relate biophysical concepts to analytical methods
CO-2	Interpret analytical data meaningfully

Course Title	Core Course SUMMMER TRAINING
Code	**21BTP14**
	On completion of the course, students would be able to
CO-1	Explore career alternatives prior to graduation.
CO-2	Integrate theory and practice.
CO-3	Assess interests and abilities in their field of study.
CO-4	Learn to appreciate work and its function in the economy.

Course Title	Core ANIMAL CELL BIOTECHNOLOGY
Code	**18BTP15**
	On completion of the course, students would be able to
CO-1	Understand the various methods used to culture specialized cells
CO-2	Interpret and characheterise cell lines.
CO-3	Apprehend transfer techniques of animal cell culture
CO-4	Translate the emerging technologies in animal cell culture
CO-5	Acquire clinical importance of tissue engineering

Course Title	Core PLANT BIOTECHNOLOGY
Code	**18BTP16**
	On completion of the course, students would be able to
CO-1	Apply the knowledge of plant tissue culture to commercial scales
CO-2	Develop transgenic plants
CO-3	Produce secondary metabolite through plant tissue culture
CO-4	Establish entrepreneurial ventures
CO-5	Facilitate research and development in nice areas of plant Biotechnology

Course Title	Core NANOBIOTECHNOLOGY
Code	**18BTP17**
	On completion of the course, students would be able to
CO-1	Use various nano characterization techniques
CO-2	Industrially apply chemical and physical processes involved in the synthesisand properties of nanoparticles and nanocomposites
CO-3	Produce and apply various types of nanostructured materials
CO-4	Demonstrate the ability to understand and develop nanomedicines based onnanomaterials
CO-5	Assess the impact of nanomaterials on the society including health,environment and energy

Course Title	Core PLANT TISSUE CULTURE, NANOBIOTECHNOLOGY AND BIOPROCESS TECHNOLOGY PRACTICAL
Code	**18BTP18**
	On completion of the course, students would be able to
CO-1	Establish in vitro plant cell culture
CO-2	Create plants with expected trait
CO-3	synthesize nanoparticles
CO-4	Productively translate research concepts in an industrial perspective
CO-5	Describe and analyze the growth parameters of a Bioreactor

Course Title	Discipline Specific Elective – II PHARMACEUTICAL BIOTECHNOLOGY
Code	**18BTP19A**
	On completion of the course, students would be able to
CO-1	Apply the basic knowledge involved in drug preparation and the classical treatment processes
CO-2	Correlate the effects of drugs, bio-assay and interpretation
CO-3	Can partake in clinical research
CO-4	Have commendable research aptitude for drug designing
CO-5	Appraised for job openings in the field of pharmaceuticals

Course Title	Discipline Specific Elective – II DIAGNOSTIC TECHNIQUES
Code	**18BTP19B**
	On completion of the course, students would be able to
CO-1	Gain diagnostic skills
CO-2	Know to relate clinical interpretations.
CO-3	Have an awareness in molecular diagnosis
CO-4	Have basic knowledge on accreditation and quality control
CO-5	Provide an option in setting up a diagnostic lab

Course Title	Core RESEARCH, IPR AND ETHICS IN BIOTECHNOLOGY
Code	**18BTP21**
	On completion of the course, students would be able to
CO-1	Be competent in accomplishing cutting edge research
CO-2	Analyze the effects of IPR on society.
CO-3	Strengthen IP so as to boost start ups
CO-4	Raise quality of product

Course Title	Core ANIMAL CELL CULTURE, ENVIRONMENTAL BIOTECHNOLOGY AND PHARMACEUTICAL BIOTECHNOLOGY PRACTICAL
Code	**18BTP22**
	On completion of the course, students would be able to
CO-1	Establish cell line and passage it.
CO-2	Perform cytotoxicity assay.
CO-3	Analyze waste water for designing a treatment plant
CO-4	Construction of a MFC for Sustainable energy
CO-5	Develop a drug formulation

Course Title	Core Course MAJOR PROJECT AND VIVA
Code	**21BTP23**
	On completion of the course, students would be able to
CO-1	Set up hypothesis for Research Work
CO-2	Plan Experimental Design
CO-3	Interpret, Analyze and Report data/results
CO-4	Clearly explain and defend questions.

Course Title	Generic Elective Course - Cluster- V FOOD, GENES AND DISEASES (FOR MSC BOTANY, ZOOLOGY AND CLINICAL NUTRITION)
Code	
	On completion of the course, students would be able to
CO-1	Comprehend the bioactive constituents required for health
CO-2	Interpret results of screening tests in identification of disease
CO-3	Associate relationship between food, genes and diseases
CO-4	Formulate personalized medicine

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Since 1947

Programme: MSc Visual Communication

Programme Outcomes	
	On completion of the programme, the student will be able to
PO-1	Gain knowledge and analytical skills in the field of media studies.
PO-2	Become professionally trained media personnel with social values, ethics and technical skills.
PO-3	Indulge in media business to suit the regional market demands.
PO-4	Acquire skills to be an independent media talent working across the boundaries.

Programme Specific Outcomes	
	On completion of the programme, the student will be able
PSO-1	Apply fundamentals of various media formats, creative skills and technical competence in media production.
PSO-2	Engage with multi-cultural perspectives and exhibit comprehensive media knowledge to conceptualize, produce and design media content suitable for contemporary global media environment.
PSO-3	Demonstrate a critical capacity to evaluate media texts and audiences, production practices, and related social issues.

Course Outcomes

Course Title	Core COMMUNICATION THEORIES
Code	**20EMP01**
	On completion of the course, students would be able to
CO-1	Examine the broad range of questions that the models strive to answer
CO-2	Understand communication in terms of content and form, media and society, and audiences and effects
CO-3	Apply conceptual frameworks to analyze mass media and audience

Course Title	Core MEDIA LAWS AND ETHICS
Code	**20EMP02**
	On completion of the course, students would be able to
CO-1	Demonstrate ability to recognize legal and ethical issues in mass communication environment
CO-2	Understand current legal issues that affect the very essence of freedom of expression in media message
CO-3	Avoid legal violation and develop best practices in creating media content

Course Title	Core REPORTING, WRITING & EDITING FOR BROADCAST MEDIA
Code	**20EMP03**
	On completion of the course, students would be able to
CO-1	Analyze the concepts of news reporting and their role in the production of audio and video stories for broadcast medium
CO-2	Demonstrate the role of broadcast journalism industry in the current media context
CO-3	Evaluate techniques of equipment operation and skills in editing involved in the production of audio and video news reports

Course Title	Core AUDIO PRODUCTION
Code	20EMP04
	On completion of the course, students would be able to
CO-1	Demonstrate the basic principles in sound production and design
CO-2	Gain working knowledge in the field of sound recording, enhancing, digital audio editing and mixing
CO-3	Acquire foundation of audio production techniques for working in broadcasting and multi-media production

Course Title	Core PRACTICAL - I PHOTOGRAPHY
Code	20EMP05
	On completion of the course, students would be able to
CO-1	Demonstrate artistry by creating images that evoke an emotional response
CO-2	Select and use photographic equipment and technologies appropriate to the assigned task
CO-3	Apply the mechanics of exposure to control light and principles of composition to produce professional images

Course Title	Core PRACTICAL II - DIGITAL DESIGN PRODUCTION
Code	20EMP06
	On completion of the course, students would be able to
CO-1	Structure visual information in both print and electronic media formats
CO-2	Acquire basic proficiency of design applications to produce advertising, branding and information design

Course Title	Discipline Specific Elective – I DIGITAL FILM MAKING
Code	20EMP07A
	On completion of the course, students would be able to
CO-1	Articulate the core concepts of digital production
CO-2	Employ narrative storytelling and character development for film writing

Course Title	Discipline Specific Elective – I INTRODUCTION TO INFORMATION AND COMMUNICATION TECHNOLOGIES
Code	**20EMP07B**
	On completion of the course, students would be able to
CO-1	To understand the functioning of the world wide web and perform effectively in the digital environment
CO-2	To recognize various concepts of ICT and new media
CO-3	To apply information and communication technology effectively in scientific research and education, health and medical technology, and e-governance

Course Title	Core MEDIA SOCIETY & CULTURE
Code	**20EMP08**
	On completion of the course, students would be able to
CO-1	Critically analyze mass media including new media in the shaping and development of culture and society
CO-2	Examine an issue or trend in the interstice of media, culture and society
CO-3	Understand the changes in media content, information dissemination and audience participation in digital realm

Course Title	Core TELEVISION AND VIDEO PRODUCTION
Code	**20EMP09**
	On completion of the course, students would be able to
CO-1	Effectively employ suitable lighting techniques in natural and artificial fields or studio setups
CO-2	Gain hands-on training in indoor and outdoor shooting and editing techniques using professional equipment and non-linear editing systems
CO-3	Evaluate holistic and component oriented broadcast and production practices

Course Title	Core PRACTICAL III - COMPOSITING & VISUAL EFFECTS
Code	20EMP10
	On completion of the course, students would be able to
CO-1	Create motion graphics to fit current industry trends and practices
CO-2	Acquire knowledge of industry standards and procedures for planning and creating virtual realities

Course Title	Core PRACTICAL - IV - ELECTRONIC MEDIA PRODUCTION
Code	20EMP11
	On completion of the course, students would be able to
CO-1	Gain electronic media production skills from conceptualization, execution to final program output

Course Title	Core FILM STUDIES
Code	20EMP12
	On completion of the course, students would be able to
CO-1	Appreciate and critically analyze cinematic visual styles and narrative conventions
CO-2	Employ storytelling craft in the creation of fiction and documentary
CO-3	Engage in the field of film studies research by providing a range of differentperspectives on film form

Course Title	Core RESEARCH METHODS IN COMMUNICATION
Code	20EMP13
	On completion of the course, students would be able to
CO-1	Identify recent trends in mass media research
CO-2	Develop holistic approach to communication research
CO-3	Present a research proposal with appropriate approach and instrument for the study to be conducted the following semester

Course Title	Core IN PRACTICAL - V - MULTIMEDIA GRAPHICS & 3D ANIMATION
Code	20EMP14
	On completion of the course, students would be able to
CO-1	Acquire appropriate technical skills to create virtual reality and 3D elements

Course Title	Core PRACTICAL VI - AUDIO PRODUCTION
Code	20EMP15
	On completion of the course, students would be able to
CO-1	Gain hands-on experience in the field of sound recording, sound effects gathering and digital audio editing
CO-2	Develop proficiency with the tools and techniques available in production of audio content for broadcast programs
CO-3	Employ concepts and techniques to effective produce contents that are intellectual as well as creative

Course Title	Core PRACTICAL VII - FILM FESTIVAL
Code	20EMP16
	On completion of the course, students would be able to
CO-1	Become an active viewer of world cinema
CO-2	Explain how we engage with the film form and construct meaning

Course Title	Discipline Specific Elective - II INTEGRATED MARKETING COMMUNICATION
Code	20EMP18A
	On completion of the course, students would be able to
CO-1	Acquire knowledge in marketing management by integrating advertising, promotion, social media and public relations
CO-2	Develop effective marketing communications plan and tools and promotional ideas

Course Title	Discipline Specific Elective - II MEDIA MANAGEMENT
Code	20EMP18B
	On completion of the course, students would be able to
CO-1	Implement specific tools, practices and media management strategies
CO-2	Understand the unique characteristics of media management and media marketing
CO-3	Demonstrate organizational and economic structures of the major electronic media industries

Course Title	Core PROJECT 1: PORTFOLIO PRODUCTION
Code	20EMP19
	On completion of the course, students would be able to
CO-1	Design web portal to exhibit the works completed during the entire period of the programme

Course Title	Core PROJECT 2: DISSERTATION & VIVA VOCE
Code	20EMP20
	On completion of the course, students would be able to
CO-1	Identify recent trends in mass media research
CO-2	Develop holistic approach to communication research
CO-3	Present a research proposal with appropriate research approach and research instrument for the study they conduct next semester

Course Title	Core PROJECT 3: SHORT FILM (OR) DOCUMENTARY PRODUCTION
Code	20EMP21
	On completion of the course, students would be able to
CO-1	Gain experience working as a director, producer, cinematographer, sound artist, editor and actor on student productions
CO-2	Develop practical understanding of the most useful tools for non-fiction filmmaking/ documentaries
CO-3	Apply appropriate research methods to collect evidence and present arguments in the form of documentaries

Course Title	Core INTERNSHIP & VIVA
Code	**20EMP22**
	On completion of the course, students would be able to
CO-1	Produce assignments adhering to professional standards in the field
CO-2	Develop a portfolio to meet the requirements of the field along with a list of references from the media firms they underwent internship

Course Title	Generic Elective Course – Cluster - IV INTRODUCTION TO MULTIMEDIA
Code	**18ELP19C/ 18CDP22C/ 19ENP15C**
	On completion of the course, students would be able to
CO-1	Gain experience working as a director, producer, cinematographer, sound artist, editor and actor on student productions
CO-2	Develop practical understanding of the most useful tools for non-fiction filmmaking/ documentaries
CO-3	Apply appropriate research methods to collect evidence and present arguments in the form of documentaries

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Programme: MSc Clinical Nutrition & Dietetics

Programme Outcomes	
	On completion of the programme, the student will be able to
PO-1	Become knowledgeable in the subject of clinical Nutrition and apply the principles of the same to the needs of the Patients/community
PO-2	Gain Analytical Skills in the field/area of Clinical Nutrition
PO-3	Understand and appreciate professional ethics, community living and Nation Building initiatives
PO-4	Proficient to integrate social responsibility into their professional practice and personal behavior
PO-5	Critically appraise and apply scientific evidence to professional practice to optimize outcome of professional services
PO-6	Commitment to keep abreast with current knowledge & practice guidelines relevant to nutrition and dietetics in order to enhance competency
PO-7	Work collaboratively as a member of a multidisciplinary healthcare team
PO-8	Effectively communicate with Health Care team/Patients/Community

Programme Specific Outcomes	
	On completion of the programme, the student will be able
PSO-1	Apply the Knowledge of Nutrition Care Process and promotes a high standard of nutrition care to clients in the field of Clinical Nutrition
PSO-2	Solve the complex problems in the field of Clinical Nutrition with an understanding of the societal, legal and cultural impacts of the solution
PSO-3	Translate nutrition needs into food choices and plan menus for community settings taking into consideration psychosocial economic and life stages
PSO-4	Reflect upon his own performance and be a self-directed and life-long learner

Course Outcomes

Course Title	Core COMMUNITY AND PUBLIC HEALTH NUTRITION
Code	**20CNP01**
	On completion of the course, students would be able to
CO-1	Able to define role of community nutritionist and to describe health in terms of determinants and indicators of health
CO-2	Able to explain the nutritional problems and supplementary feeding programs for nutritional problems
CO-3	Able to discuss the dietary pattern and assess nutritional status of community
CO-4	Able to plan and execute nutrition education program
CO-5	Able to explain about the food distribution programs for emergency situations

Course Title	Core HUMAN PHYSIOLOGY
Code	**18CNP02**
	On completion of the course, students would be able to
CO-1	Discriminate normal and abnormal physiological functions of various systems
CO-2	Integrate the mechanism of various organ systems in regulating homeostasis
CO-3	Describe physiological responses for survival and communicate normal aspects of physiology with colleagues and public

Course Title	Core LIFE SPAN NUTRITION
Code	**19CNP04**
	On completion of the course, students would be able to
CO-1	Apply knowledge of the science of nutrition to human health across the lifespan
CO-2	Plan and implement nutrition intervention for prevention and management of geriatric health issues
CO-3	Explain the psychological and psychosocial problems affecting nutritional status of adolescents

Course Title	Core NUTRITION IN CLINICAL CARE –I
Code	**19CNP05**
	On completion of the course, students would be able to
CO-1	Explain the various steps in nutrition care process (NCP)
CO-2	Describe modifications of texture and consistency of normal diets: clear liquid diet, full liquid diet, dysphagia diet, bland diet
CO-3	Able to describe the medical nutrition therapy for the dietary management for individuals with various disease states (CVD, Diabetes Heptobiliary, Pulmonary and musculoskeletal diseases of adolescents)
CO-4	Able to describe therapeutic diets in terms of definition of diets, purpose, effects and indications for use of diet, nutrient adequacy, possible adverse reactions & contraindications and menu plan
CO-5	Able to plan modified diets to meet nutritional needs for various diseases states

Course Title	Core COMMUNITY NUTRITION PRACTICAL
Code	**19CNP06**
	On completion of the course, students would be able to
CO-1	Able to conduct health assessments and develop nutrition interventions for individuals, groups and communities
CO-2	Able to use effective teaching strategies for individuals, groups, or through community education programming
CO-3	Able to demonstrate active participation, teamwork and contributions in group and professional settings

Course Title	Core NUTRITION IN CLINICAL CARE -1 PRACTICAL
Code	**19CNP07**
	On completion of the course, students would be able to
CO-1	Apply Nutrition care process for various Diseases and disorders
CO-2	Able to prepare menus for modifications of texture and consistency of normal diet, clear liquid diet, full liquid diet, dysphagia diet, bland diet
CO-3	Determining and calculation of nutrient prescriptions –including energy, protein, fats, CHO and micronutrients
CO-4	Menu planning and analysis of diets based on case studies
CO-5	Plan and prepare nutrition intervention for various disease conditions

Course Title	Core CLINICAL BIOCHEMISTRY
Code	**19CNP08**
	On completion of the course, students would be able to
CO-1	Able to understand metabolism of nutrients and functions tests
CO-2	Able to recall biochemical changes occurring in disorders.
CO-3	Able to explain clinical significance of metabolic cycles
CO-4	Able to relate the function tests with metabolism

Course Title	Core NUTRITION IN CLINICAL CARE –II
Code	**18CNP09**
	On completion of the course, students would be able to
CO-1	Able to explain benefits of early feeding in critical illness Able to describe indications for EN and TPN route of feeding for EN & TPN. Able to compare pro and cons of EN vs TPN. Able to explain how to manage problems such as refeeding syndrome and other complications in nutrition support
CO-2	Able to explain MNT for disorders of the lower and upper gastrointestinal problems, surgeries , renal disorders and cancers
CO-3	Able to describe the purpose, effects and indications for use of diet, nutrient adequacy, possible adverse reactions & contraindications and menu plan
CO-4	Able to describe the nutrition principles of paediatric dietetics: assessment, dietary requirements and feed supplementation and paediatric problems
CO-5	Able to describe how to incorporate nutrition care process for various disease condition in order to deliver effective nutrition care plans.

