SACRED HEART COLLEGE (AUTONOMOUS)

Tirupattur – 635 601, Tamil Nadu, S.India

Ready for Every Good Work

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A Don Bosco Institution of Higher Education, Founded in 1951 * Affiliated to Thiruvalluvar University, Vellore * Autonomous since 1987

Accredited by NAAC (4th Cycle – under RAF) with CGPA of 3.31 / 4 at 'A+' Grade

Name of the Programme: BA Economics

S No	Title of the Paper	Course Code	Course Objectives	Course Outcomes	Relevance
1	ECONOMIC THOUGHT	E120	• To gain knowledge on the perception of economic thinking of mercantilism and physiocracy. • To understand the logical foundations of the Classical School in Economics. • To identify the different Neo-Classicals and their contributions in economics. • To understand the different types of demand for money in terms of Keynesian ideas. • To compare the recent Indian economic thought with classical economic thought.	• Understanding of the ancient and medieval economic thoughts. • Comparing the logical foundations of the Classical School in economics. • Developing the different Neo-Classicals and their contributions in economics • Applying the Keynesian ideas for various types of demand for money • Analysing and evaluating the modern economic ideas.	National and Global developmental needs
2	STATISTICS FOR ECONOMICS	E121	• To learn relevant statistical concepts related to Economics. • To gain knowledge about importance of variability. • To understand the theory and practice of bivariate analysis.	• Understanding the different fundamental statistical methods. • Comparing various measures of dispersion. • Applying bivariate methods to real world problems.	national and global developmental needs

			Course Outcomes	Programme Outcomes	
			• To know the concepts and techniques of regression analysis. • To measure the changes in group of related variables using index numbers.	• Analysing the regression in the business and corporate field. • Constructing indexes to measure price changes and quantity changes.	
3	MICRO ECONOMICS – I	E218	• To gain knowledge about the fundamentals of micro economics. • To learn the traditional method of demand analysis • To understand modern method of demand analysis • To learn the production function and its related laws. • To know the various concepts of costs and revenues.	• Understanding the fundamental division of micro economics. • Comparing traditional theories of consumer behaviour with demand analysis. • Analysing modern theories of consumer behavior with demand analysis. • Evaluating production functions and its application. • Appraising traditional and modern theories of costs and Revenues.	national and global developmental needs
4	MATHEMATICS FOR ECONOMICS	E219	• To give knowledge and understanding of mathematical concepts in terms of set theory. • To make the students to learn matrices and its different components. • To offer a platform for measuring skills in terms of lines and curves. • To provide mathematical techniques in derivation of various functions in economic concepts.	• Understanding set theory and its applications. • Applying matrix methods in different economic theories. • Expertizing the application of differentiation to diverse economic functions. • Constructing and measuring through graphical solutions. • Integrating economic theories with mathematical applications.	national and global developmental needs
5	PRINCIPLES OF ECONOMICS - I	AE106	• To introduce basic economics concepts. • To gain basic knowledge of the operation of the business economics • To understand the theory of consumer's behaviour in business. • To explore the theory of producer's behaviour in business strategies.	• Gaining knowledge of the basic economic principles. • Applying traditional utility analysis in business. • Analysing consumer behaviour in modern business situations. • Appraising producer behaviour in modern business.	national and global developmental needs

			Course Objectives	Course Outcomes	
			• To imparting knowledge about market structures.	• Evaluating the role of time and competitions in market.	
6	PRINCIPLES OF ECONOMICS - II	AE206	• To understand demand forecasting methods. • To study national income concepts. • To laying down the foundation of theory of public finance • To acquire knowledge on monetary policies and Indian economic system in India. • To explore about the Indian economic issues on sectors in Indian economy.	• Acquiring knowledge in demand forecasting for Business solutions. • Enabling to understand macro economic variables. • Exploring the financial system of Indian economy. • Enable the Students to get familiarity on the reforms in banking industry in India. • Evaluation of sectoral relationship of the various sectors in Indian Economy.	national and global developmental needs
7	MICRO ECONOMICS – II	E317	• To teach concepts of Perfect competition and its features. • To learn imperfect competition and its price and output determination. • To understand the theory of distribution and rent theory. • To know the concept of wage and its determination. • To understand the concept and theories of interest and profit.	• Knowing the market behavior under perfect competition. • Understanding the market behavior under imperfect market. • Familiarizing the knowledge of traditional and modern theories of Rent. • Becoming a capable in the estimation of wage determination. • Applying the theories of Interest and profit.	national and global developmental needs
8	MACRO ECONOMICS – I	E318	• To study the basic macroeconomic concepts and national income. • To understand the theories of employment. • To learn the concept of consumption function. • To know the theories of consumption function. • To study the theories of investment function.	• Understanding the basics of national income accounting • Familiarizing with the theories of employment.. • Enabling the concepts of consumption function. • Equipping them with theories of consumption function. • Applying the theories of investment function.	national and global developmental needs

			Course Objectives	Course Outcomes	
9	MACRO ECONOMICS – II	E419	• To study the working of IS-LM. • To learn the concepts and theories of inflation and deflation. • To understand the theories of trade cycle. • To study various economic growth models. • To know the monetary and fiscal policy	• Understanding the general equilibrium analysis. • Examining the theories of inflation and deflation • Assessing the theories of trade cycle. • Familiarizing with growth theories. • Gaining an overview of monetary and fiscal policies	national and global developmental needs
10	INDUSTRIAL ECONOMICS	E420	• To understand the basic concepts in Industrial Economics. • To learn the theories in Industrial location, mergers, and SEZs. • To know the classification of Indian industries and its productivity. • To analyze the sources of industrial financial institutions. • To evaluate the performance of industrial development.	• Working with Industrial linkages. • Familiarizing the theories of Industrial location, mergers, and SEZs. • Differentiating the Indian industries and its productivity. • Exploring the sources of industrial financial institutions. • Appraising the industrial dynamics, and its regulations.	local, regional,national developmental needs
11	MANAGERIAL ECONOMICS	AE305	• To learn the basic tools in managerial economics. • To understand the importance of cost and revenue analysis. • To disseminate the different pricing strategies. • To study the importance of factors of production. • To know the different methods of capital budgeting.	• Identifying the basic tools of managerial economics. • Computing different kinds of cost and revenue. • Analysing the different methods of pricing. • Evaluating the production function. • Formulating different methods of capital budgeting.	regional, national and global developmental needs
12	INTERNATIONAL ECONOMICS	AE405	• To study the concepts and theories of international trade. • To learn the terms of trade, dumping, and Cartel. • To understand foreign exchange control and balance of payment.	• Disseminating the concepts and theories of international trade. • Describing terms of trade, tariffs, dumping, and Cartel. • Illustrating foreign exchange control and balance of payments	national and global developmental needs

			Course Objectives	Course Outcomes	
			• To study Foreign Exchange Market and Foreign Direct Investment. • To know different international financial institutions.	• Examining foreign exchange market, foreign direct investment, and foreign capital • Evaluating International financial institutions	
13	INTERNATIONAL ECONOMICS	E543	• To understand the theories of international trade. • To know terms of trade and tariffs among trading countries. • To learn foreign exchange control and balance of payments. • To study foreign exchange market and foreign capital. • To know international financial institutions to promote international trade.	• Familiarizing the theories of international trade. • Describing the terms of trade and tariffs. • Illustrating the foreign exchange control and the balance of payments • Analysing the foreign exchange market and foreign capital • Appraising the international financial institutions.	national and global developmental needs
14	FISCAL ECONOMICS – I	E544	• To know the fiscal activities of the State. • To study the public expenditure pattern. • To learn the source of public revenue and tax system. • To understand the process of Goods and Services Tax (GST). • To enable the measurement of taxable capacity.	• Familiarizing on fiscal finance. • Expertzing on pattern of public expenditure. • Inculcating the habit of becoming an honest tax payer. • Appraising Goods and Services Tax in India. • Evaluating the taxable capacity.	local, regional ,national developmental needs
15	INDIAN ECONOMY	E545	• To understand the Indian economic activities. • To learn the planning for economic growth and development. • To study the working of agricultural sector. • To know the functions of industrial and services sectors. • To understand the emerging issues of	• Familiarizing the structure and characteristics of Indian Economy. • Applying economic planning for growth and development. • Analyzing the working of Agricultural sector. • Evaluating the operations of industrial and services sectors. • Justifying the emerging issues in India.	local, regional ,national developmental needs

			Indian economy.		
16	MONETARY ECONOMICS – I	E546	• To understand the functions of money. • To know the monetary standards. • To learn the Indian Banking System. • To study the operation of the Central Bank. • To learn the operations of the commercial banks.	• Describing the importance of money • Inferring the Indian monetary standards. • Practicing the regulations of Indian Banking System. • Experimenting the operation of Central Banking system. • Evaluating the operations of commercial banks.	local, regional ,national developmental needs
17	ELECTIVE:1 MANAGERIAL ECONOMICS	E547A	• To study the basics of managerial economics. • To understand the concepts of cost and revenue. • To study different pricing strategies. • To learn the demand forecasting. • To know the investment proposals.	• Identifying the different aspects of managerial economics. • Relating the cost and revenue analysis. • Applying the different pricing strategies in business. • Predicting different methods to demand forecasting. • Estimating capital budgeting in business.	local, regional ,national developmental needs
18	ELECTIVE:2 BASIC ECONOMETRICS	E547B	• To study basic econometrics. • To understand the application of regression analysis. • To know the problems in regression analysis. • To learn simultaneous equation methods. • To analyze various econometric methods with economic theories.	• Gaining knowledge about the basic econometrics. • Enabling with regression analysis. Rectifying the different problems in regression analysis. • Applying the simultaneous equation methods. • Appraising economic theories with econometric models.	national and global developmental needs
19	ELECTIVE:3 HUMAN RESOURCE MANAGEMENT	E547C	• To understand the basic concepts of Human Resource Management. • To know Human resource planning. • To study the process of recruitment, selection and placement.	• Familiarizing the functions of Human Resource Management. • Applying human resource planning and job design. • Analyzing the process of recruitment, selection and placement.	local, regional, national and global developmental needs

			Course Objective	Course Outcome	
			• To learn the training, induction and socialization in human resource management. • To study the methods of virtual organization.	• Evaluating HR training, induction and socialization. • Incorporating the knowledge of virtual organization.	
20	NON-MAJOR ELECTIVE – I: BASIC ECONOMICS	NEC504	• To study the basic concepts of economics. • To understand the macro economic variables. • To know the managerial terms of economics. • To learn the basics of money and banking. • To understand the fiscal system of Indian economy.	• Recognizing the business operations with basic economic variables. • Elucidating the macroeconomic variables. • Familiarizing with managerial concepts. Exploring the concepts of demand and supply of money. • Evaluating the government financial activities.	national and global developmental needs
21	ENVIRONMENTAL ECONOMICS	E643	• To understand the environmental concepts. • To explore the fundamental theories of environmental economics. • To learn various economic valuation technique • To study the implication of Economic growth on environmental resources • To understand the recent environmental policies in India.	• Familiarizing the environmental concepts in day-to-day life. • Describing the market failure with environmental resources. • Illustrating different methods in economic valuation techniques. • Analysing economic growth with environmental resources • Supporting environmental policies for better quality of life.	local, regional, national and global developmental needs
22	MONETARY ECONOMICS – II	E644	• To understand the Indian currency system. • To study the theories of demand and supply of money. • To learn the different quantity theories of money. • To know the operation of different money markets. • To know the working of the International Financial Institutions.	• Knowing the evolution of the Indian currency system. • Familiarizing the theories of supply and demand for money. • Analysing different quantity theories of money. • Appraising the operation of different money markets. • Evaluating international monetary institutions and its operations.	local, regional, national developmental needs

23	FISCAL ECONOMICS – II	E645	- To study the Public debt management in India. - To know the resource sharing between the Governments. - To understand the role of deficit financing. - To learn the public budgetary procedure. - To study the fiscal policy in India.	- Familiarizing the process of Public debt management in India. - Knowing the functions of federal and local finance. - Creating awareness to reduce deficit Finance in India. - Analysing the Public Budget for economic and social development. - Assessing the fiscal policy of India.	local, regional ,national developmental needs
24	SUBJECT SKILL: FINANCIAL ECONOMICS	E646	- To know the process of financial economics. - To study the sources of short term finance - To understand the sources of long term finance - To learn the operations of capital market. - To study the different methods of capital budgeting.	- Familiarizing the structure of financial economics - Explaining the sources of short-term finance - Analysing the sources of long-term finance. - Assessing the operations of financial market. - Appraising the methods of capital budgeting.	regional, national developmental needs
25	SUBJECT SKILL: BASIC COMPUTER AND ITS APPLICATION	E647	- To understand basic concepts of research process and its - Methodologies and to select appropriate research problem and parameters. - To select suitable research and sampling design. - To organize and conduct research in a more appropriate manner. - To enhance the application knowledge to test the hypothesis. - To improve the skill of write a research report and thesis	- Demonstrate knowledge of research processes (reading, evaluating, and developing) - Define and develop a possible research design in a interest area using specific research designs - Compare and contrast quantitative and qualitative research paradigms in describing sampling methods, measurement scales and instruments, and appropriate uses of each scales. - Describe, compare, and contrast descriptive and inferential statistics and provide application knowledge - Expertise in drafting the research report and thesis.	national and global developmental needs

26	NON-MAJOR ELECTIVE – II: INDIAN ECONOMY: BASIC ISSUES	NEC604	• To study basic ideas of economic systems. • To understand the issues of Indian agriculture. • To know the major issues faced by the Indian industries. • To learn the roles and responsibilities of the service sector. • To know the major issues affecting the Indian economy.	• Familiarizing the different economic systems. • Describing emerging issues in agriculture • Analyzing the recent issues in Industrial sector • Evaluating the contribution of service sector • Assessing the emerging issues in Indian economy.	local, regional ,national developmental needs

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Name of the Programme: MA Economics

S No	Title of the Paper	Course Code	Course Objectives	Course Outcomes	Relevance
1	ADVANCED MICRO ECONOMIC THEORY – I	E748	• To learn understand micro economic theories and models. • To study traditional demand theories and its functions. • To understand modern demand theories and its functions. • To demonstrate costs and production functions. • To evaluate and use the various game theory model.	• Understanding economics models and methodologies. • Applying traditional demand theories in business. • Analysing modern demand theories in business. • Evaluating cost and Production functions. • Constructing game theory models in business.	national and global developmental needs
2	ADVANCED MACRO ECONOMIC THEORY – I	E749	• To learn understand the importance of macro economics. • To study the National Income and circular flow of Income. • To understand classical and Keynesian theory of employment and output. • To demonstrate Consumption and Investment functions.	• Understanding the importance and principles of macroeconomics. • Comparing national income measurement and circular flow of income. • Analysing the classical and Keynesian theory of employment and output. • Assessing the consumption and investment patterns.	national and global developmental needs

			• To evaluate ISLM functions.	• Evaluating the effectiveness of ISLM functions.	
3	STATISTICS FOR ECONOMICS	E750	• To learn about probability, distributions and random variables. • To study various parameters of sampling and population. • To understand various methods of estimation. • To demonstrate the various sampling techniques and time series analysis. • To evaluate the validity and reliability of the co-variation.	• Comparing theories of probability and distribution • Understanding the sampling methods with statistical inference. • Analysing the least square methods and confidence interval estimates. • Applying different sampling techniques in Social Science Research. • Evaluate and develop the regression model in economic application.	national and global developmental needs
4	ECONOMICS OF GROWTH AND DEVELOPMENT	E751	• To learn understand the concepts of economic growth and development. • To study the theories of economic growth and development. • To understand different growth models. • To demonstrate different measurement of economic development • To evaluate various policies for economic development.	• Classifying various concepts of economic growth and development. • Comparing the theories of economic growth and development. • Categorizing various models of growth and development. • Analysing the measurement of economic development. • Evaluating various policies for economic development.	national developmental needs
5	ELECTIVE -I DEMOGRAPHY	E752A	• To learn the population growth and economic developed in developing countries. • To study the concepts of demography and the vital statistical indicators. . • To understand the population census to frame the suitable Government	• Classifying population and economic growth in developing and developed countries. • Comparing demography and vital statistics. • Applying diverse techniques in measurement of population studies.	local, regional, national and global developmental needs

			policies. • To demonstrate the techniques of population projection., • To evaluate the new population policy and its implementations for development strategy.	• Analyzing the measurement of population projection and aging population. • Evaluating different new population policies for growth and development.	
6	ELECTIVE I: HISTORY OF ECONOMIC THOUGHT	E752B	• To learn understand the context of socialistic ideas. • To study the ideas of different marginalist schools. • To understand the economic ideas of Neo-Classical school. • To demonstrate the different economic ideas of pre-independence of India. • To evaluate major economists in the post-independence of India to build modern economic ideas.	• Practicing socialistic ideas of St. Simon, Sismondi, Robert Owen and Karl Marx in economic world today. • Comparing and contrasting different contributions of marginalists school. • Analyzing the current macroeconomic debate between Neo-classical and the Keynesian school. • Interpreting and analyzing the early and modern economic ideas of Kautilya, Thiruvalluvar, Naoraji, Ranade and Gandhi. • Critically analyzing the applicability of early approaches to planning in relation to the economic world today.	national and global developmental needs
7	ELECTIVE I: ECONOMICS OF INFRASTRUCTURE	E752C	• To learn understand the basic concepts of public utility services. • To study social physical infrastructural theories. • To understand the health care services and new education. • To demonstrate the basic amenities and pricing policy in rural and urban areas.	• Relating the basic public utility services. • Applying the different public utility services and its development. • Analysing the demand and supply of health care and educational services. • Examining the basic utility services and pricing. • Constructing the social infrastructural services.	local, regional, national and global developmental needs

			• To evaluate different forms of social infrastructural services.		
8	SKILL PAPER: BUSINESS COMMUNICATION SKILLS	E753S	• To learn the importance of the communication process. • To study the different business communication skills. • To understand the oral and presentation skills. • To demonstrate the personal and business letters. • To evaluate the internal and external communications.	• Identifying the importance of the communication process. • Distinguishing the different business communication skills. • Applying the oral and presentation skills. • Assessing the personal, business letters. • Practicing the internal and external communications.	national and global developmental needs
9	ADVANCED MICRO ECONOMIC THEORY-II	E855	• To learn relevant perfect market structure. • To study the nature of imperfect market structure. • To understand factor pricing under perfect market structure. • To demonstrate factor pricing under imperfect market structure. • To evaluate knowledge on general equilibrium and welfare economics.	• Understanding the relevance of perfect market structure. • Comparing the nature of imperfect market structure. • Analysing the factor pricing in perfect competitive market. • Examining the trade union and rent theories • Evaluating the general equilibrium theory and welfare economics.	national and global developmental needs
10	ADVANCED MACRO ECONOMIC THEORY – II	E856	• To learn economic fluctuations and its related theories. • To study about policy measures to control trade cycle. • To understand macroeconomic policies in present scenario. • To demonstrate in decision making to achieve desired economic goals.	• Understanding about economic fluctuations. • Applying policy measures to control trade cycle. • Expertzing in principles of macroeconomics. • Evaluating modern macroeconomic theories and policies.	national and global developmental needs

			• To evaluate understand macroeconomic policies.	• Creating macroeconomic variables at national and global level.	
11	MATHEMATICS FOR ECONOMISTS	E857	• To learn matrices and its different components. • To study differentiation with various economic theories. • To understand the strategies of game theory. • To demonstrate about input-output analysis. • To evaluate about the integration calculus.	• Illustrating of matrices in various economic methods. • Expertising of differentiation on diverse economic theories. • Constructing of game theory models with business strategy. • Evaluating the input-output models. • Composing of integral calculus in economic theories.	national and global developmental needs
12	MANAGERIAL ECONOMICS	E858	• To learn enhance managerial principles with business activities. • To study the theoretical knowledge towards firm. • To understand the pricing practices in managerial aspect. • To demonstrate about the project analysis. • To evaluate the techniques of investment appraisal.	• Understanding the different managerial principles in business. • Practicing behavioral theories in decision-making. • Implying pricing practices. • Analysing the risk and uncertainty situation. • Assessing sales promotion strategies and investment appraisal.	national and global developmental needs
13	ELECTIVE II: INDUSTRIAL ECONOMICS	E859A	• To learn the fundamentals of Industrial Economics. • To study different theories in Industrial location. • To understand Indian industrial growth and pattern. • To demonstrate industrial labour legislation and labour market.	• Understanding the fundamental ideas in Industrial Economics. • Applying different theories of Industrial location. • Comparing the Indian industrial growth and pattern. • Appraising of industrial labour legislation and labour market.	local, regional, national and global developmental needs

			• To evaluate industrial concentration and its diversification.	• Assessing the industrial concentration and analyze the diversification.	
14	ELECTIVE II: ECONOMICS OF URBANISATION	E859B	• To learn the structure of urban economics. • To study the theories of urban economics. • To understand the trends in urban housing and labour market. • To demonstrate about the problems of urbanisation. • To evaluate the modern approach of growth strategies.	• Understanding the nature and structure of urban economics. • Examining the theoretical knowledge of urban economics. • Applying suitable policies in upgrading the structure of urbanization. • Assessing appropriate policies in urbanization problems. • Evaluating the government policies on various aspects of urban development.	local, regional, national developmental needs
15	ELECTIVE II: ECONOMICS OF GENDER AND DEVELOPMENT	E859C	• To learn feminist economics and challenges. • To study the importance of women and labour market. • To understand the role of technology for women empowerment. • To demonstrate social security and gender policies. • To evaluate gender and the relevance of different policy.	• Understanding the concepts of gender economics and its challenges. • Identifying the nature of labour market for women • Applying gender relations for developmental process. • Apprising social security and protection measures for women. • Creating ideas about the different gender policies.	local, regional, national and global developmental needs
16	INTERNATIONAL TRADE	E940	• To understand the traditional and modern theories of international trade. • To get thorough knowledge on various instruments of trade policies. • To know more about the operation of different trading agreements among the member countries.	• Able to learn the traditional and modern theories of international trade • Getting enough knowledge about different instruments used in international trade. • Becoming more familiar with operation of various trading agreements that took place across the world over the years.	national and global developmental needs

			• To understand the overview of Indian EXIM and Foreign Trade Policies over the years. • To appraise on existing policy framework and promotional measures related to exports and exporters.	• Examining the features of EXIM and Foreign Trade Policies over the time period. • Analyzing the existing policy framework and better understanding of various export promotion measures.	
17	PUBLIC ECONOMICS	E941	• To understand the concepts of public finance and provisions of social goods. • To enable them to understand different tax theories. • To study the effects of public expenditure and public debt. • To study about the preparation of the budget statement. • To understand the functions of finance commission in India.	• Using the basic tools, concepts and models to solve problems in key areas of public Economics • Analysing the different theories of taxation and challenges facing by the governments. • Knowing the causes and growth of public expenditure and debt in India • Providing guidelines to prepare the budget for state and local governments. • Estimating the different tax was distributed to the state and the local government	Regional and national developmental needs
18	MONETARY ECONOMICS	E942	• To enable the students of economics to understand theories and practices monetary economics. • To analyse the interconnection between the classical and neo classical theories on money. • To shaping and influencing the monetary related policies. • To focus on the Money and Assets relationships in economic activities • To know the due relevancies of risk –	• Developing monetary theory, to the effects of monetary variables on the macroeconomic system. • Understanding the theories of both classic and neo-classic theoretical conditions. • Learning the monetary policies undertake by the central government and the recent financial reforms. • Making the students to realize the importance of time factor in every human activity	national and global developmental needs

			return theory in every business activity of Industrialists and life of human beings	Inducing the students to analyze the banking and the financial operations and activities in all fields' developments.	
19	RESEARCH METHODOLOGY	E943	• To understand basic concepts of research Methodology. • To select suitable research and sampling design. • To organize and conduct research in a more appropriate manner. • To enhance the application knowledge to test the hypothesis. • To improve the skill of writing research report and thesis.	• Demonstrating the knowledge of research processes. • Developing research design in using specific research. • Compare quantitative and qualitative research paradigms in describing sampling methods, measurement scales and instruments, and appropriate uses of each scales. • Describe, descriptive inferential statistics and provide application knowledge • Expertise in drafting the research report and thesis. For the specific career aspiration in higher education.	national and global developmental needs
20	ECONOMETRICS METHODS	E944A	• To understand the nature and scope of econometrics and the underlying problems related to econometric analysis. • To learn the application of regression analysis and usage of dummy variables. • To analyze the application of economic variables in different econometric models. • To apply different econometric models in the application of time series data.	• Able to understand the basic of econometrics and problems associated while analyzing the data. • Analyzing the data using simple and multiple regression and inclusion of dummy variables. • Applying various econometric models into economic theory and practice. • Get thorough knowledge in analyzing time series, panel, and cross section data. • Having better understanding of different econometric methods in the application	national and global developmental needs

			• To acquire knowledge on application of volatility and stochastic models.	of volatility and error correction models.	
21	HEALTH ECONOMICS (ELECTIVE OPTIONAL)	E944B	• To apply economic concepts and to analyze issues in health and health care systems. • To accumulate choices of the production efficiency in health care. • To identify the supply and cost benefits in health care services. • To understand the principles and techniques of economic evaluation of health interventions. • To analyze health policy issues within the Indian context.	• Understanding the economic approach and analyzing social issues. • Identifying the inputs and output sources of production in health care. Learning the needs for health care services. • Evaluating the economic benefits in health care. • Analyzing the efficiency and quality of health care organizations. • Describing the rationale for performing economic evaluation and the economic principles in health care.	local, regional, national and global developmental needs
22	PERSONNEL MANAGEMENT (ELECTIVE OPTIONAL)	E944C	• To develop an understanding of the personal management. • To understand the various aspects of human resource management. • To know about the various recruitment and selection process in the industries. • To know more about the selection, induction and socialization process in HRM. • To understand the virtual organization in personnel management.	• Applying personnel management concepts in to industries. • Investigating different personnel management problems. • Executing the human resource planning for the betterment of the organization. • Applying the knowledge on recruitment, selection, placement, motivation, training and induction in HRM process. • Working efficiently and innovatively in virtual platform for the development of the organization.	national and global developmental needs
23	DATA ANALYSIS AND	E945S	• To provide knowledge on Econometric tools and their	• Expertising in doing econometric analysis and tools for conducting	national and global developmental needs

	INTERPRETATION		applications. • To learn basic programming languages that is useful for econometric analysis. • To learn the use of Models and interpret data in the presence of research problems. • To provide knowledge of how to graph and display the results of programming. • To enable the students to access SPSS software in applying economic research.	research studies. • Understanding of Interpret the estimates of econometric models. • Evaluating results to graph and display the results of programming. • Enabling the students to learn the technique of estimating Econometric Models • Training to apply basic econometric techniques like correlation and regression.	
24	INDIAN ECONOMY: ISSUES AND POLICY	E1039	• To study the basic characteristics of economic development and economic growth. • To realize the causes and measures of poverty inequalities and unemployment. • To study the agriculture and industrial development trends in India. • To examine the necessity of financial systems in India • To evaluate the trade policies of India	• Learning recent economic affairs and development schemes in India. • Understanding various economic issues at local, national and global level. • Discussing the development of agriculture and industry. • Evaluating the position of financial sectors of Indian economy • Elucidating the trade and development of our state.	local, regional, national developmental needs
25	ENVIRONMENTA L ECONOMICS	E1040	• To provide a comprehensive introduction to the economic analysis of issues arising from the interactions between the natural environment and the human economy. • It focuses on the ecosystem-services and the challenges arising due to	• Equipped the ability to explain core economic terms, concepts, and theories. • Addressing the environmental issues in relation to the theory of externalities, public goods, and welfare. • Demonstrating the economic principles	local, regional, national and global developmental needs

			pollution. • To highlight the nature of market failure in resources allocation along with issues of social welfare. • To introduce various methods and techniques of valuation of non-tradable environmental goods and services on the one hand and economics of pollution control on other side. • To introduces developmental issues relating to trans-boundary and global pollution (climate change) and policies for their mitigation and control.	concerning the choice of instruments for controlling pollution by using theories. • Using or Appling different methods for valuing environmental goods and services. • Taking up contemporary environmental discourse from an economists' point of view.	
26	INDIAN PUBLIC FINANCE (ELECTIVE OPTIONAL)	E1041A	• To motivate the students about functioning of finance commission in India • To understand the relationship between central, state and local finance. • To know about Indian tax system • To create knowledge about public expenditure and public debt in India. • To Study deficit finance and it impact in India	• Knowing the constitutions regarding financial powers between central and state governments. • Understanding the students about the tax system in India Calculating GST in different product Estimating the growth of public expenditure and debt in India • Enabling the students to understand the sources of central, state and local finance.	local, regional, national developmental needs
27	FINANCIAL INSTITUTIONS AND MARKETS (ELECTIVE OPTIONAL)	E1041C	• To familiarize the students with the structure and composition of the financial system. • To explain the concepts of Interest rates in the monetary system	• Acquiring knowledge of financial institutions. • Analysing the structure of interest rates in the monetary system. • Acquiring the policies implementing on	national and global developmental needs

					local, regional, national and global developmental needs
			• To understand the quantitative and qualitative tools of monetary policy. • To identify the non-banking financial intermediaries' activities. • To facilitate an understanding of the functioning of the money and capital markets in an economy.	central commercial banks. • Learning the nature of financial instruments on banking and non-banking financial intermediaries. • Understanding the conceptual framework of financial market and institutions of India.	
28	LABOUR ECONOMICS AND INDUSTRIAL RELATIONS	E1042A		• To learn the theoretical and empirical aspects of labour markets. • To understand the labour law and its practices. • To study the role of labour and their relations in industries. • To provide the students a foundation of knowledge of organizations. • To make students aware of various aspects of social security.	• Enabling the students to labour relations in urban and rural settings under capitalism. • Developing the ability to analyze labour policy related issues in labour economics. • Understanding the acquisition of education as an investment for the labour supply. • Familiaring the students with important labour legislations in India. • Expertising to the empirical analysis of contemporary issues in labour economics.	

29	SECURITY ANALYSIS AND PORTFOLIO MANAGEMENT	E1042B	• To familiarize with the importance of financial market. • To study portfolio management with low level of risk. • To disseminate with risk and return. • To know about the diversification of business. • To illuminate the management analysis, financial analysis and operating analysis.	• Observe and annotate money, bond markets counter trading and clearing • Listen and explain the portfolio construction, diversification and capital market theory • Generalize and elicit risk and return investment avenues, portfolio management • Articulate and categorize risk premium, market portfolio, and expected return • Justify environment analysis, company analysis, and management analysis	national and global developmental needs

SACRED HEART COLLEGE (AUTONOMOUS)

Tirupattur – 635 601, Tamil Nadu, S.India

Ready for Every Good Work

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Accredited by NAAC (4th Cycle – under RAF) with CGPA of 3.31 / 4 at 'A+' Grade

Name of the Programme: B Com

S No	Title of the Paper	Course Code	Course Objectives	Course Outcomes	Relevance
1	PRINCIPLES OF ACCOUNTANCY	C116	• To understand the conventions, rules and procedures of accepted Accounting Practices. • To impart skills for recording various kinds of business transactions in the books of accounts. • To equip the students to ascertain the business results. • To learn the techniques of accounting relating to Bills of Exchange • To learn the calculation procedures involved in Account Current and Average Due Date.	After studying this course, students would be able to • Apply the basic principles of financial accounting and write up the accounts of a sole trading concern. • Rectify the book-keeping errors and to resolve the differences between pass book and cash book balances. • Ascertain the Profit or Loss of the Business and the Financial Position of the Business. • Understand the meaning of Bills of Exchange and the treatments relating to Bills of Exchange Transactions. • Understand the calculation procedures relating to Accounting Current and Average Due Date.	National
2	ENVIRONMENTAL ASPECTS OF BUSINESS	C117	• To make the students to acquire basic knowledge about the business environment • To impart knowledge on the various environmental aspects in the midst of	• Students will acquire the basic knowledge of business environment • The students will know the various internal and external factors influencing a business concern.	National

			Course Objective	Course Outcome	
			which a business has to be organized. • To enable the students to understand the difference between Money market and Capital Market • To expose students to Money Market, Capital Market, Stock Exchange and SEBI • To create awareness on various ethical issues in business and consumer rights.	• The students will know the importance of different financial markets and understand their functioning. • Students will know various aspects of stock market and motivates them to acquire knowledge on stock market investment • The students will be able to evaluate the ethical considerations in operation of business enterprises. They will also know the rights and duties of consumers	
3	FINANCIAL ACCOUNTING I	C216	• To prepare the students to determine the amount of depreciation under various methods and its Accounting Procedures. • To enable the students to ascertain the profit or loss under single entry system and also to convert from single entry to double entry system of accounting. • To make the students to understand the techniques of preparing the Receipts & Payments Account and Income and Expenditure Account. • To make the students to learn the functional aspects Departmental Accounts. • To equip the students to determine the business results of the Branch under different methods.	After studying this course, students would be able to • Know the various methods of calculating and recording depreciation in the books of accounts. • Determine the profit o loss under single entry system and also to convert the books written on single entry basis (incomplete records) into proper double entry system. • Prepare the final accounts of non-trading concern to determine the surplus or deficit. • Deal with departmental accounts and the accounting treatment on inter-departmental transfers. • Understand the concept of Branches and their accounting of dependent and independent branches.	National
4	BANKING AND INSURANCE	C217	• To get acquainted the concept of banking along with its origin, types, role • To acquire about the information on different types functions of central bank in India and commercial bank.	• Apply their knowledge on the concept of banking along with its origin, types and role. • Understand and construct about the information on functions of RBI and functions of commercial bank.	National