Course Title	Core HEALTH CARE MANAGEMENT
Code	**18CNP10**
	On completion of the course, students would be able to
CO-1	Gain insight of both clinical and non clinical services in a Hospital
CO-2	Understand medical coding in hospital statistics
CO-3	Indulge in identifying effective patient care in enhancing the satisfaction level of patients in hospitals
CO-4	Provide attention to current issues in Health care

Course Title	Core CLINICAL BIOCHEMISTRY PRACTICAL
Code	**18CNP11**
	On completion of the course, students would be able to
CO-1	Follow Principles of biochemical tests
CO-2	Perform Clinical biochemistry tests following
CO-3	Interpret basic laboratory data

Course Title	Core NUTRITION IN CLINICAL CARE –II PRACTICAL
Code	**19CNP12**
	On completion of the course, students would be able to
CO-1	Apply Nutrition care process for various Diseases and disorders
CO-2	Prepare menus for modifications of texture and consistency of normal diet clear liquid diet, full liquid diet, dysphagia diet, bland diet
CO-3	Determine and calculate nutrient prescriptions –including energy, protein, fats, CHO and micronutrients
CO-4	Plan Menu and analysis of diets based on case studies
CO-5	Plan and prepare therapeutic menu plan for modified fats based on case studies such as obesity, hyperlipidemia and CVD
CO-6	Plan and prepare nutrition intervention for various disease conditions

Course Title	Discipline Specific Elective - I MEDICAL MICROBIOLOGY
Code	**18CNP13A**
	On completion of the course, students would be able to
CO-1	Able to identify and describe morphological and cultural characteristics of the pathogenic organisms
CO-2	Able to explain general and specific mechanism by which an infectious agent causes disease
CO-3	Able to recall the methods used to identify the pathogens
CO-4	Able to assess treatment strategies including proper use of antimicrobial agents
CO-5	Able to recognize interventions available to prevent diseases including infection control measures and vaccines

Course Title	Discipline Specific Elective - I FOOD MICROBIOLOGY
Code	**18NCP13B**
	On completion of the course, students would be able to
CO-1	Explain the interactions between microorganisms and the food spoilage
CO-2	Explain significance of microorganisms in food and nutrient degradation
CO-3	Describe the characteristics of food borne spoilage organisms and disease outbreaks in the community
CO-4	Role of microbial techniques in waste management and sanitation system

Course Title	Core NUTRACEUTICALS AND DRUG-NUTRIENT INTERACTIONS
Code	**18CNP14**
	On completion of the course, students would be able to
CO-1	Basic pharmacokinetic concepts of the absorption, distribution, metabolism and excretion of drugs
CO-2	Explore the type of drugs, mode of actions, dosage and side-effects for common diseases
CO-3	Identify the inter-relationship between food, disease state and nutritional status on effectiveness of drug therapy
CO-4	Plan appropriate nutrient intake and nutritional support to avert adverse drug nutrient interaction in specific disease

Course Title	Core FOOD SERVICE MANAGEMENT
Code	**20CNP15**
	On completion of the course, students would be able to
CO-1	Discuss the principles of food service management
CO-2	Discuss and apply the principles of menu planning, purchasing, receiving, storage, inventory, production, HACCP and cooking procedures of food service operation
CO-3	Apply the knowledge menu planning for quantity food production and prepare healthy menu according to customers need and satisfaction
CO-4	Demonstrate entrepreneurship and application of principles of food service management

Course Title	Core HOSPITAL POSTING
Code	**20CNP17**
	On completion of the course, students would be able to
CO-1	Assess nutritional status based on client history, food /nutrition history, anthropometric biochemical, clinical and dietary data
CO-2	Prepare nutrition care plan to achieve dietary management goals
CO-3	Understand basic counseling skills using appropriate theories or approach and strategies. Able to carry out development, modification and portion control of menu for normal and therapeutic diet
CO-4	Conduct community-based nutrition education for disease management and support nutrition / health promotion programs
CO-5	Identify nutritional risks in community groups for nutrition intervention or rehabilitation
CO-6	Plan and prepare nutrition intervention for various disease conditions

Course Title	Discipline Specific Elective - II HEALTH AND FITNESS
Code	**19CNP18A**
	On completion of the course, students would be able to
CO-1	Describe the principles of science of sports, exercise and fitness
CO-2	Identify the special nutritional requirements of athletes
CO-3	Explain energy balance, weight management and eating disorders in athletes
CO-4	Discuss the use of specific nutritional supplements in sports
CO-5	Plan modified diets for special group of athletes- children, teenage, pregnant woman and athletes with diabetes
CO-6	Deliver nutritional counseling to athletes involved in various sports activities

Course Title	Discipline Specific Elective - II INTEGUMENTARY NUTRITION
Code	**18CNP18B**
	On completion of the course, students would be able to
CO-1	Able to explain the causes of changes that occur in the skin from birth to old age
CO-2	Able to describe the distribution, growth, replacement, and changing nature of hair during the life span
CO-3	Able to understand the structure of nail
CO-4	Able to identify changes in colour of skin and hair used as clinical signs of disease state
CO-5	Able to screen nutritional deficiencies and prepare a diet plan based on disease condition

Course Title	Generic Elective Course – Cluster – V NUTRITION FOR LIFESTYLE DISORDER
Code	
	On completion of the course, students would be able to
CO-1	Interpret medical terminologies and medical abbreviations
CO-2	Have clear idea about foods to be restricted and included for disorders
CO-3	Able to understand nutrition therapy to various lifestyle disorders
CO-4	Appreciate role of nutrients, dietary sources and recommended intake levels

Course Title	Core HOSPITAL INTERNSHIP & PROJECT
Code	**19CNP20**
	On completion of the course, students would be able to
CO-1	Able to determine nutritional status based on client history, food /nutrition history, anthropometric, biochemical, clinical and dietary data
CO-2	Able to prepare nutrition care plan to achieve dietary management goals
CO-3	Able to apply client-centered counseling skills using appropriate theories or approach and strategies. Able to carry out development, modification and portion control of menu for normal and therapeutic diet
CO-4	Able to conduct community-based nutrition education for disease management and support nutrition / health
CO-5	Able to identify nutritional risks in community groups for nutrition intervention or rehabilitation
CO-6	Plan and prepare nutrition intervention for various disease conditions
CO-7	Acquire knowledge and skills to work as dietitian

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Since 1947

Programme: MSc Software Systems

Programme Outcomes	
	On completion of the programme, the student will be able to
PO-1	Become knowledgeable in the subject of software systems and apply the principles of the same to the needs of the Employer / Institution /own Business or Enterprise
PO-2	Gain analytical skills in developing optimized software solution
PO-3	Understand and appreciate professional ethics, community living and Nation Building initiatives
PO-4	An ability to identify, formulate and develop solutions tocomputational programs
PO-5	Think critically in evaluating the design choices made and tradeoffs considered when developing software-based systems
PO-6	The ability to analyze, design, verify, validate, implement, apply and maintain software systems
PO-7	A recognition of need for, and an ability to engage in lifelong learning
PO-8	Facilitate to pursue research

Programme Specific Outcomes	
	On completion of the programme, the student will be able
PSO-1	Apply the knowledge of computational algorithms, software techniques in the domain
PSO-2	Solve the complex problems in the field of software with an understanding of the societal, legal and cultural impacts of the solution
PSO-3	An ability to apply design and development principles in the construction of

	software systems of varying complexity
PSO-4	Form a part of member in a team with right attitudes

Course Outcomes

Course Title	**Core PROGRAMMING IN C**
Code	**20SSP01**
	On completion of the course, students would be able to
CO-1	Understand the basic structure of C programming, declaration and usage ofvariables
CO-2	Trace the given C program manually
CO-3	Implement programs with pointers and arrays
CO-4	Write C program for simple applications using structures and files
CO-5	Manipulate text files with file handling methods

Course Title	**Core LAB - I - C PROGRAMMING LAB**
Code	**20SSP05**
	On completion of the course, students would be able to
CO-1	Understand the declaration and usage of variable
CO-2	Write a C program for a given algorithm
CO-3	Trace the given C program manually
CO-4	Implement Programs with pointers and arrays
CO-5	Create simple applications using structures and files

Course Title	**Core LAB - III - MS-EXCEL LAB**
Code	**20SSP07**
	On completion of the course, students would be able to
CO-1	Perform mathematical operations
CO-2	Generate reports
CO-3	Create pivot table
CO-4	Create charts

Course	**Core**

Title	OBJECT ORIENTED PROGRAMMING USINGC++
Code	20SSP08
	On completion of the course, students would be able to
CO-1	Develop a program using functions and operators.
CO-2	Design a program using classes and objects.
CO-3	Implement constructor and destructors.
CO-4	Able to reuse the code with extensible Class types, User-defined operators and function Overloading.
CO-5	Program with advanced features of the C++ programming language

Course Title	Core DATA STRUCTURES
Code	20SSP09
	On completion of the course, students would be able to
CO-1	Analyze algorithms and its correctness.
CO-2	Summarize searching and sorting techniques
CO-3	Implement stack, queue and linked list operation.
CO-4	Familiarize and differentiate tree and graphs concepts.
CO-5	Choose appropriate data structure as applied to specified problem definition.
CO-6	Create s employment opportunities in the areas where data structures are applied.

Course Title	Core COMPUTER ORGANIZATION
Code	20SSP10
	On completion of the course, students would be able to
CO-1	Identify, understand and apply different number systems and codes.
CO-2	Understand the digital representation of data in a computer system.
CO-3	Understand the general concepts in digital logic design, including logic elements, and their use in combinational and sequential logic circuit design.
CO-4	Demonstrate computer architecture concepts related to design of modern processors, memories and I/Os.
CO-5	Understand computer arithmetic formulate, solve problems and understand the performance requirements of systems.

Course	Core

Title	LAB IV -OBJECT ORIENTED PROGRAMMING USING C++LAB
Code	20SSP12
	On completion of the course, students would be able to
CO-1	Develop solutions for a range of problems using objects and classes.
CO-2	Programs to demonstrate the implementation of constructors, destructors and operator overloading.
CO-3	Apply fundamental algorithmic problems including inheritance and polymorphism.
CO-4	Implement Exceptional handling.
CO-5	Understand generic programming, templates, file handling.

Course Title	Core LAB V - DATA STRUCTURES USING CLAB
Code	20SSP13
	On completion of the course, students would be able to
CO-1	Identity the appropriate data structure for given problem.
CO-2	Develop practical knowledge on the applications of data structures.
CO-3	Implement the Stack ADT using both arrays based and linked-list based data structures.
CO-4	Implement the Queue ADT using both arrays based circular queue and linked-list based implementations.
CO-5	Implement binary search trees.
CO-6	Develop the employment opportunities where data structures are predominant.

Course Title	Core LAB VI – WEB DESIGINING LAB
Code	20SSP14
	On completion of the course, students would be able to
CO-1	Gain knowledge on different tags and codes in both HTML and PHP.
CO-2	Create their own static web pages either in HTML or PHP.
CO-3	Create pages with the help of JavaScript.
CO-4	Handle files related to graphic application.
CO-5	Write applications programs.
CO-6	Provides skill on designing and also creates employment opportunities in application design and development

Course Title	Core DATABASE MANAGEMENT SYSTEM
Code	20SSP15
	On completion of the course, students would be able to
CO-1	Implement the database structure.
CO-2	Trace the given schema clearly.
CO-3	Implement programs with stored functions, procedures and triggers.
CO-4	Demonstrate an understanding of the relational data model.
CO-5	Formulate, using SQL, solutions to a broad range of query and data update problems.

Course Title	Core PROGRAMMING IN JAVA
Code	20SSP16
	On completion of the course, students would be able to
CO-1	Learn various Data Types and Operators in Java.
CO-2	Know the Importance and usage of Object-Oriented concepts in Java.
CO-3	Implement the concept of Interfaces in Java.
CO-4	Know about the various GUI Based Components available in Java.
CO-5	Use Enhanced For Loops in Java Program.
CO-6	Creates employment opportunities as developer under this programming language.

Course Title	Core OPERATING SYSTEMS
Code	20SSP17
	On completion of the course, students would be able to
CO-1	Gain Knowledge about the basics of Operating system.
CO-2	Describe process synchronization and Process scheduling algorithms.
CO-3	Define Memory partitioning virtual memory management
CO-4	Understand basics of Files and file allocation methods.
CO-5	Understand the concepts of operating systems and memory management.

Course	Core

Title	Lab VIII - RDBMS LAB
Code	20SSP20
	On completion of the course, students would be able to
CO-1	Design and implement a database schema for a given problem-domain.
CO-2	Create and maintain tables using PL/SQL.
CO-3	Prepare reports for the database scheme.
CO-4	Helps in employability opportunity in various areas.
CO-5	Know about various database management systems.

Course Title	Core LAB VIII -JAVA PROGRAMMING LAB
Code	20SSP21
	On completion of the course, students would be able to
CO-1	Implement various categories of Inheritance using Java Program.
CO-2	Implement Runtime Polymorphism using a Java Program,
CO-3	Implement the Abstract Class.
CO-4	Learn the usage of single and multiple Threads in Java Programming.
CO-5	Learn the usage of Enhanced For Loop in Java.

Course Title	Core LAB - IX (OPERATING SYSTEMS LAB)
Code	20SSP22
	On completion of the course, students would be able to
CO-1	Implement various scheduling algorithms.
CO-2	Implement file allocation strategies.
CO-3	Implement Dead Lock Detection.
CO-4	Learn the usage Dead Lock Avoidance.
CO-5	Learn the usage of replacement algorithms.

Course Title	Core COMPUTER NETWORKS AND TCP / IP
Code	**20SSP23**
	On completion of the course, students would be able to
CO-1	Analyze the requirements for a given organizational structure and select the most appropriate networking architecture and technologies
CO-2	Have a working knowledge of datagram and internet socket programming
CO-3	Good Understanding Transport layer principles and reliable data transfer
CO-4	Understand and building the skills of subnetting and routing mechanisms.
CO-5	Familiarity with the basic protocols of computer networks, and how they can be used to assist in network design and implementation.
CO-6	Creates employment opportunities in network related areas.

Course Title	Core SOFTWARE ENGINEERING TECHNIQUES
Code	**20SSP26**
	On completion of the course, students would be able to
CO-1	Gain Knowledge about the basics of product and process.
CO-2	Aware software cost estimation techniques in software planning.
CO-3	Design and develop diagrams in building analysis model.
CO-4	Understand about design elements and apply the design tools.
CO-5	Apply the testing tools and resolve maintenance issues.