			To learn about negotiable instruments such as Primary note, bill of exchange and cheque its types, parties participate in negotiable instruments. • To improve their knowledge on recent trend in banking like E banking, debit card, credit card and ATM. • To get basic knowledge about concepts of insurance its types, principles, banc assurance, IRDA.	• Understand and analyze the types of negotiable instruments like cheques its types. • Evaluate the recent trend in banking like E-banking and its types. • Understand about the basic concepts of insurance and IRDA.	
5	FINANCIAL ACCOUNTING II	C325	• To provide knowledge on the general insurance policies available for risk mitigation in businesses and preparation of a statement of claim. • To acquaint the students with the concepts of Hire Purchase and Installment Purchase System. • To impart knowledge on the accounting procedures involved in admission of a partner in a partnership firm. • To develop expertise knowledge on the accounting procedures involved in retirement and death of a partner in a partnership firm. • To inculcate knowledge on the concept of dissolution of a firm and the accounting procedure involved in closing the books of a partnership firm.	After studying this course, students would be able to • Appreciate the importance of a fire insurance policy for a business and prepare a statement of claim in the event of a fire accident. • Prepare the books of accounts involved in the hire purchase and installment purchase system. • Carry out the adjustments of the books of accounts of a partnership firm in the event of admitting a new partner. • Carry out the adjustments of the books of accounts of a partnership firm in the event of retirement or death of a partner. • Understand the concept of dissolution of a partnership firm and close the books of accounts at the time of dissolution of a firm.	National
6	MERCANTILE LAW	C327	• To provide the students an understanding on the fundamental tenets of The Indian Contract Act 1872. • To provide knowledge on the	• After studying this course, students would be able to Exhibit a basic knowledge of the Indian Contract Act, consideration and capacity to contract.	National

				essential elements of a valid contract, its performance and discharge. • To inculcate awareness on the special contracts namely indemnity, bailment and pledge • To provide them knowledge on the legal procedures involved in formation of a company. • To help them understand how companies are managed and the roles of a company secretary and directors.	• Evaluate the validity of a contract, its performance and discharge • Understand the elements of special contract and to recall the rights and duties of the parties to such contracts. • Understand the legal procedure involved in the creation of a joint stock company. • Recall the Provisions of the Indian Companies Act 2013, on the role of the directors and secretary of companies.	
7	CORPORATE ACCOUNTING	C424		• To provide knowledge on accounting for various types of shares and debentures issued by joint stock companies. • To acquaint the students on the concept of redemption of preference shares and debentures. • To develop an expertise knowledge on the preparation of final accounts of companies, as per the Indian Companies Act, 2013. • To prepare the students to understand the accounting treatment for different forms of mergers. • To inculcate understanding on the concept of internal reconstruction and the legal procedures on the reduction of capital.	After studying this course, students would be able to • Enhance their knowledge on the various types of shares and debentures along with their methods of issue and forfeiture • Understand the procedure involved in redeeming the preference shares and debentures issued by a company. • Prepare the final accounts of companies, as per the format prescribed by the Indian Companies Act, 2013 • Understand how amalgamation, absorption and external reconstruction of companies are carried out with their respective accounting treatment • Know how and when capital reduction is carried out in companies with a view to restructure the sick companies.	National
8	COST ACCOUNTING	C425		• To provide an understanding of the concepts involved in cost accounting, and to enable students to prepare a cost sheet and tender. • To equip the students with knowledge on calculating and using different	After studying this course, students would be able to • Understand the basic concepts in Cost accounting and prepare a Cost Sheet with various cost break-ups Calculate different levels of stock to	National

			stock levels to maintain inventory. • To provide knowledge on the various methods of maintaining the stores ledger • To provide knowledge on different methods of remunerating labour • To provide an in-depth knowledge in overhead distribution among different departments.	effectively manage inventory in a factory • Know how the closing stock is valued under different methods of valuation and maintain stores ledger in proper format. • Calculate remuneration according to different methods of remunerating labourers. • Measure the cost of overheads by primary and secondary distribution among different departments of an organisation.	
9	BUSINESS MANAGEMENT	C426	• To introduce to the students the basic management concepts, principles and practices. • To provide knowledge on importance of planning and decision making in business organization. • To provide insight on principles of organization and its importance. • To orient them on various leadership styles and the theories of motivation • To make them aware of the importance and different techniques of control	After studying this course, students will be able to • Remember the basic management concepts, principles and practices • Understand the importance of planning and decision making in a business. • Analyze the principles of organizing various activities of an organization. • Appreciate the role of leadership and motivation in an organization Create new techniques in controlling various business activities.	National
10	ADVANCED COST ACCOUNTING	C541	• The students will be able to Familiar with the concept of Job, Batch and Contract Costing. • Learn about operating costing; identify the reason for the differences in cost and financial statements and how to reconcile the same. • Develop skills in determine cost in the context of Process, Joint Product and By-Product Costing.	After studying this course, students would be able to • Apply the knowledge in determine the cost of Job, Batch and Contract business. • Understand the concept to determine the service cost and to reconcile the cost and financial accounting statements. • Analyze and integrate the concepts in process, joint product and by-product	National

			The students will be able	After studying this course, students would	
			• Develop the skills in Marginal Costing Techniques. Gain insights into Standard Costing Techniques.	costing. • Apply various marginal costing techniques for taking effective decision-making in business. • Setup standards and analyze the variances with regard to materials, labour and overheads.	
11	INCOME TAX LAW AND PRACTICE I	C542	The students will be able • To enable the students to identify the basic concepts, definitions and terms related to Income Tax. • To impart knowledge on the conditions for determining the residential status and examine the scope of income of a person based on his residential status • To make the Students to understand various authorities under income tax and their powers/Duties • To enable the students to learn the provisions related to computation of taxable salary of an individual • To acquaint the students on the provisions related to computation of income from house property of an individual	After studying this course, students would be able to • Identify the technical terms related to Income Tax. • Apply relevant provisions to determine the residential status and total income of the person • Develop the interest in becoming tax authority by studying the duties and powers of various income tax authority • Students will apply the provisions related to computation of salaries and compute taxable income from salaries • Students will apply the provisions related to computation of Income from House Property and compute the taxable income from House property of an individual	National
12	FINANCIAL MANAGEMENT	C543	The students will be able to • Get acquainted with the concept of risk-return, time value of money. • Acquire about capital structure decisions, point of financial indifference, operating leverage, financial leverage and combined leverages. • Develop skills in determining the cost of various sources of capital like	After studying this course, students would be able to • Apply their knowledge on the concept of risk-return, time value of money. • Understand the concepts of capital structure decisions, point of financial indifference, operating leverage, financial leverage and combined leverages. • Analyse and integrate their skills in	National

			equity, debt, preference shares, and retained earnings. • Improve their knowledge on dividend policy and dividend decisions. • Gain insights into working capital management and operating cycle.	determining the cost of various sources of capital like equity, debt, preference shares, and retained earnings. • Apply their awareness on dividend policy and dividend decisions. • Expose their insights into working capital management and operating cycle.	
13	ADVANCED CORPORATE ACCOUNTING	C544A	The students will be able to • Learn the valuation of Goodwill and shares and its methods • Acquire knowledge on liquidation of companies • Understand on Holding companies and forms of consolidation • Describe on Rebate on bills discounted, NPA and schedules for preparing Bank accounts • Gain knowledge on system of accounting in life insurance and general insurance	After completion of the course, the students would be able to • Compute the value of goodwill and shares • Evaluate the statement of affairs and deficiency, prepare liquidators final statement of Account • Calculate the adjustments on consolidation of accounts and preparing consolidated balance sheet • Evaluate provisions on rebate and NPA and prepare Bank P&L A/c and Balance sheet • Ascertain net liability and prepare Revenue A/c and Balance sheet with relevant schedule	National
14	INDIRECT TAXATION	C544B	• This course aims to, Give a clear understanding of the concept of indirect taxes, its levy and its differences from the direct taxes. • Provide knowledge on the concept and structure of GST and its implementation in India. • To provide a clear understanding of the provisions of GST Act related to the conditions on 'supply' of goods and services and the valuation rules. • To help students understand the	On successful completion of the course, the students will be able to, • Acquire a clear understanding on the concept of direct and indirect taxes Possess knowledge on the concept of GST and its implementation in India • Recall the important provisions of GST Act relating to the conditions for supply and valuation of goods and services for levying GST • Understand the concept of Input tax credit and apply their knowledge in	National

			various provisions of the GST Act on availing of Input tax credit, blocked credits, utilisation and apportionment of credits. • To enable the students to understand the concept of customs duty and the recent changes in India's foreign trade policy and its administration.	availing ITC in various situations. • Acquire knowledge on various concepts related to customs duty, the salient features of India's FTP and its implementation.	
15	MANAGEMENT ACCOUNTING	C647	• The students will be able to Gain knowledge on financial statement analysis • Classify ratios and its significance Understand about concept of Fund and Accounting standard for CFS Acquire knowledge on Budgeting and its techniques • Learn on capital budgeting and methods of analyzing proposals	After completion of the course, the students would be able to • Analyze the financial statement with appropriate tools • Compute various ratios by using financial statement • Apply techniques on preparation of Fund flow statement and AS 3 for CFS • Prepare various types of budgeting to take decision in Management • Evaluate investment proposals by using traditional and modern methods	National
16	INCOME TAX LAW AND PRACTICE II	C648	The students will be able • To describe the concepts and features of assessment of profits and gains of Doctor, Advocate and Chartered Accountant as individual assesse. • To develop the skill in assessing short term and long term capital gains of an Individual assesse who is involved in Business and Profession. • To equip the students with knowledge on calculating the taxable income from other sources of an Individual assesse. • To describe the mechanism of set-off and carry forward of losses an Individual assesse under different	After completion of the course, the students would be able to • Assess the taxable income of an Individual assesse who is involved in Business and Profession. • Compute and analyze the short term and long term capital gains of an Individual assesse who is involved in Business and Profession. • Compute taxable income from other sources of an Individual assesse after taking into account deduction • Students will be able to apply the mechanism of set-off and carry forward of losses an Individual assesse under different heads	National

			heads • To enable the students to compute the net total taxable income of an individual.	• Compute the net total income of an individual after taking into account of deductions u/s 80.	

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Name of the Programme: M Com

S No	Title of the Paper	Course Code	Course Objectives	Course Outcomes	Relevance
1	ADVANCED FINANCIAL ACCOUNTING	C722	• To discover knowledge on the admission and retirement of partners. • To differentiate the books of Old Firm and the New Firm on the basis of joint life policy. • To interpret the applications of Garner Vs Murray at that time of dissolution of firm. • To summarizing the accounting problems in relating to Amalgamation, absorption and reconstruction of companies • To construct and summarized the knowledge on liquidators final statement	• Discover knowledge on new profit sharing ratio, revaluation of assets and liabilities, adjustment of goodwill at that time admission, retirement and death of partners. • Illustrate the calculation of deceased partners' share of profit and treatment of Joint Life Policy in the books of Old Firm and the New Firm. • Experiment the unrecorded Assets and Liabilities with the application of Garner Vs Murray at that time of dissolution of firm. • Summarizing the accounting problems in relating to Amalgamation, absorption and reconstruction of companies. • Construct and summarized the knowledge on various payments,	National

				calculation of liquidators remuneration and preparation of liquidators final statement	
2	STRATEGIC HUMAN RESOURCE MANAGEMENT	C723	• To demonstrate the Human Resource Outsourcing concept and the emerging issues in Human Resource Management. • To exhibit specialised knowledge on Business Strategy and Human Resource Planning. • To develop expertise in the field of new trends in Recruitment and different forms of Training in the Organisations. • To prepare themselves in understanding the techniques of Performance Appraisal and followed with its Reward System. • To inculcate the acquaintance on Mentoring programmes applied in the Organisations and also the concept of e-HRM	• Enhance their knowledge on Human Resource Outsourcing and recent issues in Human Resource Management. • Construct the ideas relevant to business Strategies that are adopted in HRM, through the dimensions of Job Analysis. • Enumerate the different forms of recruitment systems in the commercial organiations especially through internal and external sources. • Interpret the various career growth opportunities in commercial industries, by understanding the performance appraisal and rewards systems. • Discover the recent developments in the HRM, like Mentoring Programmes, E-HRM, Human Resource Information System, etc.	National
3	CONSUMER BEHAVIOR	C724	• To make a student to understand the different dimension of consumer behavior, • To help students learn various models of consumer behavior. • To illustrate the various models of consumerism. • To discover knowledge on group dynamics of consumer.	• Understand the factors influencing consumer buying behavior and consumer process. • Discover the knowledge of various buying behaviour models and how the models are inspiring the consumers. • Evolution of Consumerism, Consumer Exploitation in India , Major Problems of Consumers Exploitation and the	National

			• To analyses Consumerism and to measure the customer satisfaction	knowledge on consumer protection Act 1986. • Discover knowledge on the role of group members and how the group members plays vital role in promotion of new products. • Analyse and strive to identify the customer satisfaction at various level	
4	ADVANCED MANAGEMENT THEORY	C726A	• To enable students to understand the global business environment. • To enhance the knowledge in information technology and its impact on management. • To emphasis the students understand the trends in outsourcing. • To build knowledge on strategic management • To explore the contemporary issues and ideas on Leadership	• Explain the cultural ethical environment at global level and its effects of management practices of total quality management. • Discover knowledge in Web based and Internet based Business Operation • Exhibit the methods of outsourcing and global trends in Outsourcing • Apply knowledge on measuring effectiveness of strategy and knowledge management. • Evaluate the leadership for Global Business Operation and gender equity in organisations	National
5	SECURITY ANALYSIS AND PORTFOLIO MANAGEMENT	C726B	• To understand about the securities market and its governing authorities. • To enhance the understanding of Securities Market • To develop the knowledge about fundamental analysis • To impart the knowledge on Risk and Return Analysis and Theories (Arbitrage and CAPM)	• Have an overview about the securities market and its governing authorities. • Give the enhanced knowledge about the securities market and related matters • Explain the various dimensions of fundamental analysis • Appreciate the testing of Risk and Return Analysis and Portfolio Theories	National

				• To inculcate the depth understanding about the derivative market	• Comprehend the investment avenues in derivative markets	
6	BUSINESS ETHICS	C726C		• To introduce the meaning of personal ethics, business ethics, concepts of business ethics, benefits of business ethics, characteristics of business ethics and relationship between law and Moral standard. • To discuss the meaning, growth, scope and emerging challenges in human resource management and ethical issues in human resource management. • To understand the ethical issues in marketing strategy, marketing mix, consumerism and protection of consumers related welfares. • To learn ethical issues in financial marketing, financial service industries, frauds in banks, insurance sectors and non life insurance sector. • To teach meaning, importance and advantages of Corporate Social Responsibility and steps to attainment of CSR.	• Students will remember the basic concepts, theories and characteristics of business ethics. • Students will understand the meaning, growth, scope and emerging challenges in human resource management and ethical issues in human resource management. • After studying these unit students analyze the ethical issues in marketing strategy, marketing mix, consumerism and protection of consumer related welfares. • The student will be able to analyze various ethical codes in corporate governance • Students will evaluate the ethical issues in financial marketing, financial service industry, frauds in banks, insurance sectors, non life insurance sector when they go for work and Students will create new methodologies/ strategy in solving ethical problems in business and business related ethical issues.	National
7	ACCOUNTING FOR MANAGERIAL DECISION	C823		• To enable students to acquire sound knowledge of concepts, methods and techniques of management accounting and to develop	• Identify and describe factors that influence the effectiveness of decision making. • Validate or disprove the financing,	National

			Course Outcome	Program Outcome	
	MAKING		competence with their usage in managerial decision-making control. • To analyses the operational efficiency by comparison of present ratio with those of the past working and also with those of other firms in the industry. • To ascertain various sources from where the funds were raised and the specific manner in which they were utilized between the dates of the two Balance Sheet. • To defend the importance of linking an organizations budget with its strategic plan. • To determine profitability at different level of production and sales.	investment and operating decisions of the firm. • Analyze the financial position of a company and to discuss the usefulness and format of the statement of cash flow • Understand how budget and variances are used to control operations. • Determine the structure of short run production based on the relation among total, average and marginal products.	
8	ADVANCED COST ACCOUNTING	C824	• To provide knowledge of Operation costing. • To make students to understand the Process Costing. • To enrich the various methods relating to job, service, batch and contract costing • To make clear about Reconciliation of cost and Financial Accounting. • To equip knowledge on Standard Costing and Variance Analysis	• Recall the knowledge of transport, hospital, power and hotel Operation costing. • Identifying and experimenting the process costing for normal, abnormal loss or gain. • Infer the various method methods of cost allocation to joint products and valuation of By-products. • Formulate reconciliation statement Reconciliation of cost and Memorandum reconciliation statement account. • Evaluate Standard Costing and to make	National

			Course Objectives	Course Outcomes	
				comparison between estimated cost and standards.	
9	QUANTITATIVE TECHNIQUES FOR BUSINESS DECISIONS	C826	• To demonstrate the Linear Programming Problem with Mathematical Formulation, Graphical Method and Simplex Method. • To exhibit specialized knowledge on Transportation Problem with North West Corner, Least Cost and Vogel's Approximation Methods. • To develop expertise in the field of Assignment Problem by using Hungarian Method and also by using Traveling Salesman concept. • To prepare themselves in understanding the techniques of Inventory Control with various cost concepts. • To inculcate students, the awareness on Network Scheduling problems by using PERT and CPM Techniques.	• Enhance their knowledge on Linear Programming Problem (L.P.P) models through Mathematical, Graphical and Simplex Methods. • Horizon their knowledge in the Transportation Problem by applying North West Corner, Least Cost and Vogel's Approximation methods. • Experiment the Assignment Problem which can be solved by using Hungarian method. • Evaluate the knowledge on various cost concepts involved in the manufacturing industries, by using the inventory control techniques. • Formulate the basic Network Scheduling Model, by using PERT and CPM techniques.	National
10	ENTREPRENEURIAL DEVELOPMENT	C827A	• To enable the students to understand the concept of entrepreneurship and to learn the professional behaviour on entrepreneurship • To create the awareness about women entrepreneurs and of their empowerment • To identify, develop and incubating successful business ideas	• Obtain knowledge of concepts, functions of entrepreneur. • Enumerate significant changes and trends which create business opportunities and to analyze the environment for potential business opportunities • Develop successful business ideas • Analyse and create project formulation	National

			• To analyse and create project formulation. • To identify the various financial institutions and promotional institutions to entrepreneurs at National and State level.	• Identify the various financial institutions and promotional institutions to entrepreneurs at National and State level.	
11	INDIRECT TAXATION	C827B	• To acquire knowledge on indirect tax system • To gain knowledge on GST and procedures. • To provide a practical perspective of GST Returns. • To identify and analyze online filling GST • To Understand the Customs Act	• Gain knowledge on Indirect Tax system • Acquire knowledge on GST • Assess the registration procedure in GST • Aware of GST E return filling details • Understand the Customs Act	National
12	STUDY PAPER I SERVICES MARKETING	C829SP1	• To understand the conceptual framework of service marketing. • To examine the concept of physical evidence and capacity planning. • To analalse and identify the various factors affecting the pricing decision. • To reflect and enumerate the dimensions of quality • To enhance the marketing skills of students on various services.	• Understand the basics of service marketing and service marketing mix Comprehend the guidelines for physical evidence and manage the capacity and match demand • Apply the pricing strategy and determine the appropriate price for the service • Evaluate the dinmensions of quality and causes of Gaps. • Integrate the service marketing skills on various service sectors.	National and global developmental needs
13	ADVANCED CORPORATE ACCOUNTING	C927	• To enable students to acquire sound knowledge on Holding Company Accounts,	• Accumulate the practical knowledge on consolidation of holding company and its subsidiary Ltd.	National

			• To accumulate knowledge on legal provision related to Banking Company Accounts and to learn the advantages of schedule system for the preparation of final accounts. • To ascertain various forms of insurance and insurance business and also it brings the knowledge on IRDA regulation in related to Final accounts. • To anlyse the importance inflation accounting and price level accounting. Accumulating the gaining knowledge on Methods or Techniques of Price Level Accounting. • To identify the significance of corporate social responsibility through human resource accounting and its responsibility towards staff and to the society.	• Apply the Schedules for Profit and loss account and the legal provisions involved in the preparation of Final Accounts • Analyze various schedules of Insurance company's business transactions and to execute the guidelines of IRDA Appraise and to recall the value of accounting methods adopted in identifying price level changes. • Understand the concept of Human Resource Accounting and Corporate Social Responsibility	
14	ORGANIZATIONAL BEHAVIOUR	C928	• To understand the concept of Organisational behaviour and make use of various approaches of Organisational behaviour • To identify biographical and learned characteristics in the formation of individual behaviour • To discover how perception, values and attitudes affects individual behaviour	• Acquire the knowledge on the concept of Organisational behaviour, its applications in the global scenario Evaluate the factors which affect individual behaviour like ability, personality and learning. • Determine the perceptual selectivity and contribution of values and attitude in forming individual behaviour. • Classify group to improve group	National

			• To learn the classifications of group and to develop group performance also study about stress and conflict management • To evaluate the impact of organisational climate and organisational culture	performance and to evaluate the causes of stress and conflict and strategies to overcome it. • Compare the impact of various orgnisational climate and culture on the organisational performance.	
15	INCOME TAX AND TAX PLANNING – I	C929	• To provide the basic knowledge of Income Tax Law. • To understand the Income tax authorities, TDS and e-filing procedures. • To apply the provisions of Income Tax Act in the computation of taxable income from salary. • To impart knowledge in computing taxable income under the head house property. • To enable the students to compute the taxable income from business and profession. And To make the students to understand the importance of tax planning.	• Acquire knowledge of the basic provisions of Income Tax Act • Understand with provisions of Income Tax Act on filing of return, Advance tax and TDS • Assess the taxable income from salary during the service and after retirement by applying the concepts of tax planning. • Anticipate the taxable income from house property and plan the tax liability on income from house property. • Integrate the concept of tax planning under the head business and profession and minimise the tax liability.	National
16	EXECUTIVE SKILLS DEVELOPME NT	C930B	• To enable the student to know himself and to develop Executive personality • To equip the students with some basic communication skills • To train students to understand themselves and develop better personality traits. • To enable students understand the	• Understand their inner personality and identify various character traits in life. • Various complexes existing in the society and understand the various inter personal relationships. • Develop a keen sense of interest in developing their entrepreneurial skills. • Become more adopt in communication	National

			Objectives	Outcomes	
			different types of complexes, inter personal relationships and develop a positive attitude towards Life. • To train and enable students to develop their executive personality skills for better employment opportunities. And to train students to develop their interview skills, and develop team skills and impart communicative skills such as reading, listening and speaking.	More skillful in nonverbal communication.	
17	STRATEGIC MANAGEMEN T	C930C	• To inculcate the basics of strategic management. • To know about Industry Analysis. • To understand how to analyse the company and the components involved in the process. • To summarize the strategies practised by the management. • To impartChange Management	• Enhance their knowledge in Strategic Management and implementing and evaluating the practices. • Understand the industry analysis in Macro and Micro environment. • List out the strategies practiced by the management. • Analyse the company's strength and weakness. • Interpret the change management and Response Options.	National
18	ADVANCED FINANCIAL MANAGEMEN T	C1022	• To enable students to acquire knowledge on concept of Financial Management and identify the sources of finance. • To understand the factors affecting financial planning, over and under capitalization and to ascertain the leverage of the firm. • To examine the factors affecting	• Understand the concept of Financial Management and analyse the sources of Finance • Evaluate Financial planning and impact of under and over capitalization and also ascertain leverage of firm • Analyse capital structure and implement theories of capital structure Estimate Cost of debt, preference share	National

			Course Objective	Course Outcome	
			capital structure by applying various theories of capital structure. • To calculate cost of capital on debt, preference share capital, equity share capital and retained earnings. • To evaluate the concepts of dividend policies adopted by the corporate in the process of pay-out and retention.	capital, Equity share capital and retained earning • Describe the concept of dividend and computing dividend based on relevance and irrelevance theories.	
19	INCOME TAX AND TAX PLANNING – II	C1024	• To impart knowledge on provisions related to assessing the taxable capital gain. • To understand the rules on taxability of other incomes and minimise the taxable income through set-off and carry forward of losses. • To develop ideal model of investments and savings based on the concepts of deductions, and to minimise the taxable income of individual. • To acquire knowledge on taxability of income of companies and minimum alternate tax. • To minimise the tax liability without tax evasion and through in-depth knowledge on deductions and tax planning	• Understand with the provisions on computation of taxable capital gain and plan the investments to claim exemption under capital gain. • Familiar with the provisions of Income Tax Act on Income from other source and apply the provisions to adjust the loss under various heads of Income. • Assess the taxable income and anticipate the tax liability Minimise the tax liability under the concepts of tax planning and deductions. • Compute the taxable income of company and their tax liability.	National
20	BANKING AND FINANCIAL SERVICES	C1026B	• To have the comprehensive knowledge of modern functions rendered by the banks. • To make the students to familiar with	• Have an knowledge about ATM, debit card, credit card, Online banking, mobile banking, EFT, ECS, RTGS and NIFT	National

			Retail Banking, Provisions of Non-performing Assets and Capital Adequacy Norms. • To explore in Merchant Banking, its services, SEBI guidelines to Merchant Banking and Depository Receipts • To inculcate the in-depth understanding on Leasing and Factoring • To evaluate and analysethe various modes of Mutual Fund and Venture Capital.	• Discover knowledge in Retail Banking and its Provisions relating to Non-performing Assets, Capital Adequacy Norms. • Comprehend the Merchant Banking, services rendered by Merchant Banking, SEBI guidelines to Merchant Banking and Depository Receipts • Discover the Leasing, Hire Purchase Agreement and Factoring • Analyse and develop the knowledge in the area of mutual fund and venture capital schemes.	
21	PROJECT MANAGEMEN T	C1026C	• To study on the concept of project management and role of project manager • To identify investment opportunities and to formulate project • To evaluate various appraisals of project • To prepare project plan, its schedule and estimation of the cost of project • To manage and execute project and learn to apply control techniques	• Acquire the knowledge on project management and role played by project manager • Analyse investment opportunities and formulate project Evaluate market, technical, financial, commercial and managerial appraisals of project • Construct the plan and schedule for project and able to estimate the cost of project • Develop and execute the project and also apply various controlling techniques like PERT, CPM	National
22	PROJECT	C931J	• To demonstrate the objectives, hypothesis, scope, problems and limitations of the research work carried on the project.	• Enhance their knowledge on developing the Objectives, Scope, Problems and Limitations of a research work. • Construct the ideas relevant to the	National

			• To exhibit specialised knowledge on the review of literature of a research work based on the project. • To develop an expertise on the research methodology and on the source of collection of information. • To make them understand the techniques of data analysis and interpretation using relevant statistical tools. • To enumerate the findings, suggestions and conclusions based on the objectives and hypothesis relevant to the subject of the research work.	review of literature of a research work, by studying the previously done articles or research works. • Enumerate the different components of research methodology (like design, sample size, sampling, etc.) of a research work or a project work. • Interpret the data that were collected by them for their research work and analyse them in different outputs. • Discover the findings of the study of a particular research work and could able to give suggestions and conclusions of that research work.	
23	BUSINESS PROCESS MANAGEMENT	C1028SP1	• To understand Organizations, Community and Organizational Structure. • To identify Organizational Structure Organizational Design • To discover Power and Power Outcomes of Leadership • To learn Elements of Business Intelligence Applications • To evaluate Process of Measurement for Learning and Improvement.	• Acquire the knowledge on the Organizations, Community and Organizational Structure • Evaluate the Organizational Structure Organizational Design Discover the Power and Outcomes of Leadership • Understand elements of business Intelligence Applications • Measurement for Learning and Improvement of management Process	National

24	INCOME TAX PLANNING	C1028SP2	• To provide the basic knowledge of Income Tax Law. • To understand the Income from salary. • To impart knowledge in perquisites. • To enable the students to understand Gratuity and Commuted pension. • To make the students to gain knowledge on Tax planning and TDS	• Acquire knowledge of the basic provisions of Income Tax Act • Assess the taxable income from salary during the service and after retirement by applying the concepts of tax planning. • Impart knowledge in perquisites, Profits in lieu of salary and Provident Fund. • Anticipate and to find-out the Gratuity and Commuted pension. • Understand with provisions of Income Tax Act on filing of return, Advance tax and TDS.	National

SACRED HEART COLLEGE (AUTONOMOUS)

Tirupattur – 635 601, Tamil Nadu, S.India

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College	: (04179) 220553
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A Don Bosco Institution of Higher Education, Founded in 1951 * Affiliated to Thiruvalluvar University, Vellore * Autonomous since 1987

Accredited by NAAC (4th Cycle – under RAF) with CGPA of 3.31 / 4 at 'A+' Grade

Name of the Programme: B.Sc. Mathematics

S No	Title of the Paper	Course Code	Course Objectives	Course Outcomes	Relevance
1	MATHEMATICAL APTITUDE – I (SSP)		• To prepare the Students for Competitive Examinations	• gain knowledge about important topics that are necessary to clear competitive examinations.	National
2	MATHEMATICAL COMPETENCE COURSE (SSP)		• To train the students to acquire knowledge for appearing/ Preparing NBHM and all India PG entrance exams other competitive exams	• understand basic concepts of calculus, vectors, matrices, sequences ,series and algebra.	National
3	NON-MAJOR ELECTIVE MATHEMATICS FOR COMPETITIVE EXAMINATIONS-I	NMA 504	• To prepare the students for competitive examinations	• to approach competitive examinations with less anxiety and fear.	National

4	MATHEMATICAL APTITUDE – II (SSP)		• To prepare the Students for Competitive Examinations.	• Acquire knowledge on important topics that are necessary to clear competitive examinations.	National
5	NON-MAJOR ELECTIVE MATHEMATICS FOR COMPETITIVE EXAMINATIONS - 2	NMA 604	• To prepare the students for competitive examinations	• acquire knowledge about profit and loss, problem on trains, boats and stream, problems on calendars, Probability and data interpretation problems which helps to clear competitive examinations	National
6	SCILAB FOR MATHEMATICAL COMPUTATIONS		• To acquire the practical knowledge of SCILAB for solving the Matrix, polynomials and differential equations	• solve problems in matrices using scilab. • solve simple problems in ODE and PDE	National

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Name of the Programme: MSc. Mathematics

S No	Title of the Paper	Course Code	Course Objectives	Course Outcomes	Relevance
4	MATHEMATICAL STATISTICS	M748	• To study and apply sampling theory, significance tests, estimation, testing of hypothesis and design of experiments	• understand Sampling and Sampling distributions. • illustrate the methods of finding Estimators • determine Parametric point and Interval Estimation. • perform hypothesis testing , justify hypothesis testing to Sampling problems and to determine confidence Intervals. • define the basic terms used in design of experiments and use appropriate experimental designs to analyze the experimental data.	Regional/ National

6	SKILL ENHANCEMENT COURSE I – ALGEBRA	M749B	• To develop broad and balanced knowledge and understanding of definitions, concepts, theorems and principles. • To enhance the ability of learners to apply the knowledge and skills acquired by them during the programme to solve specific theoretical and applied problem in Mathematics. • To empower students to crack competitive examinations such as NET, SET and TRB and to complement the theoretical content of the subject with exercise problems.	• disseminate new and innovative knowledge that will make them fit for any competitions in job opportunities. • apply new tangents or to exercise their knowledge and skill in other disciplines. • develop, prioritize, demonstrate display, and disseminate newer versions and to interpret in novel ways. • bringout the flair for new and continuous learning process. • build the dexterity.	Regional/ National
13	SKILL ENHANCEMENT COURSE II – LINEAR ALGEBRA	M852B	• To develop broad and balanced knowledge and understanding of definitions, concepts, theorems and principles. • To enhance the ability of learners to apply the knowledge and skills acquired by them during the programme to solve specific theoretical and applied problem in Mathematics.	• disseminate new and innovative knowledge that will make them fit for any competitions in job opportunities. • analyze new tangents or to exercise their knowledge and skill in their own disciplines. • develop, give examples, demonstrate display, and disseminate newer versions and to interpret in novel ways.	Regional/ National

31	CERTIFICATE COURSE – MATHEMATICS FOR COMPETITIVE	M952X	• To prepare the students for competitive examinations	• make critique of quantitative information using proportional reasoning • Interpret and compare weighted averages, indices, ranking. • identify uses and misuses of percentages related to a proper understanding of the bases.	Regional/ Nation
35	STOCHASTIC PROCESSES	M1052A	• To introduce to the students the basic ideas of Stochastic processes, Markov chains, Markov process and Renewal process and to motivate research in these areas	• demonstrate the basic concepts of Stochastic process, Markov chains. • identify the type of the distribution • apply the concepts in practical problems • compose and evaluate simple Markovian Queueing models. • analyze and evaluate renewal equations	Regional/ National
39	STATISTICAL AND NUMERICAL METHODS (FOR MCA)		• This course aims at providing the necessary basic concepts of a few statistical and numerical methods and give procedures for solving numerically different kinds of problems occurring in engineering and technology	• analyze various methods for testing of hypothesis. • understand numerical methods for finding the solution of some problems upto a desired degree of accuracy. • identify the numerical problems to be more competitive in computation. • employ numerical methods for approximation. • evaluate and formulate solutions of equations and eigen value problems.	Regional/ National

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Name of the Programme: B.Sc. Physics

S No	Title of the Paper	Course Code	Course Objectives	Course Outcomes	Relevance
1	MECHANICS	P113	• To impart knowledge on concepts of Centre of gravity, Projectiles, Circular motion, Impact and Dynamics of rigid bodies. • To learn the method of determining the centre of gravity of objects. • To understand the projectile motion up and down an inclined plane. • To learn the concept of Moment of inertia and the method of determining the Moment of Inertia of compound pendulum. • To make the students to understand the basic concepts of Hydrostatics and Hydrodynamics.	On successful completion of the course, the students will be able to • Differentiate between centre of mass and centre of gravity of objects and will be able to determine the Center of gravity of spheres and cones. • Apply the knowledge of circular motion to explain the concept of banking of curves. • State the laws of impact and Assess the loss of K.E. due to direct and oblique impact of two smooth spheres. • Determine the M.I. of solid sphere and spherical shell about a diameter and the M.I. of a compound pendulum about an axis through its centre of gravity. • Derive Euler's equation and elucidate Bernoulli's theorem. • Solve simple problems related to circular motion, projectiles, Impact and Rotational motion of rigid bodies.	**National developmental needs**

| 2 | PROPERTIES OF MATTER | P114 | • To impart knowledge on Elasticity, Moduli of elasticity, relation between elastic constants and the methods of determining rigidity modulus of material of objects.
• To learn, understand and determine the Young's modulus of material of objects.
• To learn about the concept of Viscosity and understand the Poiseuille's method and Searle's method of determining the viscosity of liquids.
• To comprehend the concept of Surface tension and evaluate the surface tension and interfacial surface tension of liquids by drop weight method.
• To learn and understand the concepts of osmosis and diffusion and their applications. | On successful completion of the course, the students will be able to
• Have an understanding of basic concepts of Elasticity and will be able to determine the rigidity modulus of materials in the form of wire or rod.
• Evaluate the work done in stretching and twisting a wire and determine the rigidity modulus of materials in the form of wire and rod.
• Determine the viscosity of liquids by Poiseuille's method and Searle's method and explain the theory behind the method.
• Evaluate the surface tension and interfacial surface tension of liquids by drop weight method.
• Distinguish between osmosis and diffusion and explain the methods of determining osmotic pressure and rate of diffusion of fluids. | **National developmental needs** |