Course Title	Core LAB-X (COMPUTER NETWORKS AND TCP/IP LAB)
Code	**20SSP28**
	On completion of the course, students would be able to
CO-1	Implement various protocols using TCP and UDP.
CO-2	Compare the performance of different transport layer protocols.
CO-3	Use simulation tools to analyze the performance of various network protocols.
CO-4	Analyze various routing algorithms.
CO-5	Implement error correction codes.

Course Title	Core LAB-XI (MICROPROCESSOR AND INTERFACING LAB) (EL)
Code	20SSP29
	On completion of the course, students would be able to
CO-1	
CO-2	
CO-3	
CO-4	
CO-5	

Course Title	Core LAB-XII (MATHEMATICAL COMPUTING LAB (WITH R) (MA)
Code	20SSP30
	On completion of the course, students would be able to
CO-1	
CO-2	
CO-3	
CO-4	
CO-5	

Course Title	Core PROGRAMMING IN PYTHON
Code	20SSP31
	On completion of the course, students would be able to
CO-1	Understand the concepts of Python Programming
CO-2	Design Python programs using OOPs, Files, packages, etc.,
CO-3	Build packages and modules for Python Applications.
CO-4	Help them in better employment opportunity.

Course Title	Core DESIGN AND ANALYSIS OF ALGORITHMS
Code	**20SSP32**
	On completion of the course, students would be able to
CO-1	Argue the correctness of algorithms using inductive proofs and invariants.
CO-2	Analyse worst-case running times of algorithms using asymptotic analysis.
CO-3	Describe the divide-and-conquer paradigm and explain when an algorithmic design situation calls for it. Recite algorithms that employ this paradigm.
CO-4	Derive and solve recurrences describing the performance of divide-and- conquer algorithms.
CO-5	Compare between different data structures. Pick an appropriate data structure for a design situation.
CO-6	Develop the skill of design and analysis of different algorithms used for

Course Title	Core OBJECT ORIENTED ANALYSIS AND DESIGN
Code	**20SSP33**
	On completion of the course, students would be able to
CO-1	Exhibit the ability to apply the knowledge of Object Oriented Concepts to system analysis and design.
CO-2	Demonstrate the capability to design and implement the class models using UML appropriate notations
CO-3	Ability to analyze and model software specifications.
CO-4	Ability to abstract object-based views for generic software systems.
CO-5	Understand the difference between writing programs for the software and doing analysis and design

Course Title	Discipline Specific Elective Course I
Code	**20SSP34**
	On completion of the course, students would be able to
CO-1	
CO-2	
CO-3	
CO-4	
CO-5	

Course Title	Core LAB-XIII (PROGRAMMING IN PYTHON LAB)
Code	**20SSP35**
	On completion of the course, students would be able to
CO-1	Understand the concepts of object-oriented programming as used in Python.
CO-2	Classes, subclasses, inheritance, and overriding.
CO-3	Able to implement the concept list, tuples and dictionary.
CO-4	Be able to read data from a text file using Python.

Course Title	Core LAB-XIV - (DESIGN AND ANALYSIS OF ALGORITHMS LAB)
Code	**20SSP36**
	On completion of the course, students would be able to
CO-1	Identify the problem given and design the algorithm using various algorithm design techniques.
CO-2	Implement various algorithms in a high-level language.
CO-3	Analyze the performance of various algorithms.
CO-4	Calculate Minimum Spanning Tree.
CO-5	Perform various Rotations.
CO-6	Creates employment opportunities in the industry as a developer.

Course Title	Core LAB-XV (OBJECT ORIENTED ANALYSIS AND DESIGN LAB)
Code	**20SSP37**
	On completion of the course, students would be able to
CO-1	Perform OO analysis and design for a given problem specification.
CO-2	Identify requirement for UML mapping.
CO-3	Improve the software quality using design patterns and to explain the rationale behind applying specific design patterns
CO-4	Develop the skill of designing for any projects and applications that are to be developed.

Course Title	Core MOBILE COMPUTING
Code	**20SSP39**
	On completion of the course, students would be able to
CO-1	Explore the concepts of wireless devices.
CO-2	Explain the concepts like wireless transmission, multiplexing and its types the cellular concepts of GSM,GPRS
CO-3	Explore the Architecture of Mobile Applications
CO-4	Differentiate the various cellular networks
CO-5	Apply Android platform for Mobile Applications development

Course Title	Core UNIX ARCHITECTURE AND PROGRAMMING
Code	**20SSP40**
	On completion of the course, students would be able to
CO-1	Know Unix Operating system environment and its commands.
CO-2	Develop the skill on shell script applications.
CO-3	Explore the file system Architecture.
CO-4	Explain the process system and its states.
CO-5	Apply the knowledge of memory management techniques

Course Title	Core ARTIFICIAL INTELLIGENCE
Code	**20SSP41**
	On completion of the course, students would be able to
CO-1	Demonstrate knowledge of the building blocks of AI as presented in terms of intelligent agents and the theory underlying those achievements.
CO-2	Understand the concepts of a Rational Intelligent Agent and the different types of Agents that can be designed to solve problems
CO-3	Review the different stages of development of the AI field from human like behaviour to Rational Agents.
CO-4	Impart basic proficiency in representing difficult real-life problems in a state space representation so as to solve them using AI techniques like searching and game playing.
CO-5	Create an understanding of the basic issues of knowledge representation and Logic and blind and heuristic search, as well as an understanding of other

Course Title	CLOUD COMPUTING
Code	**20SSP42**
	On completion of the course, students would be able to
CO-1	Analyze the Cloud computing setup with its vulnerabilities and applications using different architectures.
CO-2	Design different workflows according to requirements and apply map reduce programming model.
CO-3	Apply and design suitable Virtualization concept, Cloud Resource Management
CO-4	Understand the importance, usage and current opportunities in this domain existing in the industries.

Course Title	Discipline Specific Elective – II
Code	**20SSP43**
	On completion of the course, students would be able to
CO-1	
CO-2	
CO-3	
CO-4	
CO-5	

Course Title	Core LAB- XVI (MOBILE COMPUTING LAB)
Code	**20SSP44**
	On completion of the course, students would be able to
CO-1	Apply Android platform for Mobile Applications development
CO-2	Create and save shared preferences and retrieve shared preferences
CO-3	Develop the skill on creating applications on GUI widgets
CO-4	Demonstrate SQLite databases for storage.
CO-5	Apply the knowledge of android automated testing framework

Course Title	Core LAB-XVIII (ARTIFICIAL INTELLIGENCE LAB)
Code	**20SSP46**
	On completion of the course, students would be able to
CO-1	Apply various AI search algorithms (uninformed, informed, heuristic, constraint satisfaction)
CO-2	Understand the fundamentals of knowledge representation, inference and theorem proving using AI tools
CO-3	Demonstrate working knowledge of reasoning in the presence of incomplete and/or uncertain information
CO-4	Understand the employment opportunities in this domain.
CO-5	Apply various AI search algorithms (uninformed, informed, heuristic, constraint satisfaction)

Course Title	Core MAJOR PROJECT – I
Code	**20SSP47**
	On completion of the course, students would be able to
CO-1	
CO-2	
CO-3	
CO-4	
CO-5	

Course Title	Core PRINCIPLES OF COMPILER DESIGN
Code	**20SSP48**
	On completion of the course, students would be able to
CO-1	To know about compiler generation tools and techniques
CO-2	Identify the similarities and differences among various parsing techniques and grammar transformation techniques
CO-3	Minimize the states in Automata
CO-4	To develop an awareness of the function and complexity of expressions
CO-5	To understand the importance of code optimization

Course Title	Core MACHINE LEARNING
Code	**20SSP50**
	On completion of the course, students would be able to
CO-1	Understand the basic concepts and techniques of Machine Learning.
CO-2	Characterize machine learning algorithms as supervised, semi-supervised, and unsupervised.
CO-3	understand complexity of Machine Learning algorithms and their limitations
CO-4	understand modern notions in data analysis-oriented computing
CO-5	Recognize the characteristics of machine learning that make it useful to real-world problems.

Course Title	Core INFORMATION RETRIEVAL
Code	**20SSP52**
	On completion of the course, students would be able to
CO-1	Understand the basic concepts in *information retrieval* and more advance techniques.
CO-2	Identify with different indexing methods in information retrieval Systems.
CO-3	Learn different information filtering techniques.
CO-4	Know various searching techniques to retrieve data from databases and ware houses.
CO-5	Gain knowledge of extracting information from the web.

Course Title	Core LAB- XIX (PRINCIPLES OF COMPILER DESIGN LAB)
Code	**20SSP53**
	On completion of the course, students would be able to
CO-1	Design Lexical analyzer for given language using tools.
CO-2	Design techniques to generate various parsers.
CO-3	Generate syntax analyzer using tools.
CO-4	Design and Implement Symbol table Manager.

Course Title	Core LAB- XX (MACHINE LEARNING LAB)
Code	**20SSP54**
	On completion of the course, students would be able to
CO-1	Understand the basic concepts of datasets from UCI machine learning repository or www.kaggle.com.
CO-2	Learn linear, polynomial and multiple regressions.
CO-3	Learn different classification algorithms.
CO-4	Understand different clustering algorithms and evaluate performances.
CO-5	Create good employment opportunities in the industry**.**

Course Title	Core LAB-XXI (INFORMATION RETRIEVAL COMPUTING LAB)
Code	**20SSP55**
	On completion of the course, students would be able to
CO-1	Build a web crawler.
CO-2	Differentiate various ranking algorithm of Web Pages.
CO-3	Can design a personalized Search Engine.
CO-4	Can identify duplications in web pages.
CO-5	Can extract information from web pages.

Course Title	Core SOCIAL NETWORK ANALYSIS
Code	**20SSP56**
	On completion of the course, students would be able to
CO-1	Identify and use the different sources of network Data.
CO-2	Learn and Implement the various Tools used for Visualizing Network data.
CO-3	Know the differences between strong and week ties.
CO-4	Identify the various effects on Information diffusion.
CO-5	Know the usage and role of Spectral Methods

Course Title	Core MODERN DATABASE SYSTEMS
Code	**20SSP57**
	On completion of the course, students would be able to
CO-1	Describe the fundamentals of various databases.
CO-2	Explain NoSQl Data Models and NoSQL Databases.
CO-3	Differentiate the features of databases like Apache, Cassandra and HBase.
CO-4	Analyse the functions of graph databases and object databases
CO-5	Familiar with database integration and schema matching.

Course Title	Core DEEP LEARNING
Code	**20SSP58**
	On completion of the course, students would be able to
CO-1	Ability to identify the characteristics of datasets and compare the trivial data and big data for various applications.
CO-2	Able to select and implement machine learning techniques and computing environment that are suitable for the applications under consideration.
CO-3	Skill to solve problems associated with batch learning and online learning, and the big data characteristics such as high dimensionality, dynamically growing data and in particular scalability issues.
CO-4	Understand and apply scaling up machine learning techniques and associated computing techniques and technologies.
CO-5	Enhances the employability as a Deep Learning Scientist.

Course Title	Core DATA SCIENCE
Code	**20SSP60**
	On completion of the course, students would be able to
CO-1	Describe what Data Science is and the skill sets needed to be a data scientist.
CO-2	Explain in basic terms what Statistical Inference means. Identify probability distributions commonly used as foundations for statistical modeling. Fit a model to data.
CO-3	Use R to carry out basic statistical modeling and analysis.
CO-4	Create effective visualization of given data (to communicate or persuade).
CO-5	Work effectively in teams on data science projects.

Course Title	Core LAB- XXII (SOCIAL NETWORK ANALYSIS LAB)
Code	**20SSP61**
	On completion of the course, students would be able to
CO-1	Learned various Tools for Visualizing network data.
CO-2	Got expertise with the various options in UCINET.
CO-3	Implemented Social Network Metrics using UCINET.
CO-4	Implement the Ego Networks.
CO-5	To perform Cluster Analysis

Course Title	Core LAB- XXIII (MODERN DATABASE SYSTEMS LAB)
Code	**20SSP62**
	On completion of the course, students would be able to

CO-1	Implement queries in No SQL database management systems.
CO-2	Differentiate SQL databases and No SQL in practical perspective.
CO-3	Excels as a No SQL Database Analyst.

Course Title	**Core LAB-XXIV (DATA SCIENCE LAB)**
Code	**20SSP63**
	On completion of the course, students would be able to
CO-1	Implement clustering using R.
CO-2	Implement classification using R
CO-3	Analyse regression technique using R .
CO-4	Analyse association Rules

Course Title	**AGILE SOFTWARE DEVELOPMENT**
Code	**20SSPE01**
	On completion of the course, students would be able to
CO-1	Understand the agile methodologies: extreme programming, scrum, feature driven programming, crystal method.
CO-2	Apply refactoring techniques.
CO-3	Understand pair programming and its characteristics.
CO-4	Understand Agile principles, roles, and practices.
CO-5	Identify Pros and cons of the agile process models.

Course Title	**COMPUTER VISION AND IMAGE ANALYSIS**
Code	**20SSPE02**
	On completion of the course, students would be able to
CO-1	Understand the major concepts & techniques in computer vision and image analysis.
CO-2	Describe the theoretical foundation of image analysis.
CO-3	Apply relatively the methods to analyze the images.
CO-4	Perceive knowledge about the image feature analysis.
CO-5	Apply the image compression techniques.
CO-6	Develops the skill for employment opportunity in image processing.

Course Title	**COMPUTER GRAPHICS AND VISUALIZATION**
Code	**20SSPE03**

	On completion of the course, students would be able to
CO-1	Describe the various display methods and basics of OpenGL Environment.
CO-2	Explain the algorithms used in two dimensional graphics.
CO-3	Discuss the image fundamentals and Raster graphics conversions.
CO-4	Classify the representations of curves and surfaces.
CO-5	Upgrade and apply the knowledge in 2D and 3D transformations.

Course Title	PRINCIPLES OF PROGRAMMING LANGUAGES
Code	20SSPE04
	On completion of the course, students would be able to
CO-1	Describe the various grammars and notations in programming languages.
CO-2	Explain the grammars and notations in programming languages.
CO-3	Discuss the representations, structures and statements used in C.
CO-4	Classify the representations of Object Oriented Programming
CO-5	Upgrade and apply the knowledge in programming techniques.

Course Title	SECURITY IN COMPUTING
Code	20SSPE05
	On completion of the course, students would be able to
CO-1	Students should have gained a good understanding of the concepts and foundations of computer security
CO-2	Identify the security issues in the network and resolve it
CO-3	Evaluate security mechanisms in network layer
CO-4	Identify intrusion and exploitation.
CO-5	Analyses and evaluate electronic mail security

Course Title	DATA MINING
Code	20SSPE06
	On completion of the course, students would be able to
CO-1	Understand Data Warehouse fundamentals, Data Mining Principles.
CO-2	Design data warehouse with dimensional modeling and apply OLAP operations.
CO-3	Identify appropriate data mining algorithms to solve real world problems.
CO-4	Compare and evaluate different data mining techniques like classification, prediction, clustering and association rule mining.
CO-5	Describe complex data types with respect to spatial and web mining.

Course Title	SOFTWARE TESTING
Code	20SSPE07
	On completion of the course, students would be able to
CO-1	Apply software testing knowledge and engineering methods.
CO-2	Conduct a software test process for a software testing project
CO-3	Identify the needs of software test automation, and define and develop a test tool to support test automation.
CO-4	Identify various software testing problems, and solve these problems by designing and selecting software test models, criteria, strategies, and methods.
CO-5	Use software testing methods and modern software testing tools for their testing projects

Course Title	SOFTWARE PROJECT MANAGEMENT
Code	20SSPE08
	On completion of the course, students would be able to
CO-1	Describe the types of projects and stages of project planning.
CO-2	Explain the sequencing and scheduling models in activity planning.
CO-3	Discuss about resource allocation in risk management.
CO-4	Classify the various prototypes in software configuration management.
CO-5	Upgrade and apply various project management tools.

Course Title	ADVANCED COMPUTER GRAPHICS
Code	20SSPE09
	On completion of the course, students would be able to
CO-1	Gain experience with the Open Inventor API.
CO-2	Program in OPENGL.
CO-3	Execute real-time graphics applications.
CO-4	Learn to read research papers, and apply the described algorithms.
CO-5	Exposure to current computer graphics research and recent results and increase job opportunities.

Course Title	BIG DATA ANALYTICS
Code	20SSPE10

	On completion of the course, students would be able to
CO-1	Describe the characteristics and limitations in Big Data.
CO-2	Familiar with Data Loading techniques in various databases.
CO-3	Classify the methods of data generation and acquisition.
CO-4	Apply the operations in streams like sampling, filtering and counting.
CO-5	Explain the applications and Massive data analysis using Map-Reduce

Course Title	WIRELESS NETWORKS
Code	20SSPE11
	On completion of the course, students would be able to
CO-1	Understands clearly the basic of wireless technology.
CO-2	Keep himself updated on latest wireless technologies and trends in the communication field.
CO-3	Understand the transmission of voice and data through various networks.
CO-4	Opportunities behind wireless technologies in the industry.

Course Title	SOFTWARE PATTERNS
Code	20SSPE12
	On completion of the course, students would be able to
CO-1	Identify the appropriate design patterns to solve object-oriented design problems.
CO-2	Develop design solutions using creational patterns.
CO-3	Apply structural patterns to solve design problems.
CO-4	Construct design solutions by using behavioural patterns.
CO-5	Exploit well-known design patterns (such as Iterator, Observer, Factory and Visitor).

Course Title	HUMAN COMPUTER INTERACTION
Code	20SSPE13
	On completion of the course, students would be able to
CO-1	To Implement the various Contexts of HCI.
CO-2	To Analyze the various Effects of Interaction.
CO-3	To use the various Interaction Styles available.
CO-4	To evaluate the User Interface.
CO-5	To Implement Centered Design and Prototyping.

Course Title	SOFTWARE METRICS
Code	**20SSPE14**
	On completion of the course, students would be able to
CO-1	Acquired basic knowledge of Software Metrics.
CO-2	Apply configuration management on the basis of collected metrics.
CO-3	Understand different types of metrics used in software development
CO-4	Develop highly reliable software
CO-5	Explain the business requirements pertaining to software development

Course Title	INTERNET OF THINGS
Code	**20SSPE15**
	On completion of the course, students would be able to
CO-1	To Implement the various IOT Trends.
CO-2	To create various IOT models
CO-3	To Implement the various Cloud Development Models
CO-4	To solve the various Threats available in Blue Tooth Services.
CO-5	To Implement Open Source and Closed Source Systems

Course Title	COMPUTER FORENSICS
Code	**20SSPE16**
	On completion of the course, students would be able to
CO-1	Understand the importance of a systematic procedure for investigation of data found on digital storage media that might provide evidence of wrong-doing
CO-2	Understand the file system storage mechanisms of two common desktop opera ting systems (i.e. versions of Microsoft Windows and LINUX).
CO-3	Use tools for faithful preservation of data on disks for analysis.
CO-4	Learn the use of computer forensics tools used in data analysis, such as searching, absolute disk sector viewing and editing, recovery of files, password cracking, etc.
CO-5	Demonstrate an understanding of issues related to privacy and determine how to address them technically and ethically.

PSG College of Arts & Science
Coimbatore – 641 014

Since 1947

Programme: MSc Botony

Programme Outcomes	
	On completion of the programme, the student will be able to
PO-1	Become knowledgeable in the subject of Botany and apply the principles of thesame to the needs of the Employer / Institution /own Business or Enterprise
PO-2	Knock into the interdisciplinary nature of science
PO-3	Understand defining characteristics of the process of Science
PO-4	Understand the peculiar features of different plant forms
PO-5	Practice the expertise of various scientific methods
PO-6	Engage in research projects

Programme Specific Outcomes	
	On completion of the programme, the student will be able
PSO-1	Apply the knowledge of Botany in the domain of Plant Identification
PSO-2	Solve the complex problems in the field of Plant Systematics with anunderstanding of the societal, legal and cultural impacts of the solution
PSO-3	To emphasize on common reckonable approaches in Plant Science

Course Outcomes

Course Title	Core PLANT DIVERSITY - I
Code	**18BOP01**
	On completion of the course, students would be able to
CO-1	Comprehend the essential features of lower plant forms
CO-2	Acquire relevant knowledge in Algae, Fungi, Lichens and Bryophytes
CO-3	Apprehend the ecological role and economic importance of Cryptogams

Course Title	Core PLANT DIVERSITY – II
Code	**18BOP02**
	On completion of the course, students would be able to
CO-1	Decipher the Classification and Identification of various forms of Pteridophytes
CO-2	Apprehend the features and reproductive adaptations of Gymnosperms
CO-3	Learned about the headway of life on Earth by Paleobotany

Course Title	Core APPLIED MICROBIOLOGY
Code	**18BOP03**
	On completion of the course, students would be able to
CO-1	Understood the concepts in Microbiology
CO-2	Analyzed the effect of microorganisms on global environment
CO-3	Have a thorough knowledge on plant degradation mechanisms

Course Title	Core FOREST RESOURCE MANAGEMENT
Code	**18BOP04**
	On completion of the course, students would be able to
CO-1	Recollect the importance of forests
CO-2	Understand various forests types and to impart conservation strategy

CO-3	Review the laws for the protection of forest and its resources

Course Title	**Core** **CYTOLOGY, GENETICS AND PLANT BREEDING**
Code	**18BOP05**
	On completion of the course, students would be able to
CO-1	Understood the cellular components and their functions
CO-2	Acquired knowledge on the principles of Mendelian inheritance and Gene interactions
CO-3	Analyzed genetic data using statistical procedures
CO-4	Gained knowledge in the techniques of Plant Breeding

Course Title	**Core** **ADVANCED MOLECULAR BIOLOGY**
Code	**18BOP06**
	On completion of the course, students would be able to
CO-1	Acquired advance knowledge in proteomics
CO-2	Explicate the function, replication and evaluation of genomes
CO-3	Gained knowledge in gene regulatory systems

Course Title	**Core** **ANATOMY AND EMBRYOLOGY**
Code	**18BOP07**
	On completion of the course, students would be able to
CO-1	Interpret the crucial pattern of plant growth from meristems
CO-2	Understood the process of growth
CO-3	Tap into the molecular aspects of plant embryogenesis

Course Title	**DisciplineSpecific Elective - I** **CONCEPTS OF BIOINFORMATICS**
Code	**18BOP08A**
	On completion of the course, students would be able to
CO-1	Acquired knowledge on the development of Bioinformatics

CO-2	Understood the data storage in biological databases by exploring the information
CO-3	Acquired knowledge on drug discovery process

Course Title	**Discipline Specific Elective - I HORTICULTURE AND PLANTATION CROPS**
Code	**18BOP08B**
	On completion of the course, students would be able to
CO-1	Gained knowledge in various professions of Floriculture and Gardening
CO-2	Acquired knowledge in fruit crops
CO-3	Learned the cultivation techniques of plantation crops

Course Title	**Core BOTANY PRACTICAL– I**
Code	**18BOP09**
	On completion of the course, students would be able to
CO-1	Become confident in identifying diversity of lower plant forms
CO-2	Gained adequate knowledge on morphological, anatomical and reproductive characteristics of Cryptogams
CO-3	Obtained thorough knowledge on microbial isolation and culture techniques

Course Title	**Core BOTANY PRACTICAL II**
Code	**18BOP10**
	On completion of the course, students would be able to
CO-1	Developed specific competencies in hybridization techniques
CO-2	Gained insight into the molecular mechanism of biology
CO-3	Understood the internal features of plant cells, tissues, and organs
CO-4	Acquired knowledge in preparation of permanent slides

Course Title	**Core TAXONOMY AND ECONOMIC BOTANY**
Code	**18BOP12**
	On completion of the course, students would be able to

CO-1	Developed knowledge on taxonomic diversity and useful plants
CO-2	Acquired skill in plant identification
CO-3	Practice the expertise techniques involved in Herbarium preparation
CO-4	Understood the economic uses of plants in folklore medicine

Course Title	**Core** **BIOTECHNOLOGY AND GENETIC ENGINEERING**
Code	**18BOP13**
	On completion of the course, students would be able to
CO-1	Gained adequate understanding of the principles and practices of Biotechnology
CO-2	Applied the theoretical knowledge and approaches in applied sciences
CO-3	Acquired knowledge in a defined skill set of Biotechnology protocols

Course Title	**Core** **RESEARCH METHODOLOGY**
Code	**18BOP14**
	On completion of the course, students would be able to
CO-1	Identified the process of designing a research study
CO-2	Familiarized with components of a research study
CO-3	Critically assessed innovations in research methods

Course Title	**Discipline Specific Elective – II** **PLANT TISSUE CULTURE**
Code	**18BOP15A**
	On completion of the course, students would be able to
CO-1	Performed advance techniques in plant tissue culture
CO-2	Acquired knowledge on components of tissue culture media
CO-3	Distinguished various call lines

Course Title	**Discipline Specific Elective – II** **PLANT PATHOLOGY**
Code	**18BOP15B**

	On completion of the course, students would be able to
CO-1	Have an overview of the discipline of Plant Pathology
CO-2	Describe the interactions of the host and pathogen
CO-3	Recognize plant diseases and recommend control strategies

Course Title	Core ECOLOGICAL CONCEPTS
Code	18BOP17
	On completion of the course, students would be able to
CO-1	Understood the major Ecological concepts
CO-2	Learned critical thinking and scientific skills
CO-3	Effectively communicate pollution related problems

Course Title	Core PLANT PHYSIOLOGY AND BIOCHEMISTRY
Code	18BOP18
	On completion of the course, students would be able to
CO-1	Possessed significant knowledge on physiology of plants
CO-2	Acquired knowledge on the crucial processes of plant physiology
CO-3	Acquainted with methodologies employed in the field of Biochemistry

Course Title	Core BOTANY PRACTICAL III
Code	18BOP19
	On completion of the course, students would be able to
CO-1	Assigned the scientific names
CO-2	Learned to set up a plant tissue culture laboratory
CO-3	Developed practical insight in Molecular Genetics
CO-4	Investigated tissue culture protocol for rare plants

Course Title	Core BOTANY PRACTICALS IV

Code	18BOP20
	On completion of the course, students would be able to
CO-1	Developed knowledge about the geographical distribution and abundance of organisms
CO-2	Familiarized with structural adaptations and functional adjustment to physical environment
CO-3	Gained proficiency in physiological techniques
CO-4	Applied scientific methods to the processes of experimentation

Course Title	Generic Elective Course – Cluster V FOOD AND MEDICINAL RESOURCES
Code	
	On completion of the course, students would be able to
CO-1	Understood the significance of indigenous food crops conservation
CO-2	Demonstrated theoretical skills in assessing the quality of herbal drugs
CO-3	Addressed potential safety concerns in herb-drug interactions

PSG College of Arts & Science
Coimbatore – 641 014

Since 1947

Programme: MSc Zoology

Programme Outcomes	
	On completion of the programme, the student will be able to
PO-1	Become knowledgeable in the subject of Zoology and apply the principles of the same to the needs of the Employer / Institution /own Business or Enterprise.
PO-2	Gain Analytical skills in the field/area of Applied Zoology.
PO-3	Understand and appreciate professional ethics, community living and Nation Building initiatives.
PO-4	Gain thorough knowledge of Animal Kingdom.
PO-5	Understand the organization of animals.
PO-6	Understand the functional aspects of cell and its life. Understand the importance of biodiversity.
PO-7	Inculcate to pursue higher studies such as research and development for the benefit of mankind and animals itself.

Programme Specific Outcomes	
	On completion of the programme, the student will be able
PSO-1	Apply the knowledge of Zoology in the domain of producing animal products.
PSO-2	Solve the complex problems in the field of animal breeding techniques with an understanding of the societal, legal and cultural impacts of the solution
PSO-3	Develops the upgraded techniques by using the Hands-on training given
PSO-4	Form a part of member in a team with right attitudes.

Course Outcomes

Course Title	Core ANIMAL PHYLOGENY AND PALAEONTOLOGY
Code	18ZOP01
	On completion of the course, students would be able to
CO-1	Have the knowledge of the systematic position, origin and evolutionary principles of Invertebrates and Chordates

Course Title	Core MOLECULAR GENETICS
Code	18ZOP02
	On completion of the course, students would be able to
CO-1	Have gained knowledge about the functioning of cell at molecular level
CO-2	Be able tounderstood the secrets of biomolecules

Course Title	Core FISHERY BIOLOGY
Code	18ZOP03
	On completion of the course, students would be able to
CO-1	Understood the morphology, classification and identification of fishes and the fisheries and fishery resources of India
CO-2	Understood about the biology of fishes, management of fishery resources and their sustainable utilization

Course Title	Core ENVIRONMENTAL BIOLOGY
Code	18ZOP04
	On completion of the course, students would be able to
CO-1	Have gathered up-to-date knowledge on environmental conservation and management

Course Title	Core EXPERIMENTAL EMBRYOLOGY
Code	18ZOP05
	On completion of the course, students would be able to
CO-1	Have gained the current knowledge pertaining to the development of animal embryos of diverse taxonomic groups through experimental analyses based on modern biological tools

Course Title	Core ANIMAL PHYSIOLOGY AND BIOCHEMISTRY
Code	18ZOP06
	On completion of the course, students would be able to
CO-1	Have derived knowledge of the functions of animals, organs and their behavior and understanding of their nutrition, respiration, circulation, excretion and physico-chemical coordination
CO-2	Be able to comprehend the chemical constituents of food stuffs, the energy changes associated with these transformation and hormonal regulation

Course Title	Core MICROBIOLOGY
Code	18ZOP07
	On completion of the course, students would be able to
CO-1	Have acquired a basic knowledge of the microbes in general and of the environmental, medical and industrial important microbes in particular in order to have an integrated approach in biology
CO-2	Know the basics of sterilization and culture methods

Course Title	Discipline Specific Elective Course - I POULTRY FARMING
Code	18ZOP08A
	On completion of the course, students would be able to
CO-1	To have acquired knowledge of basic principles of the subject
CO-2	To realize the economic importance of the subject and to utilize the knowledge

	for the day-to-day life

Course Title	Discipline Specific Elective Course - I ORNAMENTAL FISH BREEDING
Code	**18ZOP08B**
	On completion of the course, students would be able to
CO-1	Have gained knowledge about Ornamental fishes
CO-2	Have developed skill in rearing, breeding and marketing of freshwater ornamental fishes

Course Title	Core ZOOLOGY PRACTICAL –I
Code	**18ZOP09**
	On completion of the course, students would be able to
CO-1	Have gained the knowledge to identify and classify the specimens
CO-2	Have understood the role of marine,Inland and ornamental fishes
CO-3	Have gained the knowledge on morphology and classification of fishes

Course Title	Core ZOOLOGY PRACTICAL –II
Code	**18ZOP10**
	On completion of the course, students would be able to
CO-1	Have acquired the knowledge on developmental stages of chick embryo
CO-2	Have understood the physiology of earthworm and fish
CO-3	Have understood the various biochemical components and enzyme activities

Course Title	Core IMMUNOLOGY
Code	**18ZOP11**
	On completion of the course, students would be able to
CO-1	Have understood the Structural and functional basis of immunoglobulins, the mechanism, mediators, detection and application of antigen-reaction in the immune system

Course Title	Core BIOTECHNOLOGY
Code	18ZOP12
	On completion of the course, students would be able to
CO-1	Have familiarized the use of the data and techniques of engineering and technology in biology for the study of living organisms, or derivatives of thereof, to make or modify products or processes for specific use
CO-2	Be able to find solution to problems concerning human activities including agriculture, medical treatment, industry and environment

Course Title	Core ENDOCRINOLOGY
Code	18ZOP13
	On completion of the course, students would be able to
CO-1	Have learnt the objectives and scope of comparative endocrinology, anatomy, morphology and histology of endocrine tissues of vertebrates, crustacean and insect endocrine organs and their functions

Course Title	Discipline Specific Elective Course – II AGRICULTURAL ENTOMOLOGY
Code	18ZOP14A
	On completion of the course, students would be able to
CO-1	Have acquired knowledge of Agricultural pests
CO-2	Have gained knowledge of the silkworm rearing techniques

Course Title	Discipline Specific Elective Course – II MEDICAL PARASITOLOGY
Code	18ZOP14B
	On completion of the course, students would be able to
CO-1	Have acquired the knowledge about various parasitic groups
CO-2	Have understood the mode of infestation, prevalence and diagnostic techniques on parasitology

Course Title	Core ZOOLOGY PRACTICAL –III
Code	**18ZOP15**
	On completion of the course, students would be able to
CO-1	Have acquired knowledge of the microbes and sterilization techniques
CO-2	Have gained knowledge on various biotechnological methods
CO-3	Have gained the various techniques of propagating of mulberry and diseases of mulberry plants and silkworms