3	HEAT AND THERMODYNAMICS	P212	- To learn basic concepts of calorimetry, CP and CV of a gas, Vanderwaal's equation of state and derive expressions for critical constants in terms of Vanderwaal's constants. - To define coefficient of thermal conductivity of a material and describe experimental methods for determining thermal conductivity of a good and a bad conductor. - To learn about Planck'squantum theory of radiation and interpret energy distribution in the spectrum of a black body radiation. - To study Boltzmann's Law of equipartition of energy and apply it to find the specific heat capacity of mono atomic and diatomic gases. - To learn and understand Joule Thomson effect, explain the different methods of producing low temperature and liquefaction of Hydrogen and Helium.	On successful completion of the course, the students will be able to - Distinguish between thermal capacity and specific heat capacity, CP and CV of a gas. They will be able to develop Vanderwaal's equation of state and derive expressions for critical constants in terms of Vanderwaal's constants. - Define coefficient of thermal conductivity of a material and describe experimental methods for determining thermal conductivity of a good and a bad conductor. - Explain Planck's quantum theory of radiation and interpret energy distribution in the spectrum of a black body radiation. - Explain Boltzmann's Law of equipartition of energy and apply it to find the specific heat capacity of mono atomic and diatomic gases. - Describe Joule Thomson effect, explain the different methods of producing low temperature and liquefaction of Hydrogen and Helium.	**National developmental needs**

			• To learn laws of thermodynamics, explain the working of Otto engine, define thermodynamic potentials, derive Maxwell's relations and deduce Clausius-Clapeyron Equation.	• State the laws of thermodynamics, explain the working of Otto engine, define thermodynamic potentials, derive Maxwell's relations and deduce Clausius-Clapeyron Equation.	
4	WAVES AND OSCILLATIONS	P213	• To introduce the concepts of waves,wave motion, interference of sound waves, Beats • To introduce the concept of interference of sound waves and beats. • To understand SHM, Lissajousfigures and the concepts related to them. • To comprehend the concepts of damped vibrations, forced vibrations and resonance • To acquire knowledge on the production, detection and applications of ultrasonic waves. • To provide a better understanding of factors affecting acoustics of buildings	On successful completion of the course, the students will be able to • Explain the different types of waves and derive expressions for plane progressive waves and energy of progressive waves. • Distinguish between progressive and stationary waves, derive expressions for stationary waves and energy of stationary waves, explain the concept of beats and apply their knowledge on beats to estimate the frequency of sound waves. • Explain Simple Harmonic Motion, derive expression for the resultant motion of a particle subjected to two SHMs of equal periods acting at right angles to each other and predict the shape of the curve traced by the particle. • Define, differentiate and derive expressions for free, damped and forced vibrations and determine	**National developmental needs**

			the frequency of a.c. using sonometer. • Define reverberation time, summarize the factors affecting acoustics of buildings and suggest ways to improve acoustics of buildings. • Enumerate the production, detection and applications of ultrasonic waves.	
5	PHYSICS MAIN PRACTICAL'S – I	PP207	• To determine the Young's modulus of materials in the form of a beam. • To calibrate voltmeter and ammeter using potentiometer. • To determine the viscosity and surfacetension of liquids. • To learn the usage of spectrometer and to determine the refractive index of material of a prism.. • To construct basic logic gates using discrete components and verify their truth tables. • To construct low range power pack and stabilized power supply circuits and measure their outputs	On successful completion of the course, the students will be able to • Acquire laboratory skills/practical skills, a capacity for self management and teamwork,. They will be able to handle optical, electrical and electronic instruments effectively to take measurements/observations. • Develop analytical and scientific reasoning skills. They will be able to analyze the measurements/observations to draw valid conclusions. • Determine the Young's modulus of materials in the form of beam, the rigidity modulus of materials in the form of wire, Viscosity, surface tension and Interfacial surface tension of liquids and recall the theory behind the	**Regional & National developmental needs**

				experiments. • State the laws of transverse vibration of strings and measure the frequency of tuning forks and ac using sonometer. • Determine the focal length of convex and concave lenses, measure the refractive index of material of a prism using spectrometer and estimate the thickness of a thin wire by forming air wedge. • Design experiment to study the characteristics of Zener diode, construct stabilized power supply using zener diode, construct basic logic gates using diodes and transistor and examine their operation.	
6	ALLIED PHYSICS FOR MATHEMATICS–I	AP105A	• To develop an understanding of basic concepts of mechanics, elasticity, viscosity, surface tension, heat and optics. • To study the elastic behavior of the solids and viscosity of the liquids • To comprehend and learn the concepts of heat and heat transmission	On successful completion of the course, the students will be able to • Distinguish between centre of mass and centre of gravity of objects, state the laws of impact and calculate the loss of kinetic energy due to direct impact of smooth spheres.	**National developmental needs**

			• To understand the concepts of interference and polarization of light waves and their applications.	• Determine the Young's modulus of materials in the form of rod and rigidity modulus of material in the form of wire and explain the theory behind the experiments. • Define and measure the viscosity and the surface tension of liquids • Distinguish between CP and CVof a gas, describe experiments to measure the value of Cp and CV of gas, thermal conductivity of poor conductors and different methods of producing low temperature. • Differentiate between Spherical aberration and chromatic aberration in lenses, suggest ways to minimize them. • Explain interference and polarization of light and perform experiment to determine the thickness of a thin wire by forming air wedge.	
7	ALLIED PHYSICS FOR MATHEMATICS–II	AP205	• To understand the working principle of Lasers and their applications • To study the different types of optical fibers and its applications • To understand the properties of ultrasonics and its applications	On successful completion of the course, the students will be able to • Explain working principle of lasers and describe the applications of Lasers and Optical fibers.	**National developmental needs**

			• To study the critical potential and quantum numbers associated with the vector atom model. • To study the process of artificial transmutation, radio isotopes and their applications, working of accelerators. • To study the fundamentals of electrical and electronic devices and circuits.	• Define SHM and derive expression for the resultant motion of a particle subjected to two SHMs acting at right angles. • State laws of transverse vibration of strings, determine the frequency of AC using a Sonometer and describe methods of production and detection of ultrasonics. • Specify and explain the Quantum numbers associated with the vector atom model, state the laws of Photoelectric effect and derive Einstein's photoelectric equation. • Determine the value of a resistor from its colour coding, explain the growth and decay of current in a circuit containing resistance and inductance and design an experiment to calibrate a low range voltmeter. • Construct two inputs AND, OR gates using diodes and NOT gate using Transistor, examine their operation and evaluate their performance,	

			Course Objectives	Course Outcomes	
8	ELECTRICITY AND MAGNETISM	P312	• To introduce to the students the basic concepts of Electrostatics • To make the students understand concepts on working and applications of capacitors and electrometers • To explain the principle and working of Potentiometer and Carey Foster's Bridge. Also to understand the working of LCR and resonance circuits. • To provide an overview of the fundamental principles of Coulomb's law, Biot-Savart law and magnetostatics. • To make the students understand the various types of magnetism.	On successful completion of course, the students will be able to • Explain and differentiate between electric field and electric potential and also illustrate the coulomb's law and its applications • Understand the functions and the basic principles of capacitors and electrometers. • Explain the working principle of Carey-Foster bridge and Potentiometer and apply their knowledge to set up experiments in the laboratory. • State and explain various laws of magnetostatics and illustrate their applications. • Compare the properties of Dia, Para and Ferro magnetic materials and identify the form of magnetism possessed by a material	**Regional & National developmental needs**
9	OPTICS	P313	• To impart the knowledge on angular dispersion produced by prism, aberrations in lenses and methods of minimizing them in thin lenses.	On successful completion of the course, the students will be able to • Differentiate the various aberrations in lenses and describe different methods of minimizing them.	**Regional & National developmental needs**

				• To understand the basic phenomena of interference and determination of thickness of a thin wire and refractive index of medium by using various interference experiments • To explain the diffraction of light and classify Fresnel's and Fraunhofer diffraction with illustration of necessary theory and experiments. • To Illustrate the polarization of light waves, their types and explain the various optical activity produced when the light passing through the crystal. • To apply the LASER/MASER action produced in the material; analyze the principle, working mechanism and applications.	• Explain the phenomenon of interference and illustrate interference experiments to find the thickness of a thin wire and refractive index of medium • Exemplify the diffraction of light and compare the Fresnel's and Fraunhofer diffraction of light with an illustrative diffraction experiments • Compare the different types of polarization of light waves and analyze the optical characteristics when the light is passing through the crystals • State the principle of LASER/MASER action in materials and set up experiments to demonstrate the working mechanism of CO_2 and semiconductor lasers	
10	MODERN PHYSICS	P414	• To gain knowledge about positive rays and mass spectrographs. • To acquire knowledge about magnetic dipole moment due to orbital and spin motions of electron. • To study and understand Zeeman effect and Paschen-Back effect.	On successful completion of the course, the students will be able to • Differentiate between Positive rays and cathode rays and explain the working principle of different mass spectrographs.	**National developmental needs**

			Course Objective	Course Outcome	
			• To gain knowledge about electronic spectroscopy. • To review the fundamental concepts of vibrational spectroscopy.	• List and explain the various quantum numbers associated with electrons and distinguish between LS coupling and jj coupling in atoms • Differentiate between Zeeman effect and Anamolous Zeeman effect and explain Paschen–Back effect. • Understand the interaction of electromagnetic radiation with matter, state the basic laws of absorption and transmission of radiation and outline the principle involved in UV-Visible spectroscopic technique. • Acquire a knowledge on Vibrational pectroscopy, inspect the functional groups in compounds using IR spectroscopy and Compare IR and Raman spectroscopy.	
11	ELECTROMAGNET ISM	P415	• To impart knowledge on concepts of Electromagnetic induction • To make students understand the concept of self-inductance	On successful completion of the course, the students will be able to • State Faraday's laws of Electromagnetic induction and estimate the emf induced in a Rectangular loop of wire moving through a non uniform magnetic field	**National developmental needs**

			• To understand the working principle of Ballistic galvanometer and its applications • To learn the principle and working of earth inductor and A.C generator • To apply Maxwell's equations to discuss the propagation of electromagnetic waves in free space.	• Explain self-induction and its physical significances and design Anderson bridge to determine the self inductance of an inductor using. • Understand and apply the principle of B.G. to determine the mutual inductance between pair of coils • Outline the principle, working and applications of Earth inductor, Search coil and A.C. Generator • Explain the significance of Maxwell's equations in free space and apply it to electromagnetic waves in isotropic non-conducting media.	
12	PHYSICS MAIN PRACTICALS – II	PP413	• To determine the Young's modulus of materials in the form of a beam by subjecting them to Uniform and Nonuniform bending. • To calibrate voltmeter and ammeter using potentiometer. • To determine the viscosity and surfacetension of liquids. • To learn the usage of spectrometer and to determine the wavelength of spectral lines.	On successful completion of the course, the students will be able to • Use the spectrometer to estimate the wavelength of spectral lines and the refractive index of materials • Inspect the effective usage of Potentiometers, Careyfoster's bridge and BG • Describe the working of microscope and the telescope and use them effectively	**Regional & National developmental needs**

			• To verify the logic functions of basic logic gates and design arithmetic circuits using discrete components and ICs. • To construct analog dual power supply and voltage stabilization circuits and measure their outputs.	• Recall the logic functions of basic logic gates and design arithmetic circuits using discrete components and ICs • Construct analog dual power supply circuits and voltage stabilization circuits and measure their outputs	
13	ALLIED PHYSICS FOR CHEMISTRY – I	AP309A	• To study the basics of elasticity and its importance in beams. • To study the concepts of viscosity and the various methods to determine the parameters experimentally. • To understand the concepts behind thermodynamics and thermodynamic laws. • To study the propagation of sound waves, the production of ultrasonic waves, Acoustics and their applications. • To distinguish the geometrical and physical optics. • To understand the concept of basic electronics and digital electronics	On successful completion of the course, the students will be able to • Acquire basic knowledge about elasticity and viscosity of liquids and measure the viscosity of liquids by Poiseuille's method. • State and explain different laws of thermodynamics and distinguish between adiabatic and isothermal changes. • Apply the laws of transverse vibrations to estimate the AC frequency using sonometer, describe the production and applications of Ultrasonic waves and recommend the conditions for good acoustics of auditoriums. • Comprehend the concepts of spherical aberration, chromatic aberration and the methods of minimizing them and interference of light.	**National developmental needs**

				• Construct rectifiers and voltage regulators using diodes and explain the logic functions of basic logic gates.	
14	**ALLIED PHYSICS FOR CHEMISTRY –II**	AP309B	• To study the basic ideas of electricity and magnetism • To study vector atom model and to determine the methods of critical potential • To study the structure of the alkali spectral lines • To study the basics of nuclear reactions, process of radioactivity and its applications • To understand the concepts of wave mechanics and dualistic nature of light • To study the different methods of preparing thin films, nanomaterials and their applications	On successful completion of the course, the students will be able to • Describe the growth and decay of current in DC circuits, design experiments to calibrate ammeter and voltmeter using potentiometer and distinguish dia, para, and ferromagnetic materials. • Explain the various quantum numbers associated with the vector atom model. • Illustrate a knowledge on the basics of nuclear reactions, radioactivity and classification of elementary particles and estimate the amount of energy released in nuclear reactions. • State and explain the concepts of matter waves, Heisenberg's uncertainty principle and laws of photo electric effect. • Describe various methods of thin films and Nanomaterials preparation and state the applications of nanomaterials.	**National developmental needs**

| 15 | ALLIED PHYSICS PRACTICALS FOR CHEMISTRY | PAP409 A | • To perform experiments on elasticity of materials and viscosity of liquids
• To demonstrate an experiment to determine the frequency of ac mains
• To perform experiments on interference of light waves and its applications.
• To do calibration of voltmeter and ammeter using potentiometer
• To design simple analog and digital electronic circuits. | On successful completion of the course, the students will be able to
• Apply their knowledge on properties of matter to perform experiments to determine the Young's modulus and Rigidity modulus of materials and viscosity of liquids
• Perform an experiment to determine the frequency of ac mains using sonometer and analyze the result obtained.
• Set up Newton's rings and air wedge experiments and apply their knowledge on interference of light waves to determine the refractive index of material of a lens and thickness of a wire.
• Use potentiometer to calibrate low range voltmeter and high range ammeter and explain the principle behind the experiment.
• Recall the logic function of different logic gates and employ them to construct simple electronic circuits. | **Regional & National developmental needs** |

				On successful completion of the course, the students will be able to	
16	ALLIED PHYSICS FOR COMPUTER SCIENCE –I	AP309B	• To make the students to explore the Physics in active devices and also to introduce the concept of semiconductors and their working principles • To explore the principles and applications of passive devices. • To understand the series and parallel circuits and their short and open circuits in real time applications. • To induce the minds of the students to understand the principle and applications of LASER in science and technology. • To make the students the importance of the optical fiber communication, LED, Photoresistor and solar cell.	On successful completion of the course, the students will be able to • Analyse the functions of active devices especially diodes and transistors. • Calculate the values of resistors and capacitors from the colour coding and understand the importance of the passive devices in everyday life. • Identify the short and open circuits in complex circuits which consist of series and parallel components. • Realize the importance of LASER in modern science and technology. • Understand the working principle of fiber optic cable, LED, LCD, photoresistor and solar cell.	**Regional & National developmental needs**
17	ALLIED PHYSICS FOR COMPUTER SCIENCE – II	AP409B	• To introduce the fundamental concepts and working principles of various semiconductor devices and their applications. • To introduce the basic concepts of operational amplifier and its various applications. • To familiarize the switching characteristics of transistor, various multivibrators, applications of diode as	On successful completion of the course, the students will be able to • Understand the working principle of JFET and design rectifier circuits. • Apply knowledge on op-amp to design and analyze various applications of op-amps. • Understand the working of multivibrators and design wave shaping circuits.	**Regional & National developmental needs**

			integrator, differentiator, clipper and clamper. • To familiarize with the different number systems and combinational circuits utilized in the digital circuits. • To study the working of various flip-flops, registers, counters and their applications.	• Gain knowledge of different types of number systems and their mutual conversions, State and prove DE Morgan's theorems and Explain the working principle of combinational circuits. • Construct and evaluate the performance of flip-flops, registers and counters.	
18	ALLIED PHYSICS PRACTICALS FOR COMPUTER SCIENCE	PAP409 B	• To have an hands on training to handle the electronic components and bread broad • To construct the logic circuits and demonstrate the output by truth tables • To realize the importance of calibration of voltmeter and galvanometer • To verify the theorems and Physics laws using passive and active devices • To construct stabilized power supply by them self	On successful completion of the course, the students will be able to • Handle the electronic components for constructing electronic circuits. • Construct logic gate circuits. • Calibrate voltmeter and galvanometer. • Verify the Physics laws especially Ohms law and De Morgan's theorem. • Construct stabilized power supply.	**Regional & National developmental needs**
19	CLASSICAL MECHANICS AND STATISTICAL PHYSICS	P534	• To revise Newtonian mechanics and introduce Lagrangian formulation of mechanics. • To learn Hamilton's principle and Hamiltonian formulation of mechanics.	On successful completion of the course, the students will be able to • Identify the motion of mechanical systems and apply the Lagrangian formalism to generate equations of motion for them.	**National developmental needs**