Course Title	Core APICULTURE
Code	**18ZOP17**
	On completion of the course, students would be able to
CO-1	Have acquired knowledge about the colonial and social life of Honeybee
CO-2	Have developed skill for self-employment in Bee-Keeping and Honey extraction

Course Title	Core BIOSTATIST1CS AND RESEARCH METHODOLOGY
Code	**18ZOP18**
	On completion of the course, students would be able to
CO-1	Have understood the basic concepts of Biostatistics in order to analyze and solve biological problems in more systematic way
CO-2	Have imbibed the principles of physics involved in the modern physical instruments for the exploration of knowledge in biology

Course Title	Core PROJECT AND VIVA
Code	**18ZOP19**
	On completion of the course, students would be able to
CO-1	Have been promoted to original thinking, insemination of knowledge, modulation and innovation thought, as an exercise in order to transform the young minds to expanding horizon of their chosen of knowledge and then in to knowledge generators

Course Title	Generic Elective Course – Cluster - V SILKWORM REARING
Code	
	On completion of the course, students would be able to
CO-1	Have acquired knowledge about the biology of silkworm and the various rearing techniques
CO-2	Understand the various techniques of propagating mulberry plants and to know about the various diseases of mulberry and silkworms

PSG College of Arts & Science
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Since 1947

Programme: MCom Commerce

Programme Outcomes	
	On completion of the programme, the student will be able to
PO-1	Become knowledgeable in the field of commerce and apply the principles as per the needs of the employer and own business enterprise
PO-2	Gain analytical skill in the areas of accounting, finance, taxation and related commerce courses
PO-3	Understand and appreciate Professional Ethics, Community Living and Nation Building initiatives
PO-4	Ability to pursue research in the chosen field of marketing, finance and HR
PO-5	Acquire in depth core competence and qualify for employment in wide range of occupations

Programme Specific Outcomes	
	On completion of the programme, the student will be able
PSO-1	Apply the knowledge of commerce in the domain of business environment
PSO-2	Solve the complex problem in the field of commerce with an understanding of societal, legal and cultural impacts of the Accounting andTaxation procedures
PSO-3	Significance for research in various commerce domains
PSO-4	Form a part of member in a team with right attitude

Course Outcomes

Course Title	Core BUSINESS ENVIRONMENT
Code	**18COP01**
	On completion of the course, students would be able to
CO-1	Relate the impact of environmental factors on business
CO-2	Apply the knowledge in the start up of new enterprises
CO-3	Identify the different initiatives and regulations of Government which facilitates the business
CO-4	Demonstrate the social and cultural practices in their business
CO-5	Cope up and able to manage the disaster situations

Course Title	Core MARKETING MANAGEMENT
Code	**18COP02**
	On completion of the course, students would be able to
CO-1	Apply the modern marketing concepts in the business scenario
CO-2	Develop appropriate marketing mix for various market segments
CO-3	Identify and develop the product required by the customers and fix competitive price
CO-4	Apply the distribution strategies and eliminate the place hindrance of the customers
CO-5	Identify the customer taste and preferences and adopt sales promotion techniques to compete in the market

Course Title	Core DIRECT TAX – I
Code	**18COP03**
	On completion of the course, students would be able to
CO-1	Identify the residential status and incidence of taxation for various types of assessees
CO-2	Apply the knowledge for computing Taxable salary Income and House Property Income
CO-3	Identify the expenses allowed and disallowed in business income calculations and compute the capital gain on transfer of property
CO-4	Compute the income under the head other sources, apply the knowledge for aggregation of income and set-off and carry forward of losses
CO-5	Apply tax provision for assessing individual’s income

Course Title	Core FINANCIAL MANAGEMENT
Code	**18COP04**
	On completion of the course, students would be able to
CO-1	Apply the knowledge gained in analyzing the financial statements
CO-2	Measure the specific cost of capital and frame the optimum capital structurefor the business enterprise
CO-3	Evaluate and identify the best investment among the alternatives and maximize the shareholders wealth
CO-4	Evaluate the working capital requirement of a concern to select the appropriate source for financing working capital
CO-5	Apply the knowledge gained on various types of dividend policies and adopt suitable dividend decisions

Course Title	Core COMPUTER PRACTICAL – I EXCEL
Code	**18COP06**
	On completion of the course, students would be able to
CO-1	Create appropriate chart for making presentation of data
CO-2	Utilize the financial and logical functions in analyzing the financial informations
CO-3	Use what-if-analysis while analyzing various business situations
CO-4	Create the database, apply filter and prepare pivot table for analyzing the database
CO-5	Utilize the Excel bycompiling the data related to business to arrive at conclusions

Course Title	Core ADVANCED COPORATE ACCOUNTING
Code	**18COP07**
	On completion of the course, students would be able to
CO-1	Identify and pass entries while issuing shares and debentures of a company
CO-2	Prepare final accounts as per the provisions of the Companies Act
CO-3	Value the shares and goodwill of the company and prepare accounts in the process of liquidation
CO-4	Apply the knowledge of accounting in amalgamation, absorption and reconstruction of companies
CO-5	Compile the consolidated balance sheet of a Holding Company

Course Title	Core DIRECT TAX II
Code	**19COP08**
	On completion of the course, students would be able to
CO-1	Compute the Taxable Income of a Partnership Firm
CO-2	Assess the Income of a Company
CO-3	Understand the hierarchy of the Authorities in Tax Administration and Procedure for Assessment
CO-4	Apply the Tax Provisions for TDS
CO-5	Prepare Income Tax Returns for Salaried class and apply the Tax Planning Methods

Course Title	Core BUSINESS RESEARCH METHODS
Code	**18COP09**
	On completion of the course, students would be able to
CO-1	Identify the research problem and select appropriate research technique
CO-2	Develop a research design and adopt necessary sampling methods
CO-3	Identify the proper method to collect the data
CO-4	Analyze the data through statistical tools
CO-5	Interpret the data and prepare a report

Course Title	Core COMPUTER PRACTICAL – II SPSS
Code	**18COP10**
	On completion of the course, students would be able to
CO-1	Enter the data in SPSS and prepare frequency table
CO-2	Present the data using appropriate graph available in SPSS
CO-3	Analyze the data using the tools in SPSS for chi square and correlation
CO-4	Apply the techniques of ANOVA and multiple regression in research
CO-5	Test the reliability of data and carryout factor analysis

Course Title	Core ACCOUNTING STANDARDS AND FINANCIAL REPORTING
Code	**18COP11**
	On completion of the course, students would be able to
CO-1	Effectively define the need for Indian Accounting Standards
CO-2	Account Inventories and other Assets applying the Indian Accounting Standards
CO-3	Apply appropriate Standards for accounting Revenue & Construction contracts
CO-4	Prepare Financial Statements by applying Indian Accounting Standards
CO-5	Apply the knowledge gained to account the wealth created by the organization and investments made in the Human Resources and e-commerce business transactions

Course Title	Allied MANAGERIAL ECONOMICS
Code	**19COP12**
	On completion of the course, students would be able to
CO-1	Understand the differences between Financial Accounting and Management Accounting
CO-2	Analyze Liquidity, Solvency and Profitability position of the firm
CO-3	Identify the Sources and Applications of the Fund in the business through Fund Flow Statement
CO-4	Prepare Budget for Business Concerns
CO-5	Identify the Marginal Costing Techniques for appropriate business decisions

Course Title	Core ADVANCED COST AND MANAGEMENT ACCOUNTING
Code	**18COP13**
	On completion of the course, students would be able to
CO-1	Identify the significance of Cost and Management Accounting
CO-2	Apply appropriate techniques for controlling Material Cost, Computing Labour Cost and allocating Overheads
CO-3	Apply knowledge for computing cost in different industries

CO-4	Analyze the Variance and Prepare Fund Flow and Cash Flow Statements
CO-5	Apply the techniques of Marginal Costing and Budgetary Control

Course Title	**Core** **CORPORATE AND OTHER LAWS**
Code	**20COP14**
	On completion of the course, students would be able to
CO-1	Apply knowledge while dealing in Foreign exchange Transaction
CO-2	Identify and apply the guidelines related to Primary Markets
CO-3	Evaluate the Consumer Protection Laws and apply appropriately
CO-4	Create Patents and Copy Right for their products adopting the legal provisions
CO-5	Identify and apply the Provisions of Banking and Insurance Legislations whenever required

Course Title	**Core** **EXECUTIVE COMMUNICATION**
Code	**18COP15**
	On completion of the course, students would be able to
CO-1	Create Effective message paragraph and contents for email
CO-2	Write effective Professional Letters
CO-3	Identify and use verbal communication techniques
CO-4	Use appropriate skills and etiquette in inter personal communication
CO-5	Plan and develop presentations related to business

Course Title	**Core** **FINANCIAL MARKETS**
Code	**18COP16**
	On completion of the course, students would be able to
CO-1	Utilize the Financial Markets Instruments
CO-2	Evaluate and deal in Money Market Operations
CO-3	Identify the Price Determination factors and utilize the Debt Market Instruments
CO-4	Evaluate the exchange risk and utilize the Risk Management Tools
CO-5	Identify and Manage Risks in Derivative Market

Course Title	Discipline Specific Elective - I INTERNATIONAL BUSINESS
Code	**18COP17A**
	On completion of the course, students would be able to
CO-1	Apply the basic concepts of International Business
CO-2	Evaluate FDI and International Business Environment
CO-3	Analyze the features of Commercial Policy and International organizations
CO-4	Identify the importance of International Financial Environment
CO-5	Apply the knowledge of Trade Policy and Procedures for Export and Import Trade

Course Title	Discipline Specific Elective - II FOREIGN TRADE AND EXPORT MANAGEMENT
Code	**20COP17B**
	On completion of the course, students would be able to
CO-1	Assess the Methods of Foreign Trade
CO-2	Analyze the Instruments in Foreign Trade
CO-3	Apply the Export Control Measures
CO-4	Evaluate the Foreign Trade Financial Transactions and Contracts
CO-5	Utilize the Foreign Trade Promotional Measures

Course Title	INTERNSHIP
Code	**20COP19**
	On completion of the course, students would be able to
CO-1	Demonstrate effective adaptability to the new environment and work culture
CO-2	Develop Interpersonal Communication Skills, Integrity and ethical behavior.
CO-3	Maintain books related to the business effectively.
CO-4	Prepare formal and informal reports of an Organization.
CO-5	Identify and articulate Skills, Knowledge and experience relevant to career goals and Professional growth

Course Title	PROJECT WORK
Code	20COP20
	On completion of the course, students would be able to
CO-1	Apply the techniques of research in the Business decision making process
CO-2	Identify the Research Problem and frame suitable Objectives
CO-3	Evaluate the data Collected using appropriate Statistical tools
CO-4	Apply the problem skills in business decisions by using innovative and creative thinking.
CO-5	Prepare report for the selected research problem with suitable suggestions.

Course Title	Core HUMAN RESOURCE MANAGEMENT
Code	18COP21
	On completion of the course, students would be able to
CO-1	Create Strategic HRM in an organization
CO-2	Evaluate the job and recruit the personnel for an organization
CO-3	Apply appropriate training methods in an organization
CO-4	Evaluate the performance of the employees and make salary administration effectively
CO-5	Build Employee Morale and improve the quality of work life

Course Title	Core LOGISTICS AND SUPPLY CHAIN MANAGEMENT
Code	18COP22
	On completion of the course, students would be able to
CO-1	Apply the knowledge for Planning the Logistics and Supply Chain Operations
CO-2	Identify the appropriate Transport Strategy
CO-3	Evaluate the Inventory Control Measures
CO-4	Analyze the Location Problems
CO-5	Identify the Control Measures of Supply Chain Management

Course Title	Core SECURITY ANALYSIS AND PORTFOLIO MANAGEMENT
Code	**20COP23**
	On completion of the course, students would be able to
CO-1	Analyze the Risk and Return of Investment and deal with Financial Market
CO-2	Evaluate the company on the basis of Industry and Economy
CO-3	Apply Technical Analysis for evaluating the Market
CO-4	Evaluate the Risk and Return of Portfolio and develop Portfolios
CO-5	Apply the strategies in Portfolio Revision and Evaluation

Course Title	Core GOODS AND SERVICES TAX
Code	**18COP24**
	On completion of the course, students would be able to
CO-1	Identify the concepts of GST
CO-2	Evaluate the types of Supply
CO-3	Apply the Procedure for Registration and Valuation
CO-4	Compute CGST, IGST and SGST
CO-5	Apply the provisions related to Returns, Refunds, Penalties and Offences

Course Title	Core TALLY - COMPUTER PRACTICAL – III
Code	**18COP25**
	On completion of the course, students would be able to
CO-1	Create Company in Tally Software
CO-2	Work with Accounting Vouchers and prepare Statement of Accounts
CO-3	Prepare Inventory Report
CO-4	Prepare Bank Reconciliation Statement
CO-5	Apply GST Provisions in Tally

Course Title	Discipline Specific Elective - II E- COMMERCE
Code	20COP26A
	On completion of the course, students would be able to
CO-1	Evaluate the e-Commerce Transactions
CO-2	Identify the Network Infrastructure for e-Commerce
CO-3	Apply EDI applications in business
CO-4	Differentiate the Strategies of Online Advertising
CO-5	Utilize the Electronic Mode of Payment System

Course Title	Discipline Specific Elective – I MANAGEMENT INFORMATION SYSTEM
Code	18COP26B
	On completion of the course, students would be able to
CO-1	Identify the components and activities of Management Information System
CO-2	Solve the Business Problems applying Problem Solving Methods
CO-3	Handle Transaction Processing System
CO-4	Formulate appropriate Business Decisions
CO-5	Manage the Information Resources and Technology

Course Title	Generic Elective Course – Cluster – III SHARE MARKET OPERATIONS
Code	18ECP15E / 18TAP13E / 18SWP16E / 18MCP17E / 18PSP23E
	On completion of the course, students would be able to
CO-1	Apply the knowledge of Investment avenues
CO-2	Operate in Financial Markets
CO-3	Differentiate the Stock Market Indices
CO-4	Evaluate the Depositories for Opening an Account
CO-5	Recollect the Trading Mechanism of Stock Market

PSG College of Arts & Science
Coimbatore – 641 014

Since 1947

Programme: MCom Commerce CA

Programme Outcomes	
	On completion of the programme, the student will be able to
PO-1	Become knowledgeable in the field of computer programming and apply the programming knowledge in designing software packages for individual firms and for outsourcing
PO-2	Gain analytical skills in the areas of data mining, customer relationship management, supply chain management and business process re-engineering
PO-3	Understand and appreciate Professional Ethics, Community Living and Nation Building Initiatives
PO-4	Ability to build knowledge for business process outsourcing and knowledge process outsourcing
PO-5	In depth core competency to meet the multifunctional challenges in the global environment

Programme Specific Outcomes	
	On completion of the programme, the student will be able
PSO-1	Apply the knowledge of Commerce with Computer Applications in the domain of Information Technology
PSO-2	Solve the complex problems in the field of Commerce with Computer Applications with an understanding of the societal, legal and cultural impact
PSO-3	Excel in the programming techniques for software development
PSO-4	Form a part of member in a team with right attitude

Course Outcomes

Course Title	Core OBJECT ORIENTED PROGRAMMING WITH C++
Code	**18CCP01**
	On completion of the course, students would be able to
CO-1	Apply the concepts of C++ supporting object oriented programming
CO-2	Learn to produce object oriented software using C++
CO-3	Learn to implement copy constructors and class member functions
CO-4	Demonstrate the knowledge on overload functions and operators in C++
CO-5	Apply the concepts to implement object oriented programs in C++, encapsulation, inheritance and polymorphism

Course Title	Core MARKETING MANAGEMENT
Code	**18CCP02**
	On completion of the course, students would be able to
CO-1	Apply the modern marketing concepts in the business scenario
CO-2	Develop appropriate marketing mix for various market segments
CO-3	Identify and develop the product required by the customers and fix competitive price
CO-4	Apply the distribution strategies and eliminate the place hindrance of the customers
CO-5	Identify the customer taste and preferences and adopt sales promotion techniques to compete in the market

Course Title	Core DIRECT TAX
Code	**18CCP03**
	On completion of the course, students would be able to
CO-1	Identify the residential status and incidence of taxation for various types of assessees
CO-2	Apply the knowledge for computing Taxable salary Income and House Property Income
CO-3	Identify the expenses allowed and disallowed in business income calculations and compute the capital gain on transfer of property
CO-4	Compute the income under the head other sources, apply the knowledge for aggregation of income and set-off and carry forward of losses
CO-5	Apply tax provision for assessing individual's income

Course Title	Core FINANCIAL MANAGEMENT
Code	**18CCP04**
	On completion of the course, students would be able to
CO-1	Apply the knowledge gained in analyzing the financial statements
CO-2	Measure the specific cost of capital and frame the optimum capital structure for the business enterprise
CO-3	Evaluate and identify the best investment among the alternatives and maximize the shareholders wealth
CO-4	Evaluate the working capital requirement of a concern to select the appropriate source for financing working capital
CO-5	Apply the knowledge gained on various types of dividend policies and adopt suitable dividend decisions

Course Title	Core Computer Practical – I – C++
Code	18CCP06
	On completion of the course, students would be able to
CO-1	Gain practical knowledge about Object Oriented Programming through C++
CO-2	Make their Own Applications/Projects using C++

Course Title	Core ADVANCED CORPORATE ACCOUNTING
Code	20CCP07
	On completion of the course, students would be able to
CO-1	Identify and pass entries while issuing shares and debentures of a company
CO-2	Prepare final accounts as per the provisions of the Companies Act
CO-3	Value the shares and goodwill of the company and prepare accounts in the liquidation
CO-4	Apply the knowledge of accounting in amalgamation, absorption and recon companies
CO-5	Compile the consolidated balance sheet of a Holding Company

Course Title	Core ORACLE
Code	18CCP08
	On completion of the course, students would be able to
CO-1	Understand and apply database concepts and DMBS software
CO-2	Write SQL commands to create tables/insert/update/delete data
CO-3	Program a data intensive application using DBMS
CO-4	Create and apply the concepts of packages, triggers and functions

Course Title	Core BUSINESS RESEARCH METHODS
Code	**18CCP09**
	On completion of the course, students would be able to
CO-1	Identify the research problem and select appropriate research technique
CO-2	Develop a research design and adopt necessary sampling methods
CO-3	Identify the proper method to collect the data
CO-4	Analyze the data through statistical tools
CO-5	Interpret the data and prepare a report

Course Title	Core COMPUTER PRACTICAL – II – ORACLE
Code	**18CCP10**
	On completion of the course, students would be able to
CO-1	Gain practical knowledge about SQL and PL/SQL
CO-2	Make their own Applications/Projects using SQL and PL/SQL

Course Title	Core DATA MINING AND ITS APPLICATIONS
Code	**18CCP11**
	On completion of the course, students would be able to
CO-1	Understand the concepts of data mining and its integration system
CO-2	Process raw data to make it suitable for various applications
CO-3	Develop online analytical processing and warehouse designing
CO-4	Gain knowledge on algorithms associated with data mining
CO-5	Knowledge acquisition on applications of data mining to health care and telecommunication industry

Course Title	Core GLOBAL BUSINESS ENVIRONMENT
Code	**18CCP12**
	On completion of the course, students would be able to
CO-1	Understand the dimensions of global business
CO-2	Enrich knowledge on the functioning of MNCs
CO-3	Explore the opportunities for international investments
CO-4	Identify the role of WTO / GATT
CO-5	Gain knowledge on the regulations of foreign trade

Course Title	Core ADVANCED COST AND MANAGEMENT ACCOUNTING
Code	**18CCP13**
	On completion of the course, students would be able to
CO-1	Identify the significance of cost and management accounting
CO-2	Apply appropriate techniques for controlling Material Cost,Computing Labour Cost and allocating Overheads
CO-3	Apply knowledge for computing cost in different industries
CO-4	Analyze the Variance and Prepare Fund Flow and Cash Flow Statements
CO-5	Apply the techniques of Marginal Costing and Budgetary Control

Course Title	Core .NET PROGRAMMING
Code	**18CCP14**
	On completion of the course, students would be able to
CO-1	Work with the concepts of .Net Framework
CO-2	Create Forms while designing Projects
CO-3	Develop deep knowledge on Application of Controls
CO-4	Apply Menus for Projects
CO-5	Design Web Page using ASP .Net

Course Title	Core EXECUTIVE COMMUNICATION
Code	**18CCP15**
	On completion of the course, students would be able to
CO-1	Create Effective message paragraph and contents for email
CO-2	Write effective Professional Letters
CO-3	Identify and use verbal communication techniques
CO-4	Use appropriate skills and etiquette in inter personal communication
CO-5	Plan and develop presentations related to business

Course Title	Core COMPUTER PRACTICAL – III – .NET PROGRAMMING
Code	**18CCP16**
	On completion of the course, students would be able to
CO-1	Expose the concepts of Database Connectivity
CO-2	Develop Projects that involves Database Applications

Course Title	Core INTERNSHIP*
Code	**21CCP17**
	On completion of the course, students would be able to
CO-1	Demonstrate effective adaptability to the new environment and work culture
CO-2	Develop Interpersonal Communication Skills, Integrity and ethical behavior.
CO3	Maintain books of accounts effectively.
CO4	Prepare formal and informal reports of an Organization.
CO5	Identify and articulate Skills, Knowledge and experience relevant to career goals and Professional growth

Course Title	Discipline Specific Elective– I NETWORKING AND INTERNET
Code	**18CCP18A**
	On completion of the course, students would be able to
CO-1	Understand the concepts of Computer Networks
CO-2	Enumerate the concepts of Transmission Modes
CO-3	Having in-depth knowledge on Wireless Networking Concepts
CO-4	Identify the different types of Network devices and their functions within a Network
CO-5	Apply the concepts of Network Security and Cryptography

Course Title	Core BUSINESS SYSTEM ANALYSIS AND DESIGN
Code	**18CCP18B**
	On completion of the course, students would be able to
CO-1	Have an insight on Information Processing of an organization
CO-2	Gain thorough knowledge on Attributes required for a System Analyst
CO-3	Apply appropriate Information Gathering Techniques
CO-4	Acquire practical knowledge on System Analysis
CO-5	Check the feasibility of the Developed System and its Implementation

Course Title	Core HUMAN RESOURCE MANAGEMENT
Code	**18CCP20**
	On completion of the course, students would be able to
CO-1	Create Strategic HRM in an organization
CO-2	Evaluate the job and recruit the personnel for an organization
CO-3	Apply appropriate training methods in an organization
CO-4	Evaluate the performance of the employees and make salary administration effectively

CO-5	Build Employee Morale and improve the quality of work life

Course Title	**Core JAVA PROGRAMMING**
Code	**18CCP21**
	On completion of the course, students would be able to
CO-1	Apply Java Programming for various Programming Technologies
CO-2	Apply the concept of Interfaces and Packages
CO-3	Develop Web Page using Applets
CO-4	Apply the concept of Exception in Java Programming Language
CO-5	Develop Software in Java Programming Language

Course Title	**Core COMPUTER PRACTICAL – IV – JAVA PROGRAMMING**
Code	**18CCP22**
	On completion of the course, students would be able to
CO-1	Execute Java Programs using Control Statements
CO-2	Develop Java Programs using Packages
CO-3	Execute Java Programs using Exception Handling
CO-4	Develop Applet Programs

Course Title	**Core SECURITY ANALYSIS AND PORTFOLIO MANAGEMENT**
Code	**20CCP23**
	On completion of the course, students would be able to
CO-1	Analyze the Risk and Return of Investment and deal with Financial Market
CO-2	Evaluate the company on the basis of Industry and Economy
CO-3	Apply Technical Analysis for evaluating the Market
CO-4	Evaluate the Risk and Return of Portfolio and develop Portfolios
CO-5	Apply the strategies in Portfolio Revision and Evaluation

Course Title	Core GOODS AND SERVICE TAX
Code	**18CCP24**
	On completion of the course, students would be able to
CO-1	Identify the concepts of GST.
CO-2	Evaluate the types of Supply
CO-3	Apply the Procedure for Registration and Valuation
CO-4	Compute CGST, IGST and SGST
CO-5	Apply the provisions related to Returns, Refunds, Penalties and Offences

Course Title	MAJOR PROJECT WORK
Code	**21CCP25**
	On completion of the course, students would be able to
CO-1	Apply the techniques of research in the Business decision making process
CO-2	Identify the Research Problem and frame suitable Objectives
CO-3	Evaluate the data Collected using appropriate statistical tools
CO-4	Apply the problem skills in business decisions by using innovative and creative thinking.
CO-5	Prepare report for the selected research problem with suitable suggestions.

Course Title	Discipline Specific Elective – II ENTERPRISE RESOURCE PLANNING
Code	**18CCP26A**
	On completion of the course, students would be able to
CO-1	Understand the Basic Concepts of ERP
CO-2	Develop an Approach to Risk Mitigation in ERP Systems
CO-3	Identify different Technologies used in ERP
CO-4	Apply different Tools used in ERP
CO-5	Implement ERP Solutions to Real Time Issues

Course Title	Discipline Specific Elective – II E-COMMERCE & E-BUSINESS
Code	**18CCP26B**
	On completion of the course, students would be able to
CO-1	Understand the Importance and Impact of E-commerce
CO-2	Assess Electronic Payment Systems and to discuss the Legal Issues and Privacy in E-Commerce
CO-3	Enhance the student's knowledge with various methods of Advertising Strateg and its implementation overthe Web
CO-4	Apply the e-Banking Applications of NEFT & RTGS
CO-5	Apply the specific Tools, Techniques and Methods in e- Business

Course Title	Generic Elective Course – Cluster – VI NETWORKING AND INTERNET
Code	**18GECIDC**
	On completion of the course, students would be able to
CO-1	Understand the concepts of Computer Networks
CO-2	Enumerate the concepts of Transmission Modes
CO-3	Having in-depth Knowledge on Wireless Networking Concepts
CO-4	Identify the different types of Network devices and their functions within a Network
CO-5	Apply the concepts of Network Security and Cryptography

PSG College of Arts & Science
Coimbatore – 641 014

Since 1947

Programme: MCom Corporate Secretaryship

Programme Outcomes	
	On completion of the programme, the student will be able to
PO-1	Become knowledgeable in the subject of Company Law and Corporate law and apply the principles of the same to the needs of the Employer / Institution /own Business or Enterprise
PO-2	Gain Analytical skills in the field/area of Accounting and Taxation
PO-3	Understand and Appreciate Professional Ethics, Community Living and Nation Building Initiatives
PO-4	Capable of handling several departments in companies
PO-5	Understanding and giving final solution to Financial Problems
PO-6	Able to identify and apply compliance formalities in Company Administration

Programme Specific Outcomes	
	On completion of the programme, the student will be able
PSO-1	Apply the knowledge of Secretarial Laws in the domain of Corporate Administration
PSO-2	Solve the complex problems in the field of Company Affairs and GST with an understanding of the Societal, Legal and Cultural impacts of the solution
PSO-3	Understand the problems of corporate sector and finding solutions with available resource
PSO-4	Be an active member in a corporate team with right Attitude

Course Outcomes

Course Title	Core STRATEGIC MANAGEMENT
Code	**18CSP01**
	On completion of the course, students would be able to
CO-1	Apply corporate strategic planning process in business decision making
CO-2	Understand the prevailing business environment and use it in corporate planning and strategy formulation
CO-3	Implement the generic and grand strategies in various business decisions
CO-4	Use the various tools for strategy planning
CO-5	Apply and use models of strategic implementation and control

Course Title	Core ECONOMICS FOR DECISION MAKING
Code	**18CSP02**
	On completion of the course, students would be able to
CO-1	Apply economic laws in the business cycle of any product
CO-2	Take managerial decisions by applying laws of demand and supply
CO-3	Apply cost, production and return relationship in making business decisions
CO-4	Use pricing theories in taking pricing decisions and to apply for costing techniques in making business decisions
CO-5	Effectively implement profit planning and policies in changing corporate scenario

Course Title	Core GENERAL LAWS AND PROCEDURES – I
Code	**20CSP03**
	On completion of the course, students would be able to
CO-1	Apply general principles of laws in interpretation of statutes
CO-2	Apply Fundamental rights and directive principles of state policy in making business decisions
CO-3	Prepare plaint and defense statements
CO-4	Distinguish different offences and use it in the management company affairs
CO-5	Draft extracts for sale and sales deeds and mortgage deeds of different types

Course Title	Core ADVANCED COMPANY LAW AND SECRETARIAL PRACTICE – I
Code	**21CSP04**
	On completion of the course, students would be able to
CO-1	Capable of taking all steps for the formation of Companies
CO-2	Capable of Preparing of Memorandum of Association and Articles of Association and apply the rules for Alteration of Memorandum of Association and Articles of Association
CO-3	Differentiate between members of Company and other Creditors. Should be able to maintain Secretarial relationship with Members and other Creditors
CO-4	Guide and Assist Directors and Managing Directors in the Administration, Management and Control of Company Managerial Affairs
CO-5	Handle all legal and Practical matters regarding deposits made in Non-Banking Companies

Course Title	Core ADVANCED CORPORATE ACCOUNTING –I
Code	**21CSP05**
	On completion of the course, students would be able to
CO-1	Should be able to maintain accounting and other records for the issue of shares and debentures.
CO-2	Should be able to prepare the accounting aspects for Redemption and Profit prior to Incorporation.
CO-3	Should be able to prepare accounting aspects for different forms of corporate Restructuring.
CO-4	Should be able to maintain registers, records and prepare balance sheet which are required to be maintained by bank.
CO-5	Should be able to maintain registers and records which are required to be maintained by insurance.

Course Title	Core ADVANCED COMPANY LAW AND SECRETARIAL PRACTICE – II
Code	**18CSP06**
	On completion of the course, students would be able to
CO-1	Play the role of Key Managerial Personnel
CO-2	Capable of doing all Secretarial Procedural work for issue of Shares
CO-3	Conduct Various Kinds of Meeting. Capable of issuing Notice, Drafting Agenda and Preparing Minutes
CO-4	Follow all Secretarial Procedure for appointment and removal of Directors and Auditors
CO-5	Capable of Preparing Compromise, Reconstruction arrangement of Companies
CO-6	Take up legal steps for winding up of Companies

Course Title	Core CORPORATE HUMAN RELATIONS
Code	**18CSP07**
	On completion of the course, students would be able to
CO-1	Apply Human Resource Management Concepts in Day-to-Day Operations of Business
CO-2	Solve the Organizational Problems with a Focus on Human Relation
CO-3	Draft and use Recruitment Application and other related forms
CO-4	Apply various tools for the purpose of Performance Appraisal
CO-5	Conduct Human Resource Audit and using Human Resource Information System for effective Collective Bargaining

Course Title	Core BANKING AND INSURANCE LAWS
Code	**18CSP08**
	On completion of the course, students would be able to
CO-1	Apply the theories and concepts of banking in dealing with banks
CO-2	Capable of using KYC norms and other latest terms used in banking
CO-3	Evaluate creditworthiness and capable of getting bank credit
CO-4	Develop different types of insurance policies and be able to take / give re-insurance and double insurance
CO-5	Correspond and deal with IRDA regulations

Course Title	Core COST AND MANAGEMENT ACCOUNTING
Code	**21CSP09**
	On completion of the course, students would be able to
CO-1	Should be able to establish and administer cost and management accounting departments in any concern.
CO-2	Should be able to prepare methods of costing.
CO-3	Should be able to apply marginal costing techniques in managerial decision making.
CO-4	Should be able to prepare budget based on forecast.
CO-5	should be able to prepare financial statements analysis.

Course Title	Core GOODS AND SERVICES TAX AND CUSTOMS
Code	**20CSP10**
	On completion of the course, students would be able to
CO-1	Apply the General Principles and Frame of GST For Various application of its rules
CO-2	Capable of Distinguishing Supply from other Concepts
CO-3	Compute Input Tax Credit and able to follow the procedure for Registration
CO-4	Distinguishing Integrated Goods and Services Taxfrom other concepts
CO-5	Distinguishing Taxable and Non-Taxable Goods and capable of computing Customs Duty and Filing of returns

Course Title	Core LABOUR AND INDUSTRIAL LAWS
Code	**18CSP11**
	On completion of the course, students would be able to
CO-1	Understand about social justice for labour
CO-2	Gain knowledge about working conditions in industries
CO-3	Apply labour laws acts with industrial relations
CO-4	Solve industrial disputes with awards
CO-5	Know the importance of trade union and claim compensation for disablement

Course Title	Core FINANCIAL AND FOREX MANAGEMENT
Code	**18CSP12**
	On completion of the course, students would be able to
CO-1	Play role of financial manager
CO-2	Capable of preparing capital budgets
CO-3	Capable of dealing with organizational risk & ensure minimum rate of return
CO-4	Do functions of treasury manager and CFO
CO-5	Capableof using forex trading and to evaluate forex exchange rate

Course Title	Core DIRECT TAXES-LAW AND PRACTICES
Code	**21CSP13**
	On completion of the course, students would be able to
CO-1	Should be able to understand the Concepts and Taxation of Individuals.
CO-2	Should be able to Compute income under the Heads of Salary and House Property.
CO-3	Should be able to apply and use models of Various head of Incomes.
CO-4	Should be able to compute income of firms and companies and comply with legal formalities.
CO-5	Should be able to understand and comply with powers of Income Tax Authority.