			• To realize the reduction of a two-body problem to a one-body problem in a central force system. • To understand the properties of macroscopic systems using the knowledge of the properties of individual particles. • To know about classical and quantum statistics and their applications.	• Apply the knowledge of Hamilton's principle to solve physical problems, including simple pendulum, compound pendulum, linear harmonic oscillator. • Determine the differential equation of orbit, stability of orbit under central force field • Understand concepts of statistical mechanics and find the connection between statistics and thermodynamics • Differentiate between classical statistics and quantum statistics • Solve some problems like monoatomic gas, photon gas and electron gas and find the energy distribution of them using statistical distribution laws.	
20	SEMICONDUCTOR DEVICES AND THEIR APPLICATIONS	P535	• To introduce diodes and their types along with their applications • To provide an overview of the principles, operation and applications of FET, MOSFET, UJT and SCR. • To Provide an overview of small signal and large signal amplifiers.	On successful completion of the course, the students will be able to • explain the implications of characteristics of various types of diodes and different rectification process. • acquiring knowledge on Fabrication of a transistor, JFET, MOSFET, UJT and SCR	**Regional & National developmental needs**

				- To Inculcating basic concepts about oscillators, their construction and working. - To introducean operational amplifier and their linear and non–linear - applications.	- demonstrate the basic concept behind the working of a transistor amplifier, and able to explain the working of R-C coupled amplifier and calculate the gain of multistage amplifiers. - demonstrate the basic concept behind the working of anoscillator and multivibrators. - solving various mathematical operations like summing, difference, integrators, differentiators, sign changersetc.,using operational amplifier	
21	SOLID STATE PHYSICS	P536		- To impart knowledge on crystalline and amorphous substances, reciprocal lattice, cubic crystal structures, and X-ray diffraction. - To analyse and understand the lattice vibrations and to learn Einstein and Debye theories of specific heat of solids. - To understand various types of magnetic materials and to learn, their theories. - To learn about dielectric materials, their properties and applications.	On successful completion of the course, the students will be able to - Differentiate between crystalline and amorphous materials, understand the concept of reciprocal lattice, compare different crystal structures and the explain x-ray diffraction. - Comprehend lattice vibrations and apply it to explain Einstein and Debye theories of specific heat of solids. - Discriminate between various types of magnetic materials and formulate theories to explain the origin of magnetic properties.	**National developmental needs**

			• To understand the basic concept of band theory of solids, classifications of solids based on band gap and explain superconductivity.	• Describe polarization mechanism and outline theories of polarization. • Understand the basic concepts of band theory of solids, classify solids based on band gap andexpain the phenomenon of superconductivity.	
22	MATHEMATICAL PHYSICS	P537	• To develop an understanding of vector differentiation and vector integration. • To make the students familiarize with orthogonal curvilinear coordinates and vector spaces. • To understand the Beta, Gamma and Dirac–Delta function. • To impart the basic knowledge on Fourier series and its Applications. • To familiarize partial differential equations and the applications of partial differential equations.	On successful completion of the course, the students will be able to • Acquire a knowledge of vector differentiation and vector integration and will be able to apply their knowledge to solve problems in vector differentiation and vector integration. • Understand the concepts of orthogonal curvilinear coordinates, linear independence, basis and dimension and apply these concepts to various vector spaces and subspaces. • Understand, analyze and solve problems on beta, gamma and Dirac delta functions. • Comprehend and explain Fourier series, enumerate its importance and applications in physics. • Evaluate higher order partial differential equations by the method of separation of variables.	**National developmental needs**

23	**SUBJECT ELECTIVE I: NANOMATERIALS AND THEIR APPLICATIONS**	P538A	• To know the fundamentals of nanotechnology. • To learn about various physical methods to synthesis nanomaterials. • To familiarize the students regarding the preparation of nanomaterial by different chemical methods. • To acquaint the importance of carbon and their various forms. • To develop an understanding among students about the various applications of nanotechnology.	On successful completion of the course, the students will be able to • explain the origin and emergence of nanotechnology and also able to relate different nanostructures with each other. • summarize and compare the electrical, vibrational and mechanical properties of nanomaterials • prepare the nanomaterials by various physical and chemical methods. • classify and compare carbon nanostructures and their properties. • summarize the importance of nanomaterials and evaluate its applications in different fields.	**National developmental needs**
24	**SUBJECT ELECTIVE – I: ELECTRONIC COMMUNICATION SYSTEMS**	P538B	• To provide a knowledge on fundamentals of electronic communication, electromagnetic spectrum and its applications. • To learn about the principles of various analog and digital modulation techniques. • To impart knowledge on cellular communication system and recent advances in mobile communication systems.	On successful completion of the course, the students will be able to • Understand the fundamentals of electronic communication, distinguish different regions of electromagnetic spectrum and describe their applications. • Compare different modulation techniques and appraise their advantages and importance.	**National developmental needs**

				• To make the students to understand the principlesinvolved in fiber optic communication system and radar. • To explore the roles of microwaves and Satellites in electronic communication	• explain the operation of cellular communication system and compare GSM and CDMA. • Demonstrate their knowledge on fiber optic combination system and describe the working of radar and its applications. • understand and formulate the role of microwaves and satellites in electronic communication.	
25		SUBJECT ELECTIVE - I: RENEWABLE ENERGY AND ENERGY HARVESTING	P538C	• To make the students to understand the importance of fossil fuels, conventional energy resources. • To provide a complete idea of basic components of a typical solar collectors and its applications in the solar energy absorption equipment's. • To make the students to analyze the dissimilarity between Horizontal axis and vertical axis WECS. • To enable the students to comprehend the concept behind various energy sources including biomass, tidal energy and hydrogen energy.	On successful completion of the course, the students will be able to • Explain the basic ideas on commercial and non-conventional energy resources and illustrate their availability. • Explain the construction and designing of solar collectors and its implementation in the solar energy equipments. • Demonstrate the variance in the operation of vertical axis and horizontal axis WECS and its installation towards power production. • Infer the knowledge on various energy sources including ocean, tidal and biomass conversion technologies.	**Regional & National developmental needs**

			• To give a basic knowledge about various methods of energy harnessing, storage systems and distribution.	• Realize the need of energy harvesting and describe the methods of storage systems to achieve the sustainability in the energy sector.	
26	SUBJECT ELECTIVE: PROGRAMMING IN C	P539A	• To introduce the students to the basic concepts of C program • To enable the students to understand the different types of operators, I/O functions, and their usage in writing programs • To create the skill to write and execute simple C programs with control statements • To learn to use functions in C programs and to solve problems. • To know about the different kind of arrays and their usage to solve arithmetic problems.	On successful completion of the course, the students will be able to • Differentiate between C tokens, keywords and identifiers • Declare and Initialize variables in C program • Understand the concept of operators and I/O functions and use them effectively in C program • Write and execute simple programs using control statements • Define a function and apply code reusability with functions • Classify the arrays, write programs with arrays, perform pointer arithmetic, and use the pre-processor.	**National developmental needs**
27	SUBJECT ELECTIVE II: 8085 MICROPROCESS OR AND ITS APPLICATIONS	P539B	• To introduce different number systems and their mutual conversions. • To familiarize the students with the architecture of 8085 microprocessor and its interrupts.	On successful completion of the course, the students will be able to • Explain the different number systems and also recognize their mutual conversion methods. • Describe the architecture and interrupts of 8085 microprocessor with neat sketch.	**National developmental needs**

			• To understand the instruction set and addressing modes of 8085 microprocessor. • To learn methods of interfacing memory with 8085 microprocessor. • To develop assembly language program writing skills.	• Classify the different instructions and also explain the different addressing modes of 8085 microprocessor. • Understand and explain the basic concepts of memory interfacing and I/O interfacing with 8085 microprocessor. • Apply their knowledge to write simple assembly language programs for 8085 microprocessor.	
28	SUBJECT ELECTIVE II: MEDICAL PHYSICS	P539C	• To provide a knowledge on the physics principles involved in the pressure system, optical system, dynamics of human body and acoustics of human body. • To understand radiation exposure and its measurement and the working mechanism of different radiation detectors. • To learn the principles and instrumentation involved in various diagnostic systems. • To enable the students to understand the principle, instrumentation and working of biological imaging systems.	On successful completion of the course, the students will be able to • Explain and differentiate the various physics principles involved in the dynamics of human body and in the pressure system, optical system, and acoustics of human body. • understand and distinguish the various units used in radiation exposure measurement and describe the working mechanism of different radiation detectors. • Demonstrate an understanding of working principle and instrumentation of various diagnostic systems.	**Regional & National developmental needs**

			Course Objectives	Course Outcomes	
			• To create awareness on radiation hazards and protection against radiation hazards.	• understand the principle, instrumentation and working of biological imaging systems and evaluate their merits and demerits. • Describe various radiation hazards and design equipment for protection against radiation hazards.	
29	ASTROPHYSICS	P720C	• To introduce the students to universe and its evaluation. • To impart knowledge on galaxies and its types. • To understand the basic structure and properties of milky way galaxy. • To provide an overview of solar system. • To learn methods of estimating astronomical distances and temperature and radius of stars	On successful completion of the course, the students will be able to • Understand and explain the origin of Universe and predict the present age of the universe. • Describe the classification of galaxies. • Acquire basic knowledge of milky way galaxy and its properties. • Explain the Solar system and its origin. • Estimate astronomical distances and temperature and radius of stars.	**Regional & National developmental needs**
30	SELF STUDY: LASER PHYSICS AND FIBER OPTICS	P541SP1	• To introduce the students to the basic principles of LASER. • To provide a knowledge on various types of LASERs. • To enhance the knowledge of different applications of LASER in Material Processing and Electronics Industry.	On successful completion of the course, the students will be able to • Explain the basic principle of Laser emission. • Examine the working principle and design considerations of various lasers. • Outline the applications of laser in industries.	**Regional & National developmental needs**

			• To familiarize the applications of LASERS in Nuclear Energy and medicine. • To provide an opportunity for the students to learn about Optical fibres and Optical fibre communication system.	• Gain knowledge on applications of Lasers in fields such as Nuclear Energy, Medicine and Surgery. • Comprehend the significance of optical fibre communication system.	
31	APPLIED ELECTRONICS	P631	• To learn about basic logic gates, DeMorgan's theorems, Simplification of Boolean expressions and implementation of logic circuits using NAND-NAND logic. • To learn design, working and truth table of combinational circuits. • To study about different logic families and flip flops. • To understand the working of Shift registers, Asynchronus counters and Synchronous counters. • To study about the different types of ADC and DAC and the architecture and applications of timer IC 555.	On successful completion of the course, the students will be able to • Simplify Boolean expressions using K-map and design NAND-NAND logic circuits. • Construct arithmetic circuits and explain their operation. • Compare different logic families and explain the working of various flip flops. • Acquire a knowledge on Shift registers and counters and construct different Modulus counters. • Explain the working of different types of ADC and DAC and predict their output voltage and describe the architecture and applications of timer IC 555.	**Regional & National developmental needs**
32	NUCLEAR AND PARTICLE PHYSICS	P362	• To introduce to the basic properties of nucleus and different nuclear models. • To study about different types of radiation detectors,	On successful completion of the course, the students will be able to • explain the properties of nucleus, different nuclear models and their predictions.	**National developmental needs**

			radioactivity and particle accelerators. • To understand the different types of nuclear reactions and radioactivity. • To learn about fission, fusion and different types of nuclear reactors. • To provide an overview of elementary particles and their interactions	• different types of radiation detectors and particle accelerators. • demonstrate an understanding of the different types of nuclear reactions and radioactivity. • Distinguish between nuclear fission and fusion, estimate the energy released in Nuclear reactions and compare different types of nuclear reactors. • Acquire a knowledge of elementary particles and their interactions.	
33	QUANTUM MECHANICS AND RELATIVITY	P633	• To introduce the concepts of Matter waves and Heisenberg's uncertainty principle. • To learn the postulates of quantum mechanics, Schroedinger equations and Ehrenfest theorem. • To understand the applications of Schroedinger equations. • To study Galilean and Lorentz transformation equations and their applications. • To provide an understanding on the relativistic variation of mass with velocity and postulates of general theory of relativity.	On successful completion of the course, the students will be able to • Understand the concepts of Matter waves, estimate the de-Broglie's wave length of electrons and explain Heisenberg's uncertainty principle. • Distinguish between time dependent and time independent Schroedingerequations and apply Linear, momentum and energy operators. • Describe the basic principles of quantum mechanics and explain operator formulation of quantum mechanics.	**National developmental needs**

				• Explain the concepts of frame of reference and inertial frames and state the fundamental postulates of Special theory of relativity. • State the postulates of General theory of relativity and enumerate its applications.	
34	PHYSICS MAIN PRACTICALS – III (GENERAL EXPERIMENTS)	PP615	• To familiarize the students with physics concenpts and experiments. • To acquaint the importance of practical experiments to students. • To develop an understanding among students about conversion of a galvanometer into voltmeter and ammeters. • To train the students in handling physics experiments. • To facilitate the students for handling spectrometer and B.G experiments.	On successful completion of the course, the students will be able to • Design a circuit to convert a galvanometer into voltmeter and ammeter with desiredcalibration. • Apply the knowledge on potentiometer toestimate the EMF of a thermocouple. • Estimate the value of g using compound pendulum. • Recall the concept of Young's modulus and evaluate the young's modulus of the material of the given bar. • Demonstrate experiments using spectrometer to determine the dispersive power of prism and refractive index of the material of the prism • Determination of wavelength of Laser light using diffraction at a single slit	**Regional & National developmental needs**

35	PHYSICS MAIN PRACTICALS – IV (ELECTRONIC EXPERIMENTS)	PP616	- To construct Halfsubtractor, Full subtractor, 4 bit binary adder and 4 bit binary subtractor circuits using ICs and verify their truth tables. - To simplify the given Boolean expressions using Karnaugh map, construct NAND-NAND circuit for the simplified expression and verify the truth table. - To design Inverting and Non inverting amplifiers, Summer, Subtractor, Differentiator and Integrator circuits using OPAMP. - To learn to construct amplifiers, Oscillators and Multivibrators using Transistors and measure their outputs. - To write assembly language programs for performing Addition, Subtraction, Multiplication, Division, Arranging the numbers in ascending order and in descending order and execute them using 8085 microprocessor and verify the results.	On successful completion of the course, the students will be able to - Construct Halfsubtractor, Full subtractor, 4 bit binary adder and 4 bit binary subtractor circuits using ICs and verify their truth tables. - Simplify given Boolean expressions using Karnaugh map, construct NAND-NAND circuit for the simplified expression and verify the truth table. - Design Inverting and Non inverting amplifiers, Summer, Subtractor, Differentiator and Integrator circuits using OPAMP. - Construct amplifiers, Oscillators and Multivibrators using Transistors and measure their outputs. - Write assembly language programs for performing Addition, Subtraction, Multiplication, Division, Arranging the numbers in ascending order and in descending order and execute them using 8085 microprocessor and verify the results.	**Regional & National developmental needs**

			Course Objectives	Course Outcomes	
36	SUBJECT SKILL – I : ELECTRICAL CIRCUITS AND NETWORKS (THEORY)	P634S	• To develop an understanding of the basics of electrical devices and circuits. • To understand the fundamental laws of electrical circuits and various circuit analysis theorems. • To develop an understanding of single-phase and three-phase AC. • To know the effect of open circuits and short circuits • To impart knowledge of domestic wiring and circuit breakers.	On successful completion of the course, the students will be able to • Understand the symbols and working principles of electrical devices and circuits • Analyze electrical circuits (DC and AC) using mesh and network simplification theorems. • Differentiate between single-phase and three-phase AC and explain the working of AC circuits. • Explain the effects of shorts and opens in series and parallel circuits. • Understand domestic electrical wiring and the working of circuit breakers	**Regional & National developmental needs**
37	BASIC INSTRUMENTATION	P641S	• To develop knowledge of principles and working of various analog meters. • To understand the principle and working of analog electrical instruments. • To impart knowledge of principles and working of digital instruments. • To learn about the working principle of various optical instruments used in measurement of physical quantities.	On successful completion of the course, the students will be able to • Acquire knowledge about the working principles of various analog meter instruments. • Understand the operation of various analog electrical instruments. • Differentiate between digital and analog instruments and explain their working. • Outline the working principle of various optical instruments.	**Regional & National developmental needs**

			• To develop the skill of usage of environmental instruments.	• Gain knowledge on the working and applications of various environmental instruments.	
38	NON MAJOR ELECTIVE –I : REPAIR AND MAINTENANCE OF HOUSEHOLD APPLIANCES	NPH503	• To provide an understanding of the basics of electricity and electrical safety. • To enable the students to understand the importance of earthing and energy storage devices. • To expose the students to the principles and working of home appliances. • To learn fault finding and replacing faulty component in electric iron. • To train the students in Repaire and Maintenance of home appliances.	On successful completion of the course, the students will be able to • Recall the safety precautions and apply them whenever it is necessary • Understand the importance of earthing and acquire a knowledge on energy storage devices • Identify the fault in an electric iron box and rectify it • Explain the working of mixer, grinder, ceiling and table fans. • Install and test fluorescent lamp chock and starter	**Regional & National developmental needs**
39	PHYSICS REVISITED SSP	P643SP1	• To enable the students to revise the concepts of mechanics, oscillations, waves, Black body radiation. • To recollect the concepts of thermodynamics and statistical physics. • To revisit the contents of Quantum mechanics	On successful completion of the course, the students will be able to • Recollect the basic concepts in mechanics, Waves and oscillations and explain black body radiation. • Recall the laws of thermodynamics, classical and quantum statistics.	**Regional & National developmental needs**

			• To help the students to review the concepts in Atomic and Nuclear Physics. • To understand the significance of semiconductor devices and their applications, this would help them to perform better in competitive examinations.	• Formulate the Schrodinger wave equation for free state and bounded state problems and evaluate the energy eigen value • Summarize the concepts in Atomic and Nuclear Physics. • Outline the working principle of semiconductor devices .	
40	NON MAJOR ELECTIVE: PHYSICS IN EVERYDAY LIFE	NPH603	• To provide insights about the role of electromagnetic rays in everyday life • To understand the origin of acoustic waves and their applications • To understand the role of heat and fluids in our day to day life • To explore the working principle of electrical devices • To provide a broad view on heavenly bodies.	On successful completion of the course, the students will be able to • Explain the reason behind the appearance of colors • explain the origin and applications of sound waves • explain applications of heat in everyday life • Rectify the faults in electrical heating devices • describe the salient features of objects in the universe	**National developmental needs**

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Accredited by NAAC (4th Cycle – under RAF) with CGPA of 3.31 / 4 at 'A+' Grade

Name of the Programme: MSc. Physics

S No	Title Of The Paper	Course Code	Course Objectives	Course Outcomes	Relevance
1	Elective: Electronic Devices And Applications	P720A	• To introduce structures, physical operations and circuit applications of semiconductor devices. • To develop the ability design electronic circuits and to grasp the basic ideas of op-amps and its applications. • To acquaint and demonstrate the concepts on waveform generators using Op-amp and 555 timer. • To understand analog and digital signals and conversion techniques . • To impart the fixed function of combinational and sequential logical circuits and their implementation	• Understand the characteristics and applications of special purpose diodes. • Analyze input/output relations for various applications of Op-amp in analog circuits. • Explain the operation of oscillators and multivibrators using op-amp and 555 timer. • Recognize the relationship between digital and analog values in D/A and A/D converters. • Analyze, design and implement combinational and sequential logic circuits	national, developmental needs
2	Elective: Astrophysics	P720C	• To understand astrophysical processes and systems, ranging from sun to stars, galaxies and Universe. • To Study of birth and death of stars and types of stars.	• Classify different celestial objects and understand about universe • Understand the impact of astronomical bodies and formation of stars. • Explain stellar evolution, including red giants, supernovas, neutron stars, pulsars,	national developmental needs

			• To know the effect of temperature on stellar spectra and basics of its quantitative analysis • To know the members of our solar systems and its atmosphere. • To understand the working principle of Astronomical Telescope.	white dwarfs and black holes, using evidence and presently accepted theories. • Describe the features of objects in the Solar System (Sun, planets, moons, asteroids, comets, planetary interiors, atmospheres) • Demonstrate the ability to observe the celestial objects by astronomical telescopes and instrumentation.	
3	Electromagnetic Theory	P821	• To provide a clear and logical presentation of problems in electrostatics. • To apply Biot-Savart law, scalar and vector potentials to measure magnetic fields. • To learn Maxwell's Equations and their applications. • To understand Fields and Radiation of Electromagnetic Sources • To develop an understanding of the propagation of electromagnetic waves and their properties.	• Solve few electrostatics problems using Laplace equation. • Use Biot-Savart law, magnetic scalar and vector potentials to deduce magnetic fields due to current carrying elements. • Apply Maxwell's equations for the conservation of electromagnetic energy and momentum. • Understand fields and radiation from antennas and deduce expression for power radiated from radiation sources. • Describe the propagation of electromagnetic waves in various media and discuss the kinematics and dynamic properties of electromagnetic waves.	national developmental needs
4	Elective: Geophysics	P823B	• To explore the fundamental background of geophysics and its importance among the earth science. • To make them understand the geomagnetic field and Magnetic elements. • To provide an understanding of Laboratory measurements of the physical properties of rocks. • To Study Natural and Artificial seismology and its relation to other Earth System.	• Understand the physics and geology that form the basis for geophysical observation and measurement. • Explain the principles of geothermal flux distribution over continents and oceans. • Explain fundamental concepts underlying common exploration of petrophysics. • Acquire the knowledge of application of seismology. • Obtain knowledge about classification of minerals.	National developmental needs

			• To familiarize the students with the physical properties of minerals		
5	Self-Study Paper: Shock Waves And High Pressure Physics In Material Science		• To create awareness about shock waves and types of shock waves • To import knowledge of different types of shock tubes • To make the students to understand the interaction of high pressure energy in atomic level in the materials • To enable the students to acquire knowledge on the high pressure materials science and its applications. • To explore the behavior of materials properties at harsh environments.	• Explain the fundamental concepts of shock waves and high pressure experiments in materials. • Construct table top shock tubes • Develop a strong understanding about the materials properties under shock loaded and high pressure conditions. • Distinguish the static shock and dynamic shock phenomena • Understand the unusual behavior of materials in harsh conditions.	National developmental needs
6	Elective: Digital Signal Processing	P1017C	• To introduce the basic principles of digital signal processing (DSP) and provide an understanding of the fundamentals, implementation and applications of DSP techniques. • To introduce signals, systems, time and frequency domain concepts and the associated mathematical tools those are fundamental to all DSP techniques. • To provide a thorough understanding and working knowledge of design, implementation, analysis and comparison of digital filters for processing of discrete time signals.	• Understand the fundamental concepts such as linearity, time-invariance, frequency response, z-transforms and the discrete time Fourier transform as applied to discrete time signal processing systems. • Understand the analytical tools such as Fourier transforms, Discrete Fourier transforms, Fast Fourier Transforms and Z-Transforms required for digital signal processing. • Get familiarized with various structures of IIR and FIR systems. • Design and realize various digital filters for digital signal processing.	National developmental needs

				• To impart the knowledge of spectral properties of discrete-time systems through the use of Discrete Fourier transform (FFT) of sequences. • To introduce various sampling techniques and different types of filters.	• Familiarize with techniques of analysis of discrete-time signals and the use of Z-transforms	

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Name of the Programme: B.Sc Chemistry

S No	Title of the Paper	Course Code	Course Objectives	Course Outcomes	Relevance
1	VOLUMETRIC ANALYSIS	PCH209	• To understand and apply the principle of volumetric analysis • To differentiate substances as primary and secondary standards • To learn the concept of indicators and their uses in volumetric analysis. • To learn to handle chemicals and apparatus related to volumetric analysis • To learn to develop methodologies to estimate the amount of unknown substances • To differentiate the types of titration and their utilization in the estimations	• On successful completion of this Course, students will be able to • Match the theoretical aspects including principle with practical • Differentiate substances as primary and secondary standards and prepare them in required concentration. • Analyze the water samples for its hardness and other water quality parameters. • Classify the different types of volumetric estimations and the indicators required for them • Calculate the amount of substances and interpret the results. • Develop methods for the estimation of substances volumetrically	National developmental needs

2	ALLIED CHEMISTRY - II (BIOCHEMISTRY)	ACH210	• To define and understand the basic principles of chromatography and separation techniques. • To learn the role of electrophorosis in biochemistry • To understand the basics of nuclear chemistry and its importance in biomedical field • To correlate the chemistry of carbohydrates and their structural differences • To link structure and function relations of proteins in biological systems • To learn the importance of coordination chemistry in biochemistry	• On successful completion of this Course, students will be able to • Define and understand the fundamental principles of chromatography and its separation techniques. • Correlate the Structural chemistry of carbohydrates in aldoses and ketoses • Relate the structure and functions of proteins in biological systems • Explain the structural diversity of aminoacids based on various medium (neutral, acidic, basic) and proteins 3D-structures in biochemistry • Apply the concept of metal-protein coordination chemistry in oxygen transport and photosynthesis process. • Detect the half-life time of radioactivity and devise transmutation of radioactive nucleus	National developmental needs
3	ALLIED CHEMISTRY LAB WORK (BIOCHEMISTRY)	PACH209	• To prepare acid and base solutions with various concentrations • To understand and select the suitable acid-base indicators and redox indicator based on titration type • To analyze the special elements present in the unknown organic compound • To differentiate aromatic/aliphatic compounds	• On successful completion of this Course, students will be able to • Prepare and standardize acid and base solutions with various concentrations • Understand and select the suitable acid-base indicators and redox indicator based on titration type • Analyze the presence of special elements in the organic compound • Identify functional group present in any organic compound	National developmental needs

			with chemical tests • To identify functional group present in any organic compound systematically • To estimate the concentration of the unknown solution under study	systematically • Analyze the concentration of the unknown solutions under study • Apply the concepts of organic chemistry reactions in determining organic compound	
4	INORGANIC CHEMISTRY – II	CH317	• To have a sound knowledge about structure and shape using VB and MO theory • To know about Chemistry of group-14 and 15 and its applications • To understand the importance of Nuclear chemistry and its applications	• The general characteristics, electronic configuration, and oxidation states of Group 14 and Group 15 elements are introduced to students. • Using VB and MO theory, the learner can comprehend the molecule's structure and shape. • The relevance of nuclear chemistry and its applications can be comprehended by the learner. • Students can demonstrate the manufacture and structure of oxo acids of nitrogen and phosphorus. • Students can use the 'Q' Value to calculate the amount of energy produced in a nuclear reaction. • Students will be able to detect and quantify radioactivity, as well as determine the use of particle accelerators and radioisotopes as tracers.	National developmental needs
5	PHYSICAL CHEMISTRY – II	CH417	• To understand the important laws of thermodynamics and their implications in chemical systems • To learn the importance of chemical potential and its significance	• Understand the laws of thermodynamics and apply in to simple chemical system • Describe and illustrate the importance of chemical potential and analyse their significance in simple chemical reaction	National developmental needs

			• To understand the basic concepts and importance of phase equilibria • To learn the basics of colloids, surfactants and solutions	• Relate Kp, Kc and Kx and evaluate free energy and equilibrium constant for chemical reactions • Understand the basic concepts in phase equilibrium and construct the two-component phase diagram for simple eutectic system • Know the basic concepts in colloids and surfactants and illustrate the electrochemical properties in colloids • Derive and interpret the laws of solutions and apply in to solvent extraction and determine the hydrolysis constant	
6	QUALITATIVE INORGANIC ANALYSIS	PCH408	• To enable the student to systematically identify the cations and anions present in a inorganic mixture • To know the appropriate chemical procedures and apply them to prepare some familiar complexes	• Understand the systematic inorganic salt analysis based on interfering and non-interfering acid radicals and their elimination procedure • Justify the progress of group specific cations with specific reagents present for specific cations • Integrate the importance of pH concepts involved in group separation and on solubility • Predict the appropriate reactions and reagents for specific cation with group specific reagents • Adapt various interfering elimination procedure for the attainment of original solution and cationic radicals • Adapt appropriate complexation process for the attainment of various metal complexes	National developmental needs

7	ALLIED CHEMISTRY - II (MATHS AND PHYSICS)	ACH409	• To understand the principles of rate of chemical reactions and thermodynamics • To understand the basic electrochemistry, pH and buffer solutions • To learn the basic nuclear chemistry and its applications • To learn the chemistry of carbohydrate, amino acids, proteins and enzymes	• Describe the concepts of chemical kinetics and classify chemical reactions • Understand the scope of thermodynamics and apply them for practical utilities • Explain the various electrochemical processes and compare them • Tabulate materials as acids and bases and summarize their applications • Differentiate types of nuclear reactions and evaluate their adverse effects • Explain the role of biomolecules and classify them	National developmental needs
8	INORGANIC CHEMISTRY - III	CH416	• To study the chemistry of main groups elements • To understand the variation in the periodic behavior • To learn the methods of extraction of lanthanides and actinides	• Students comprehend why and how lanthanide and actinide contractions occur. • The chemistry of ozone, as well as allotropes of oxygen and sulphur, may be mastered by students. • By studying the synthesis, characteristics, and structure of interhalogen compounds, students will grasp and appreciate the differences in electronegativity among halogens. • The students can assess periodic trends, chemical reactivity and physical properties of d and f-block elements • Students are able to tell the differencebetween 3d and 4f block components. • The variations in ionic radius,	National developmental needs

				coordination number, metal-metal bonding, and oxidation state between 3d, 4d, and 5d block elements can be compared and contrasted by students.	
9	PHYSICAL CHEMISTRY - III	CH547	• To have a good foundation about the quantum chemistry and learn the application to simple system • To learn the concepts regarding chemical kinetics and apply them for kinetics related problems in chemical reactions • To learn the importance of photophysical and photochemical processes	• illustrate the concepts of conductance, their measurement and their applications • Possess ability to enumerate the applications of ionic equilibria like buffer, hydrolysis of salts • illustrate the foundations of electrochemistry, the reactions of a cell and different electrodes • apply Nernst equation and also demonstrate the applications of electrochemical series. • demonstrate the applications of electrochemistry like Fuel cells	National developmental needs
10	ANALYTICAL CHEMISTRY - II	CH548	• To study the basics, principles and instrumentation of spectroscopy. • To learn the basics, principles of polarography and amperometric techniques.	• Explain and evaluate the principle and instrumentation of colorimetric analysis and UV-Visible spectroscopy, various factors involved in analysis and its applications. • Understand the fundamentals of mass spectrometry including fragmentation pattern of simple molecules and how to determine molecular formula and molecular weight of various compounds. • Understand about the molecular vibrations in IR and Raman spectroscopies and applied to structural elucidation, detection of presence of hydrogen bonding etc.	National developmental needs

				• Illustration of NMR spectroscopy and application for structural elucidation and ESR spectroscopy for coordination compounds. • Comparing Atomic Absorption spectroscopy and Atomic Emission spectroscopy. Application of AAS like Determination of Mg in water and Lead in Petrol by AAS. • Evaluation of polarographic waves for qualitative and quantitative applications. Explore amperometric titration and its applications.	
11	ELECTIVE PAPER-FORENSIC CHEMISTRY	CH549B	• To understand the basic knowledge about forensic. • To learn how chemistry supports in crime scene investigation and detection. • To understand the determination of the crime using serology and identification of drugs usage.	• The relevance of chemistry in forensic science is well grasped by the students. • The students will be able to distinguish between the tests that were employed to obtain the fingerprint for analysis. • The students will comprehend the procedures for gathering material evidence from various things such as paint and glass. • The students can explain the notion of antigen–antibody interactions and how it may be used to identify species and drugs present in the body. • The students can describe the various forensic tests which are used to identify a stain in blood. • Students will be able to define standard field sobriety tests used to evaluate drug impairment, as well as the societal implications of drug	National developmental needs

				and importance of chemistry in toxicology.	
12	BIOINORGANIC CHEMISTRY	CH549C	• To understand the scope of bioinorganic chemistry • To learn the chemistry of metelloporphyrin, metelloenzyemes. • To know the significance of metals in medicine	• Compare the scope of bioinorganic chemistry • Discover the chemistry of metalloporphyrin • Describe the chemistry of metalloenzymes • Explain the significance of metals in medicine • Define nitrogen fixation and photosynthesis • Creating awareness and diagnosis, therapy for cancer	National developmental needs
13	APPLIED CHEMISTRY	CH550A	• To inculcate the latest sophisticated analytical techniques • To characterize the solid state materials which found applications in day-to-day life.	• Gain knowledge about the latest sophisticated analytical techinques • Correlate the amount of calcium and magnesium in soil and water • Relate and asses the applications of voltammetry • Analyse the solid materials which found application in our day-to-day life • Understand and analysis of the food products, food adulteration and preservation • Develop innovation methods to produce soft water for industrial use and potable water at cheaper cost	National developmental needs
14	INORGANIC CHEMISTRY - IV	CH545	• To study the chemistry of coordination compounds and organometallic compounds • To understand the chemistry of bioinorganic molecules and chemistry of solids.	• Using diverse theories of coordination compounds, students may acquire the fundamentals concepts of ligand types, coordination numbers, and complicated geometries.	National developmental needs

				• Students can differentiate between low spin and high spin complexes, as well as analyze the applications of spectrochemical series, Jahn-Teller distortion, and Trans effect • Students can learn about the various organometallic compounds and their synthetic applications such as Wilkinson catalyst and Fischer-Tropsch reaction • Students will be able to comprehend the significance of nitrogen fixation and cycle, as well as the structure and functions of porphyrin ring systems and metelloenzyme biochemistry. • In solid states, students can describe the fundamental crystal systems and their symmetries. • To get a better understanding of the structural and chemical characteristics of organometallics, which serve as a link between inorganic and organic chemistry.	
15	PHYSICAL CHEMISTRY - IV	CH641	• To know the fundamentals theories that govern the electrolytic conductance in solids and solutions and apply them to solve problems related to it. • To learn about the acids and base equilibria • To know about the different types of electrochemical cells and their importance	• illustrate the concepts of conductance, their measurement and their applications • enumerate the applications of ionic equilibria like buffer, hydrolysis of salts • illustrate the foundations of electrochemistry, the reactions of a cell and different electrodes • apply Nernst equation and also demonstrate the applications of electrochemical series.	National developmental needs