Course Title	Core ADVANCE CORPORATE ACCOUNTING – II
Code	**21CSP14**
	On completion of the course, students would be able to
CO-1	Understand accounting stands
CO-2	Prepare finical standards of limited companies
CO-3	Prepare consolidation o accounts of Holding and Subsidiary Companies
CO-4	Calculate valuation of shares and Goodwill
CO-5	Prepare corporate financial reports

Course Title	Discipline Specific Elective – I INTERNATIONAL BUSINESS
Code	18CSP15A
	On completion of the course, students would be able to
CO-1	Capable of analyzing market in International business environment
CO-2	Effectively draft all the documents in International trading
CO-3	Manage various sources of finance for exporting
CO-4	Promote India's export in foreign trade
CO-5	Utilize effective modes of logistics for export and import

Course Title	Discipline Specific Elective - I BUSINESS RESEARCH METHODS
Code	20CSP15B
	On completion of the course, students would be able to
CO-1	get depth knowledge on research.
CO-2	identify the research design and utilize it effectively in doing research.
CO-3	collect data and select samples for the research.
CO-4	apply different methods of data analysis in research.
CO-5	utilize the skills of report writing.

Course Title	Core CORPORATE RESTRUCTURING LAW AND PRATICES
Code	21CSP18
	On completion of the course, students would be able to
CO-1	Able to knowledge of the types of Corporate Restructuring.
CO-2	learnt to the procedural requirements as to takeover of listed/unlisted companies.
CO-3	Prepare knowledge on the planning and strategy and the process for M&A.
CO-4	apply the regulatory framework for the merger and amalgamations.
CO-5	Should be able to understand the documentation preparation of Merger and Amalgamation.

Course Title	Core ECONOMIC LAWS
Code	**18CSP19**
	On completion of the course, students would be able to
CO-1	Apply The Competition Act 2002 & The Consumer Protection Act 1986
CO-2	Take managerial decisions by applying Pollution Control Laws
CO-3	Apply Foreign Exchange Management Act, 1999
CO-4	Comply with provisions of Industries (Development & Regulation) Act, 1951
CO-5	Effectively implement Intellectual property rights

Course Title	Core SECRETARIAL AUDIT AND COMPLIANCE MANAGEMENT
Code	**18CSP20**
	On completion of the course, students would be able to
CO-1	Know the checklist for conducting a secretarial audit
CO-2	Use search and status reports in practice
CO-3	Know the various secretarial standards
CO-4	Conduct a management audit in an organization
CO-5	Implement due diligence in business transactions

Course Title	Core CORPORATE GOVERNANCE
Code	**18CSP21**
	On completion of the course, students would be able to
CO-1	Apply the code of corporate governance in any business concern
CO-2	Evaluate the board performance of any corporate business enterprise
CO-3	Practice the corporate governance standards in Indian companies
CO-4	Work in compliance with regulatory framework given by various forums
CO-5	Follow ethical business practices in any business concern

Course Title	Discipline Specific Elective –II MODERN MARKETING
Code	**18CSP22A**
	On completion of the course, students would be able to
CO-1	Know how they target the customers
CO-2	Deal with competitions in market
CO-3	Build the loyalty with customers
CO-4	Focus on modern buying concept
CO-5	Face the challenges in market

Course Title	Discipline Specific Elective – II LOGISTICS AND SUPPLY CHAIN MANAGEMENT
Code	**18CSP22B**
	On completion of the course, students would be able to
CO-1	Know about the customer service and logistics management
CO-2	Get knowledge about logistics in 21st century
CO-3	Understand the concept of supply chain management
CO-4	Know marketing management control
CO-5	Know the rules and conditions of Marine Insurance on Goods

Course Title	Generic Elective Course – Cluster– VI CONSTITUTIONAL LAWS
Code	**18GECIDC**
	On completion of the course, students would be able to
CO-1	Understand the History of Indian Constitution
CO-2	Have in dept knowledge in citizen’s fundamental rights and duties
CO-3	Apply the directive principles of state policy in making business decisions
CO-4	Apply general principles of laws in interpretation of statutes
CO-5	Prepare and maintain digital signature and e-record

PSG College of Arts & Science
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Since 1947

Programme: MCom International Business

Programme Outcomes	
	On completion of the programme, the student will be able to
PO-1	Become knowledgeable in the subject of International Business and apply the principles of the same to the needs of the employer and their own business enterprises
PO-2	Gain analytical skills in the areas of international trade procedures relating to international financing and documentation, logistics operations and business strategies
PO-3	Understand and appreciate professional ethics, community living and nation building initiatives
PO-4	Ability to pursue research in the field of EXIM credit, foreign exchange reserves and international marketing
PO-5	Acquire core competency and qualify for employment in business engaged in global operation

Programme Specific Outcomes	
	On completion of the programme, the student will be able
PSO-1	Apply the knowledge of International Business, in the domain of shipping, air transportation and logistics
PSO-2	Solve the complex problems in the field of International Business with an understanding of societal, legal, political, cultural environment and the impact of international policies
PSO-3	Apply scientific approach and capability to undertake responsibilities for sustainable growth in International Business
PSO-4	Form a part of member in a team with right attitude

Course Outcomes

Course Title	Core INTERNATIONAL MANAGEMENT
Code	**20MIB01**
	On completion of the course, students would be able to
CO-1	Apply the managerial functions in international business & create an effective control mechanism in the organization.
CO-2	Apply the scientific thoughts of management principles in formulating functional & regional management decisions.
CO-3	Effectively leading & controlling a group with positive attitude.
CO-4	Apply the procedures in the formulation of IHRM.
CO-5	Manage the implementation and evaluation of strategies in change & conflict management.

Course Title	Core INTERNATIONAL MARKETING MANAGEMENT
Code	**120MIB02**
	On completion of the course, students would be able to
CO-1	Frame marketing strategies understanding the restraining forces of Global Marketing faced by International marketers
CO-2	Apply the techniques for effective marketing information systems to penetrate into new markets
CO-3	Assess the environmental factors to evaluate the decision Criteria for international Business
CO-4	Develop and launch new products and services in global marketing
CO-5	Critically analyze the appropriate channel for global marketing and distribution for introducing innovative marketing practices

Course Title	Core INTERNATIONAL BUSINESS ENVIRONMENT
Code	**20MIB03**
	On completion of the course, students would be able to
CO-1	Identify the challenges and apply the international trade theories
CO-2	Analyze the demand, supply, determine price and apply trade laws
CO-3	Frame strategies for dealing with different cultures in international business
CO-4	Interpret how political, legal and regulatory environment affect global markets
CO-5	Assess and criticize technologies to support an organization's multinational trading system

Course Title	Core INTERNATIONAL TRADE PROCEDURES – I
Code	**20MIB04**
	On completion of the course, students would be able to
CO-1	Identify the benefits of international trade and getting started in export business
CO-2	Analyze the export promotion scheme and mechanism for implementing the policy frame work
CO-3	Identify and utilize the schemes offered by the institutions for export promotion
CO-4	Apply the theories of international trade and services to manage the process of exports
CO-5	Identify the best suited market for international trade

Course Title	Core ACCOUNTING FOR DECISION MAKING
Code	**20MIB05**
	On completion of the course, students would be able to
CO-1	Apply the knowledge of accounting in the preparation of final accounts for sole trading concern and utilize IFRS
CO-2	Apply ratio analysis in analyzing the liquidity, solvency and profitability position of the firm
CO-3	Evaluate the various investment alternatives using capital budgeting and effectively manage working capital
CO-4	Analyze the cost of the product per unit and identify the break-even point
CO-5	Forecast the cost and profit of product for various levels of output

Course Title	Core PRACTICAL I - EXECUTIVE COMMUNICATION
Code	**20MIB06**
	On completion of the course, students would be able to
CO-1	Identify the official website of the Government and read its contents
CO-2	Discipline the mind and communicate effectively without any miscommunication
CO-3	Address the members in the corporate and external stake holders with confidence
CO-4	Resolve conflicts and manage negotiations effectively
CO-5	Create professional email messages and create website

Course Title	Core INTERNATIONAL TRADE PROCEDURES – II
Code	**20MIB07**
	On completion of the course, students would be able to
CO-1	Application of EXIM operations in International Business
CO-2	Ability to apply HS Code, requirement for EDI and customs operations
CO-3	Evaluate the export credit finance and international payment methods for imports
CO-4	Apply the procedure for pre shipment and post shipment finance in international trade
CO-5	Identify the EXIM manifest drawback pertains to international business

Course Title	Discipline Specific Elective – I FOREIGN EXCHANGE AND RISK MANAGEMENT IN INTERNATIONAL BUSINESS
Code	**20MIB08A**
	On completion of the course, students would be able to
CO-1	Analyze the functioning of foreign exchange market, the spot market and the forward market
CO-2	Analyze the information driven in the foreign markets & use business operators in controlling and managing foreign exchange
CO-3	Identify foreign exchange risk & manage risk effectively with appropriate risk management techniques
CO-4	Safeguard against uncertainties in export payments
CO-5	Evaluate the best risk financing techniques that helps their business in mitigating and hedging with financial risks

Course Title	Discipline Specific Elective – I INTERNATIONAL FINANCIAL MANAGEMENT
Code	20MIB08B
	On completion of the course, students would be able to
CO-1	Demonstrate the understanding of international financial theory and applications pertaining to, exchange rate determinants, foreign exchange exposure
CO-2	Effectively manage international portfolio
CO-3	Formulate optimum capital structure and manage working capital
CO-4	Effectively manage currency & interest rate risk in international business
CO-5	Utilize the suitable derivative products

Course Title	Core ENTREPRENEURSHIP
Code	20MIB09
	On completion of the course, students would be able to
CO-1	Determine what constitutes a valid entrepreneurial opportunity.
CO-2	Evaluate the most feasible and appropriate business model
CO-3	Utilize the effective elevator pitches to gain support for the venture financing agencies.
CO-4	Familiarize with the concept of Social Entrepreneurship
CO-5	Ability to carry out comprehensive analysis of the international entrepreneurship.

Course Title	Core PRACTICAL II - INTERNATIONAL TRADE DOCUMENTATION
Code	20MIB11
	On completion of the course, students would be able to
CO-1	Able to outline and relate to various DGFT related documents for setting up an export firm
CO-2	Demonstrate different EXIM documents in trade related business
CO-3	Assess the Ice Gate documents to apply for the trade in export and import business
CO-4	Identify the nomenclature of Import and Export facilitating in International Business
CO-5	Apply for the drawbacks and other schemes pertaining to the international business operations

Course Title	Core INTERNATIONAL BUSINESS ETHICS
Code	**20MIB13**
	On completion of the course, students would be able to
CO-1	Understand the need and significance of Business Ethics.
CO-2	Evaluate the most feasible value system for a company.
CO-3	Manage the ethical issues in maintaining better relationship with all stakeholders.
CO-4	Familiarize with the theories and models of corporate governance.
CO-5	Enhance the management for plotting Corporate Social Responsibility in the organization.

Course Title	Core INTERNATIONAL BUSINESS LAW (RELATIONS & IPR)
Code	**20MIB14**
	On completion of the course, students would be able to
CO-1	Understand the different case laws pertaining to international Business
CO-2	Identify the intricacies involved in the regulatory framework of WTO
CO-3	Analyze on the rights granted by WIPO on various IP related matters
CO-4	Understand the regulations and treaties relating to International Business conventions
CO-5	Enable the need for International Relations and the Foreign Policies

Course Title	Core INTERNATIONAL TRADE LOGISTICS – I
Code	**20MIB15**
	On completion of the course, students would be able to
CO-1	Interpret the best logistics solution required for an effective International Business
CO-2	Enable the proper inventory planning of goods according to the requirements of the product
CO-3	Dissect on the best shipping option for reducing the logistical expenses
CO-4	Compare the role of each intermediary in international business and their services
CO-5	Understand the importance and usage of containers in the most efficient way

Course Title	Core SUPPLY CHAIN MANAGEMENT
Code	**20MIB16**
	On completion of the course, students would be able to
CO-1	Understand the implications and importance of an effective supply chain network
CO-2	Create an efficient supply chain design for enhanced profitability
CO-3	Inspect on the best possible mode of procurement and sourcing of the variables in the value creation of products
CO-4	Categorize the best collaborative practices so that value creation is effectively done
CO-5	Estimate the best E-Business strategy to integrate SCM and IT

Course Title	Discipline Specific Elective – II AIR TRANSPORTATION MANAGEMENT
Code	**20MIB17A**
	On completion of the course, students would be able to
CO-1	Understand the nuance of Indian Airline Industry and Air Crafts
CO-2	Adopt the best policies and guidelines drafted by the agencies relating to air transportation
CO-3	Familiarize with air cargo terminology and operations
CO-4	Analyze the travel formalities and the essentials of air travel
CO-5	Apply the best rule on cargo and passenger movements

Course Title	Discipline Specific Elective – II TRANSPORTATION AND DISTRIBUTION MANAGEMENT
Code	**20MIB17B**
	On completion of the course, students would be able to
CO-1	Understand the role of distribution in Supply Chain Management
CO-2	Create the best possible distribution network and analyze the factor affecting the network
CO-3	Formulate a better role of transportation in Supply Chain Management
CO-4	Analyze the most feasible system of transportation to enhance logistical value chain
CO-5	Use the best possible system for efficient transportation using Information Technology

Course Title	Core INTERNATIONAL FINANCIAL MARKETS AND INSTRUMENTS
Code	**20MIB20**
	On completion of the course, students would be able to
CO-1	Understand the functioning of International Financial Management
CO-2	Explore various sources of financing MNCs
CO-3	Make firm decision on appropriate funding options
CO-4	Evaluate the various instruments in International Financial Markets
CO-5	Understand the workings of Euro Currency Market

Course Title	Core BUSINESS RESEARCH METHODS
Code	**20MIB21**
	On completion of the course, students would be able to
CO-1	Formulate a research problem and analyze the problem and find out the solution
CO-2	Collect data for the research problem to analyze and interpret to draft the suggestions
CO-3	Evaluate the collected data and write a proper research report
CO-4	Analyze a business problem in all possible way with sufficient data
CO-5	Use modern tools and techniques of business intelligence

Course Title	Core INTERNATIONAL BUSINESS STRATEGIES
Code	**20MIB22**
	On completion of the course, students would be able to
CO-1	Develop an understanding on the conceptual framework that clarifies the relationships between policies for domestic and global strategies
CO-2	Formulate key strategic decision based on internal and external analysis
CO-3	Understand competitive advantage and formulate various strategies across different levels of business decisions
CO-4	Find out avenues for entering overseas market or expanding existing operations as a part of corporate strategy
CO-5	Follow an efficient strategic control mechanism in the organization by analyzing the issues in global strategy implementation

Course Title	Core INTERNATIONAL TRADE LOGISTICS – II
Code	**20MIB23**
	On completion of the course, students would be able to
CO-1	Able to categorize the cargo classification and their role in promoting International Trade.
CO-2	Familiarize with the port operations and analyze the productivity at the ports.
CO-3	Get insights on various marine services and convention on sea transport.
CO-4	Enables to estimate the air cargo freight rates and cargo operations in air ports.
CO-5	Equip with knowledge regarding logistical entrepreneurship.

Course Title	Core E-COMMERCE & CUSTOMER RELATIONSHIP MANAGEMENT
Code	**20MIB24**
	On completion of the course, students would be able to
CO-1	Understand the basics of E-Commerce and will be able to develop E- business websites.
CO-2	Formulate E-Commerce business models and impart necessary infrastructure.
CO-3	Developing business opportunities on e-payments and M-commerce.
CO-4	Understand the need and significance of Customer Relationship Management.
CO-5	Get an insight into the practical usage of CRM in retailing and e-tailing entrepreneurship.

Course Title	Generic Elective Course – Cluster – VI INTELLECTUAL PROPERTY RIGHTS
Code	**18GCEIDC**
	On completion of the course, students would be able to
CO-1	Recognize the basic need and significance of intellectual property
CO-2	Familiarize with the benefits and need of Copyrights along with the act of infringement
CO-3	Apply for patents for the innovations at the domestic and global level
CO-4	Create and file for trademarks
CO-5	Understand the significance of Geographical indication and biological diversity

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Programme: MCA

Programme Outcomes	
	On completion of the programme, the student will be able to
PO-1	Become knowledgeable in the subject of computer applications and apply the principles of the same to the needs of the Employer / Institution /own Business or Enterprise
PO-2	Gain Analytical skills in the field/area of Problem Solving
PO-3	Understand and realize professional ethics, society living and Nation building initiatives
PO-4	Apply the knowledge of mathematics and computing essentials to various real life applications for any given prerequisite
PO-5	Design and develop applications to evaluate and solve all computer science related problems
PO-6	Analyze and review literatures to invoke the research skills to design, interpret and make inferences from the resulting data.
PO-7	Solve and work with a expert context pertaining to ethics, social, cultural and cyber regulations
PO-8	Create and design ground-breaking methodologies to solve complex problems for the betterment of the society

Programme Specific Outcomes	
	On completion of the programme, the student will be able
PSO-1	Apply the comprehension of Computer Applications in the domain of computer Science
PSO-2	Solve the complex problems in the field of industry and research with an understanding of the societal, legal and cultural impacts of the solution

PSO-3	Identify, analyze, formulate and develop computer applications so as to map with real life scenarios to provide optimal solution
PSO-4	Form a part of member in a team with right attitudes

Course Outcomes

Course Title	**Core** **LINUX PROGRAMMING**
Code	**20CAP01**
	On completion of the course, students would be able to
CO-1	Realize the Linux Basics and file systems.
CO-2	Interpret the mechanisms adopted for Shell scripts.
CO-3	Conceptualize the concept of file permissions.
CO-4	Acquire knowledge on the editors, redirection and piping.
CO-5	Be aware of Linux Structured commands and input handling methods.

Course Title	**Core** **HYBRID DATABASE MANAGEMENT SYSTEM**
Code	**20CAP02**
	On completion of the course, students would be able to
CO-1	**CO1:** Apply the Relational Database concepts in applications.
CO-2	**CO2:** Gain the knowledge about detailed architecture, define objects, load data, query data and performance tune Document-oriented NoSQL databases.
CO-3	**CO3:** Construct Document typed NoSQL databases using MongoDB.
CO-4	**CO4:** Create applications using MongoDB.

Course Title	Core OPERATING SYSTEMS
Code	**20CAP03**
	On completion of the course, students would be able to
CO-1	**CO1:** Realize the Operating System Design and Implementation.
CO-2	**CO2:** Interpret the mechanisms adopted for Process Scheduling and CPU scheduling.
CO-3	**CO3:** Conceptualize the components involved in Paging and Memory Management.
CO-4	**CO4:** Acquire knowledge on the Storage Management.
CO-5	**CO5:** Be aware of Virtual Machines and Distributed Systems.

Course Title	Core DATA STRUCTURES & ALGORITHMS
Code	**20CAP04**
	On completion of the course, students would be able to
CO-1	Apply and implement the learnt algorithm design techniques and data structures to solve Problems.
CO-2	Recognize and implement the Graph algorithms in real time scenario.
CO-3	Implement the concepts of Tree and Heap data structure.
CO-4	Appreciate and implement the Greedy and Backtracking Algorithm.
CO-5	Be familiar with the concepts of Hashing & its types.

Course Title	Core LAB-I (LINUX PROGRAMMING LAB)
Code	**20CAP06**
	On completion of the course, students would be able to
CO-1	Practice to execute Linux commands.
CO-2	Able to create shell scripts for file operations.
CO-3	Implement command line argument in Linux.
CO-4	Apply the system configuration mechanisms.
CO-5	Develop file compression techniques

Course Title	Core LAB-II (HYBRID DATABASE MANAGEMENT SYSTEM LAB)
Code	20CAP07
	On completion of the course, students would be able to
CO-1	Design and implement a database schema for a given problem-domain.
CO-2	Identify sample applications using SQL.
CO-3	Appreciate the collections of MongoDB database.
CO-4	Develop queries using MongoDB.

Course Title	Core LAB-III (DATA STRUCTURES LAB)
Code	20CAP08
	On completion of the course, students would be able to
CO-1	Apply good programming design methods for program development.
CO-2	Apply the different data structures for implementing solutions to practical problems.
CO-3	Develop searching and sorting programs.
CO-4	To access how the choices of data structure & algorithm methods impact the performance of program.
CO-5	Ability to have knowledge of tree and graphs concepts.

Course Title	Core ADVANCED JAVA
Code	20CAP09
	On completion of the course, students would be able to
CO-1	Understand the J2EE architecture and construct JDBC connection.
CO-2	Construct web application using servlets.
CO-3	Create web applications using session tracking using HTTP session.
CO-4	Develop dynamic web applications using JSP.
CO-5	Create and Implement Enterprise application using Javabeans.

Course Title	Core DISTRIBUTED PROGRAMMING
Code	**20CAP10**
	On completion of the course, students would be able to
CO-1	Describe the fundamentals underlying principles of .Net Framework.
CO-2	Be familiar with the basic concepts of C#.
CO-3	Be familiar with regular expressions and exceptions.
CO-4	Recognize the basic controls Web site fundamentals and data access using Asp.net.
CO-5	Be familiar with understanding the database connectivity concepts.

Course Title	Core DATA COMMUNICATIONS & NETWORKING
Code	**20CAP11**
	On completion of the course, students would be able to
CO-1	Analyze the requirements for a given organizational structure and select the most appropriate networking architecture and technologies.
CO-2	Interpret the uses of transmission media.
CO-3	Analyze the requirement of error detection and correction techniques.
CO-4	Understand the latest wireless technologies and trends in the communication field.
CO-5	Analyze the features and operations of various application layer protocols such as HTTP, DNS and SNMP.

Course Title	Core SECURITY IN COMPUTING
Code	**20CAP12A**
	On completion of the course, students would be able to
CO-1	Apply security principles in software development
CO-2	Entail Cloud security tools to software development
CO-3	Acquainted with Ethical Issues in Computer Security
CO-4	Have knowledge on Quantum Cryptography

Course Title	Core CLOUD ARCHITECTURE AND SERVICES
Code	20CAP12B
	On completion of the course, students would be able to
CO-1	Apply fundamental concepts in cloud infrastructures.
CO-2	Analyze various cloud models and apply them to solve problems on the cloud.
CO-3	Explore cloud architecture.
CO-4	Recognize cloud platforms.
CO-5	Explore the important cloud computing driven commercial systems and applications.

Course Title	Core LAB-IV (ADVANCED JAVA LAB)
Code	20CAP14
	On completion of the course, students would be able to
CO-1	Practice to use Data Base Connectivity (JDBC) to access database through Java programs.
CO-2	Able to create dynamic web pages using Servlets and JSP.
CO-3	Create reusable Java Bean class.
CO-4	Develop program using URL connection.
CO-5	Create and Implement session beans in EJB.

Course Title	Core LAB -V (DISTRIBUTED PROGRAMMING LAB)
Code	20CAP15
	On completion of the course, students would be able to
CO-1	Apply good programming design methods for program development
CO-2	Be familiar with designing, writing and testing C# programs
CO-3	Recognize the web forms and validation control of ASP.net
CO-4	Be familiar with writing data base connectivity
CO-5	Apply programming skill to develop a web application

Course Title	Core ARTIFICIAL INTELLIGENCE
Code	**20CAP16**
	On completion of the course, students would be able to
CO-1	Identify appropriate AI methods to solve a given problem
CO-2	Formalize a given problem in the framework of different AI methods
CO-3	Find out solutions for undesirable end
CO-4	Get an insight in designing prototype for real life problems
CO-5	Develop an insight in development a simple robot model

Course Title	Core PYTHON FOR MACHINE LEARNING
Code	**19CAP25**
	On completion of the course, students would be able to
CO-1	Get an idea about how to manipulate and apply datasets in Data Science applications.
CO-2	Explore the use of data computation and manipulation models.
CO-3	Apply Machine Learning and Pattern Recognition.
CO-4	Implement Clustering and Classification techniques.
CO-5	Apply various techniques such as decision tree, Ensemble techniques to Visualize the results.

Course Title	Core R-PROGRAMMING
Code	20CAP18
	On completion of the course, students would be able to
CO-1	Apply the functions for reading and writing data.
CO-2	Practice dplyr() package in R for Querying data.
CO-3	Execute lexical scoping and plotting functions in R.
CO-4	Comprehend debugging functions in R application.
CO-5	Implement the various plots in R datasets

Course Title	Discipline Specific Elective – II SOFTWARE SECURITY
Code	20CAP19A
	On completion of the course, students would be able to
CO-1	Acquire the knowledge to develop Secured Software
CO-2	Gain the Knowledge of Various Vulnerabilities
CO-3	Understand the Security Risk Analysis Approaches

Course Title	Discipline Specific Elective – II INTERNET OF THINGS
Code	20CAP19B
	On completion of the course, students would be able to
CO-1	Determine the Architecture of the IoT.
CO-2	Familiar with various IoT protocols.
CO-3	Apply data analytics and practice cloud offerings related to IoT.
CO-4	Recognize of the real time applications of IoT.
CO-5	Design an IoT system using Raspberry Pi and Arduino.

Course Title	Core LAB-VI (UI DESIGN & FRAMEWORK LAB)
Code	**20CAP20**
	On completion of the course, students would be able to
CO-1	Develop applications using prominent user interface tools.
CO-2	Create the design patterns for different application.
CO-3	Efficiently design an application with greater productivity.
CO-4	Produce prototypes for software applications using standard design tools.
CO-5	Get a positive experience in various application building platforms.

Course Title	Core LAB-VII (MACHINE LEARNING LAB)
Code	**20CAP21**
	On completion of the course, students would be able to
CO-1	Apply various machine learning algorithms used in data science process.
CO-2	Design Python programs for various Learning algorithms.
CO-3	Visualize and present the inference using various tools.
CO-4	Identify and apply Classification and Clustering algorithms to solve real world problems.
CO-5	Demonstrate the use of various Decision algorithms using different test case scenarios.

Course Title	Generic Elective Course –Cluster VI CLOUD COMPUTING
Code	**20CAP21**
	On completion of the course, students would be able to
CO-1	Understand the Cloud Computing Services.
CO-2	Recognize the Cloud computing Communication.
CO-3	Aware of Online sharing of Information.
CO-4	Explore the Online storing tools.
CO-5	Use cloud tools with Blogs and Wikis.

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Programme: PGDBM

Programme Outcomes	
	On completion of the programme, the student will be able to
PO-1	Become knowledgeable in the subject of Business Administration and apply the principles of the same to the needs of the Employer / own Business or Enterprise
PO-2	Gain analytical skills in the field of Business Administration
PO-3	Understand and appreciate professional ethics, community living and Nation-building initiatives
PO-4	Identify, formulate and analyze business management problems, reaching substantiated conclusions using principles of business management and social sciences
PO-5	Create, select and apply appropriate methods, techniques and resources for successful business operations
PO-6	Communicate effectively with the business community and society
PO-7	Understand the need for rational decision making
PO-8	Develop desire for professional development and life-long learning

Programme Specific Outcomes	
	On completion of the programme, the student will be able to
PSO-1	Apply the knowledge of social science theories and concepts in the domain of siness Administration
PSO-2	Solve the complex problems in the field of business with an understanding of the societal, legal and cultural impacts of the solutions
PSO-3	Become effective and efficient entrepreneurs and managers

PSO-4	Form part of a team as a member with right attitudes

Course Outcomes

Course Title	Core Elective MANAGEMENT PRINCIPLES AND PRACTICES
Code	**18DBM01**
	On completion of the course, students would be able to
CO-1	Have greater insight into fundamental management concepts
CO-2	Understand the importance of planning and decision making processes
CO-3	Assess different jobs and assign to people in organization
CO-4	Identify and articulate facets of people management
CO-5	Understand the fundamentals of control process and techniques

Course Title	Core Elective CONTEMPORARY MARKETING PRACTICES
Code	**18DBM02**
	On completion of the course, students would be able to
CO-1	Evaluate the impact of changing global, political, economic, competitive, environmental, cultural and social systems on marketing strategy development
CO-2	Examine the role of consumers as purchasers and users of goods and services using various theories and models of consumer behavior
CO-3	Develop plan to retain product in its life cycle in the market with its pricing strategies
CO-4	Execute appropriate channel management strategy for a execute appropriate channel management strategy for a product
CO-5	Become more comfortable with services marketing

Course	Core

Title	MANAGING HUMAN RESOURCES
Code	**18DBM03**
	On completion of the course, students would be able to
CO-1	Identify effective Human Resources practices
CO-2	Gain knowledge on various facets, the policies and practices of HRM
CO-3	Develop competency in HRD
CO-4	Demonstrate a good understanding of compensation policies
CO-5	Acquire the skills to build loyal and committed work force

Course Title	Core ENTREPRENEURSHIP DEVELOPMENT
Code	**18DBM04**
	On completion of the course, students would be able to
CO-1	Build knowledge on the basic concept of Entrepreneurship
CO-2	Be familiar with EDP and institutions supporting the entrepreneurs
CO-3	Enrich their understanding on various forms of business organizations and EDP
CO-4	Gain insight in developing an effective business model and have a fair understanding on Project Management
CO-5	Support in-depth learning in managing family business owned units and rehabilitation of sick units

Course Title	Core OPERATIONS MANAGEMENT
Code	**18DBM05**
	On completion of the course, students would be able to
CO-1	Get exposed to various production and operations management system
CO-2	Identify suitable product design, process selection in the manufacturing process
CO-3	Identify the material requirement and control material flow
CO-4	Get exposed to material handling techniques and maintain optimal stock level of material required for daily production process
CO-5	Get insight about various quality control process and real time application of various quality control process in the industry

Course Title	Core FINANCIAL ANALYSIS FOR MANAGERS
Code	**18DBM07**
	On completion of the course, students would be able to
CO-1	Gain knowledge on basic accounting principles and practices
CO-2	Assess the profit/loss account of the company and to frame financial strategies according to it
CO-3	Adoption of cost accounting for the proper implementation of manufacturing process
CO-4	Learn the adoption of appropriate method of Financial Statement Analysis
CO-5	Assess the Budget of the company and to frame financial strategies according to it

Course Title	Core STRATEGIC MANAGEMENT
Code	**18DBM08**
	On completion of the course, students would be able to
CO-1	Acquire knowledge on the basic concept of Strategic Management
CO-2	Be familiar with components of Business environment and can understand strategic analysis
CO-3	Enrich their understanding on Strategy formulation and Strategic Choices
CO-4	Gain insight of how to implement a strategy and do strategic evaluation and control
CO-5	Have in-depth knowledge on Global Strategic management practices and strategic issues in future

Course Title	Core SUPPLY CHAIN MANAGEMENT
Code	**18DBM09**
	On completion of the course, students would be able to
CO-1	Acquire skills required to manage supply chain activities
CO-2	Apply appropriate distribution design for a business

CO-3	Execute appropriate inventory management techniques for the business
CO-4	Implement required IT in Supply chain management operations
CO-5	Adopt business with the dynamics of supply chain management

Course Title	**Core** **GLOBAL BUSINESS MANAGEMENT**
Code	**18DBM10**
	On completion of the course, students would be able to
CO-1	Conduct an environmental scan to evaluate the impact of world issues on an organization's international business opportunities
CO-2	Have understanding the foreign economic, social, political, cultural and legal environment
CO-3	Enhance their knowledge of global issues
CO-4	Prepare documents and the application of export procedures to support the movement of products and services in the organization's global supply chain
CO-5	Understand the procedure of import documentation

Course Title	**Generic Elective Course** **MANAGEMENT INFORMATION SYSTEM**
Code	**18DBM11**
	On completion of the course, students would be able to
CO-1	Understand the basic concepts of information and decision making information systems
CO-2	Differentiate database systems from file systems by enumerating the features provided by database systems
CO-3	Gained the knowledge in the system analysis and its tools
CO-4	Acquired the knowledge about the TPS, AI, EIS and ERP
CO-5	Be imparted with the knowledge about information security and awareness about internet frauds