				• demonstrate the applications of electrochemistry like Fuel cells	
16	INDUSTRIAL AND ENVIRONMENT CHEMISTRY	CH642B	• To introduce the students about industrial extraction processes. • The pollution induced by the industrial development and the care towards the environment is focused.	• Understand and explain the various processes involved in chemical industries • Observe and apply the chemical principles of metallurgical process • Compare the causes of various types of pollution its effects and propose to adapt eco-friendly practices to mitigate pollution • Survey the extent of aquatic pollution and devise methods to sustain the aquatic ecosystem • Observe the factors responsible for aquatic and air pollution and compare them • Develop methods to mitigate aquatic and air pollution	National developmental needs
17	MATERIALS CHEMISTRY	CH642D	• To understand the basic concepts of crystal structures and their characterization • To learn about different properties of solid state materials and their characteristic structural features	• Explain and rationalise chemical bonding in the solid state and how structure affects the properties of materials. • Understand basic crystallographic and crystal chemical concepts such as unit cells, Bravais lattices and apply the Bragg's equation. • Elucidate and contemplate the physical properties of a range of functional materials including superconductors, semi-conductors, ferroelectric and piezoelectric materials • Synthesis and analyse of nanomaterials by gas phase and chemical methods.	National developmental needs

				• Analyse and understand the size relationships of chemistry of nanomaterials properties and its applications. • Evaluate the properties of nanomaterials based on quantum size effect and physical properties and to relate the uses • Formulate and validate the chemical and catalytic aspects of nanostructured adsorbent materials.	
18	CHEMISTRY OF DRUG DESIGN	CH642F	• Introduce the basic concepts of drug design and discovery process • Learn the techniques of SAR/QSAR • Introduce the concepts of molecular modeling • Introduce the concepts of receptor inhibition and enzyme inhibition in drug design • On successful completion of this Course, students will be able to	• Explain the general concepts of drug design and discovery • Illustrate the essential concepts of SAR/QSAR • Explain the different concepts of computer aided drug design • Demonstrate how receptors and enzymes can act as targets for drug discovery	National developmental needs
19	CHEMISTRY LAB WORK - IV PHYSICAL CHEMISTRY EXPERIMENTS	PCH622	• To understand about physical behaviour of compounds. • To impart sound practical knowledge in understanding the reaction pathways and calculations involved in them.	• apply the theoretical knowledge to measuring and determining the rate, order, rate constants of chemical reactions • use the concept of distribution coefficient • Apply the concept of optical activity to measure the rate constant for hydrolysis of sucrose • Know and illustrate the working principle and functions polarimeter, conductometer, potentiometer,	National developmental needs

				colorimeter and pH meter • enumerate the basics in electrochemistry and calculate the dissociation constant and equivalent conductance of a given solution • Construct the TC diagram for phenol water system and estimate the CST	
20	CHEMISTRY OF DRUGS & DISEASES	NCH504	• To learn the basic scientific facts about common drugs. • To understand about different types of diseases and their treatments for a healthy living.	• Define the terms used in pharmaceutical chemistry and be able to identify them in day to day life • Identify some common drugs and their uses of specific diseases • Recognize the cause, symptoms of various diseases and learn to apply them • Describe the role of some indian medical plants and their uses and to summarize the benefits of medicinal compounds • Differentiate the types of drugs available and choose to use them appropriately • Understand and analyze the first aid procedures available and plan to utilize them efficiently	National developmental needs

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Name of the Programme: M Sc. Chemistry

S No	Title of the Paper	Course Code	Course Objectives	Course Outcomes	Relevance
1	INORGANIC CHEMISTRY – I	CH717	• To impart the knowledge about the structure of materials and their significance. • To understand the theories of coordination complexes and their importance. • To study the basic chemistry of rare earth elements and nano materials	• Gain knowledge about the structure and bonding of Inorganic compounds like polyacids, Inorganic Polymers, polysulphur – nitrogen and their significance • Correlate the structure, bonding, stability and applications of metallocarboranes and Metal Clusters • Relate and asses the applications of organometallic compounds in the field of synthetic chemistry and catalysis • Analyse the solid materials with defects that can be used in field of electronic industries foe designing energy materials. • Understand the Solid-state Transformation, its thermodynamic, kinetics and nucleation in solid state materials • Design and synthesis the energy	National developmental needs

				Course Objectives	Course Outcomes	
					producing nano materials and energy storage nanomaterials to meet the energy crisis in the future	
2	PHYSICAL CHEMISTRY – I	CH718		• To study the basic concepts of various theories in chemical kinetics • To illustrate the mechanism of acid, base and enzyme catalyzed reaction and their applications. • To apply and analyse the kinetics of complex reactions and fast reactions by various methods. • To learn and apply the symmetry elements and symmetry operations in molecules • To understand the concepts of selection rules in for transitions and find out the vibrational modes of the molecules. • To construct the character table for simple molecules.	• Understand the various theories of kinetics and compare their applications to reactions. • Compare and contrast the different catalytic reaction and analyse their applications. • Hypothesize mechanistic pathways for reactions based on the kinetic parameters. • Learn and sketch the different symmetry elements and evaluate the implications of symmetry operations in molecules. • Assess the vibrational modes of molecules and thereby formulate the selection rules for transitions • Develop the character table and analyse the symmetry operations of molecules	National developmental needs
3	ORGANIC CHEMISTRY – II	CH818		• To understand the addition, elimination, reduction and oxidation reaction mechanisms • To learn the concept of bonding, structure and	• Define the concept of chirality and categorize the structure of organic molecules through stereo isomerism and various molecular 3D-models and stereochemical rules • Annotate and integrate the	National developmental needs

			Course Objectives	Course Outcomes	
			reactivity of organic molecules	conformations and reactivity, chirality concepts involved in cyclic, acyclic, bicyclic systems • Relate the product formation from various oxidation reactions and various oxidizing reagents with detailed mechanism • Write and justify the product of reduction reactions and various reducing reagents with detailed mechanism. • Illustrate the various selective naming reactions with mechanistic route and predict the product formation • Justify the synthetic organic chemistry problems and predict the product with specific stereochemistry in oxidation, reduction and selective naming reactions	
4	INORGANIC CHEMISTRY – II	CH819	• To study the concept of coordination Chemistry, stability of the complexes and stereochemistry of complexes. • To study about structure and bonding in coordination complexes. • To learn the use of Inorganic Compounds in Biological systems • To study the electron transfer processes and substitution reactions in Coordination complexes	• Deduce the reaction mechanism and stability of the coordination compounds • Understand the theories of coordination compounds and relate their importance. • Know the basic chemistry of various elements and their functions in biological systems • Comprehend and integrating the role of coordination compound in living system • Analyze the basic application of electronic spectroscopy of complexes and apprise the stability of coordination compounds • Design and synthesis coordination	National developmental needs

			Course Objectives	Course Outcomes	
				compounds of biological and medicinal importance	
5	PHYSICAL CHEMISTRY – II	CH820	• To study and apply the fundamentals and principles of quantum mechanics in chemistry • To illustrate the physical significance of the wave functions and Schrodinger equation • To learn and analyze the principles and significance of partial molar property and fugacity. • To learn the fundamentals and applications of statistical thermodynamics. • To understand and assess the concepts of equilibrium and non – equilibrium thermodynamics in various phenomenon. • To apply non – equilibrium thermodynamics to chemical and biological systems.	• Understand and explain the principles of quantum mechanics and apply it to chemical systems. • Describe the physical significance of the wave functions and apply the Schrödinger equation for some simple systems • Understand the concepts and significance of thermodynamics and evaluate their applicability to chemical systems. • Assess the different statistical approaches to chemical system and evaluate the thermodynamic quantities in terms of partition function. • Recognize the principles that govern equilibrium and non-equilibrium thermodynamics and analyze the impact on non-equilibrium thermodynamics in electrokinetic and thermoelectric phenomenon • Integrate the concepts and its implications of non – equilibrium thermodynamics to chemical and biological systems	National developmental needs
6	ELECTIVE-II HETEROCYCLIC CHEMISTRY	CH821B	• To learn the nature and reactions of heterocyclic compounds • To understand the	• Acquire basic knowledge on classifications of Heterocyclic Compounds, nomenclature of Heterocyclic Compounds, structural	National developmental needs

			Course Objectives	Course Outcomes	
			classification and significance of heterocyclic compounds	characteristics, physical properties, synthesis of Heterocyclic Compounds and chemical reactions. • Analyze and discuss the Information and data related to Heterocyclic Compounds. • Detecting and leading the reactivity and stability of hetero aromatic compounds. • Demonstrate the proficiency in designing reaction schemes to achieve six and seven membered ring heterocycles. • Apply these hetero aromatic compounds in the synthesis of important industrial and pharmaceutical compounds. • Understand the chemistry of large heterocyclic structures and plan to synthesize them	
7	ELECTIVE – III BIO - ORGANIC CHEMISTRY	CH821C	• To enable the student to understand and appreciate the importance of biomolecules. • To understand the techniques involved in the extraction and methods of determination of structure of natural products. • To describe the structure and function of nucleic acids • To learn the synthetic procedure of alkaloids and terpenoids and their applications. • To synthesis the steroids	• Understand and know the importance of the biomolecules • Apply the extraction techniques and elucidate the structure of natural products. • Describe the structure and function of DNA and RNA and justify the denaturation of nucleic acid • Synthesis a common alkaloid and terpenoids and know their importance • Design the synthetic route of steroids and interpret their functions in biological system • Describe the general method of	National developmental needs

			compounds and interpret their biological role. • To Illustrate the method of synthesis of flavonoids	synthesis of anthocyanins and flavonoids.	
8	INORGANIC CHEMISTRY PRACTICALS – I	PCH814	• To learn the basic principles of qualitative analysis of an inorganic mixture • To understand and apply the principles of complexometric titrations.	• Understand the methodology of determining ions using complexometric titrations. • Devise methods to prepare a complex from simple starting materials • Employ a standard procedure to identify the common and rare ions • Demonstrate the ability to identify and separate any ions from any mixtures by evolving the procedure • Analyze the data obtained through various experiments and deduce conceptual explanations for theoretical concepts	National developmental needs
9	PHYSICAL CHEMISTRY PRACTICALS – I	PCH815	• To learn various physical and electrochemical methods to perform chemical measurements	• Knowledge of measuring and determining the rate, order, rate constants of chemical reactions experimentally. • Understand and use the concept of distribution coefficient to measure the equilibrium constant. • Applying the concept of optical activity to measure the rate constant and to compare the strength of acids. • Experimenting the relation between the amount of molecule adsorbed on the surface of a adsorbent and apply the	National developmental needs

				• concepts of adsorption in the field of catalysis. • Construct the phase diagram and apply it to metallurgical industry. • Estimate the minimum energy required for the molecules to undergo chemical reactions. • Evaluate the speed of chemical reactions in terms of temperature, concentration, and ionic strength. • Apply chemical kinetics in solving problems related to dosage and stability of drugs, absorption, distribution, and elimination of drugs from the body. • Linking between the theoretical concepts with the experimental data obtained in the chemical kinetics.	
10	ORGANIC CHEMISTRY – III	CH918	• To learn photochemical reactions, pericyclic reactions and their importance. • To learn the synthetic application of Organometallic compounds	• Identify the nature of rearrangement involved and intermediates generated in various organic molecules; Writing mechanism for the rearrangement involved in organic molecules. • Interpret the role of reagents in multistep organic synthesis and correlate the next synthetic work up involved. • Integrate the concept of organometallic compounds as homogeneous, heterogeneous catalysts and reagents in organic functional group conversions. • Illustrate list of electronic transitions involved in various organic molecules	National developmental needs

			and correlate them with photochemical reactions and based on their photophysical processes. • Invent corresponding mechanism based on thermal/photochemical condition and predicting the product with specific stereochemistry in various pericyclic reactions. • Build the synthetic route theoretically for a given reactant and product with set of reagents.	
11	INORGANIC CHEMISTRY – III	CH919	• To study about the basic theory of Inorganic spectroscopy. • To illustrate the UV, IR and Raman spectral properties of some inorganic compounds and complexes. • To study and illustrate the different types of magnetic behaviour in inorganic materials. • To learn the basic concepts of superconductivity behaviour in the materials • To apply the NMR, NQR, ESR and Mossbauer techniques in to simple inorganic systems. • To learn the instrumentation of advance inorganic	• Students can recognize and interpret the spectroscopic techniques in terms of interaction of electromagnetic radiation with molecules • Students can infer about the magnetic properties and superconductivity of materials and can able to calculate the magnetic susceptibility of the materials. • Students can describe the principles and to interpret the instrumentation of various spectroscopic techniques. • Students can illustrate the principle involved in ESR, NQR and Mossbauer Spectroscopy and distinguish chemical species using these spectroscopy • Students can apply the principles of spectroscopy to predict the structure of compounds and analyse the various spectra of complexes • Students can able to propose and	local, regional ,national and global developmental needs

			spectroscopy techniques.	formulate the structure of a new compound based on the spectroscopic data	
12	ELECTIVE-III: INORGANIC PHOTOCHEMISTRY & MATERIALS SCIENCE	CH921A	• To provide the students with basic information on matter radiation interactions and their consequences excited state formation modes, photophysical and photochemical deactivation pathways, and application of theoretical knowledge. • Students are equipped with the knowledge on composition, molecular and electronic structures of inorganic compounds. • Students will know to identify and quantify the course of photophysical and photochemical processes.	• Understand the photochemical pathways in various chemical reactions • Elucidate the photophysical kinetics of unimolecular reaction evaluating using Stern-Volmer equation. • Understand weak and strong interaction in photochemical process and construct a mechanism for transformation of low energy reactants to high energy products. • Elucidate the mechanism involved in various metal complex systems. • Learn and apply the principles of the materials and constructing a reaction methodology using various precursor molecules. • Elucidate the imperfections in the crystal lattice and describing the phase transformation in inorganic materials.	National and global developmental needs
13	ELECTIVE III : CHEMOINFORMATICS	CH921C	• To study the fundamentals principles of the various computational methods • To interpret the various methods of representing molecules in a chemical database • To learn to analyse the data available in various databases	• Describe the various methods of representing molecules in a chemical database and apply the various tools. • Analyze the physicochemical data available in various databases • Apply the data mining tools on datasets and interpret the results. • Explain the fundamentals and apply the various computational methods in	National developmental needs

| 14 | PHYSICAL CHEMISTRY – III | CH1019 | • To study the importance and theory of ionic conductance.
• To learn the concepts of electrode - electrolytic interface and structure of the double layer.
• To learn the mechanism of electrode reactions and electron transfer process.
• To illustrate the importance and industrial applications of different types of fuel cells.
• To understand the concepts of various methods of energy calculation in many electron systems.
• To apply the VB, MO and HMO theory to simple many electrons system. | chemical calculations.
• Evaluate the chemical calculations using computer programs, construct the new molecule using molecular modelling tools
• Design the structure of the small molecules and integrate the docking process using the software

• Comprehend the concept of activity coefficient and ionic strength of electrolytes and to evaluate and relate the mean ionic activity coefficient of electrolytes.
• Describe the structure of the electrified interface, and define and describe mathematically the capacitance of various model of double layer
• Calculate and analyze the electron transport and kinetic overpotential for electrodes at which a one-step and multi-step electron reaction takes place.
• Know about the behavior of ions in solution phase under different conditions and its application towards different energy storage devices
• Describe many-electron atoms with the various approximation methods and evaluate the energy and construct wave function of many electron atoms with suitable methods
• Describe the chemical bonding quantum | National developmental needs |

(Note: The top portion of this table continues from the previous page with items "To learn to apply the datamining tools on datasets and interpret the results" in the objectives column.)

				mechanically with VB, MO and HMO theory and able to calculate the pi electron energy to simple systems.	
15	PHYSICAL CHEMISTRY PRACTICAL- II	PCH1015	• To understand the principles that govern the basic electrochemical experiments • To learn the physical methods used in determination of parameters such as pH, conductance and EMF etc.	• Learn and apply the principles of conductometry and potentiometry effectively for various titrations • Explain the conductometric titration of strong acid, weak acid and mixture of acids with strong Base. • Determine the equivalent conductance of strong electrolytes at infinite dilution and dissociation constant of weak electrolyte • Calculate the pH of a buffer solution using emf measurements • Prepare a salt bridge for potentiometric experiments. • Verify the various laws like Ostwald's dilution law and Kohlrausch's law conductometrically and design working electrodes	local, regional ,national and global developmental needs

| 16 | SELF-STUDY PAPER (SSP) CHEMICAL SCIENCES FOR CSIR-UGC – NET/JRF/ GATE | CH1017SP1 | • To learn about the concept of all bonding and spectral characteristics of compounds
• To analyze the various theories of chemical reactions and apply to solve the related problems
• To understand the concept of stereochemical reactions and apply the rules to solve the problems | • Link the periodicity of elements with their chemical reactions, structure, bonding, spectral and magnetic properties and resulting applications
• Examine various theories with practical heating systems and thermodynamics of various modules and importance of adsorption in catalysis
• Sketch and build various stereo specific structure of various molecules, structure specific reactions with various reagents and their stereochemical outcomes | National developmental needs |

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Name of the Programme: B. Sc. Computer Science

S No	Title of the Paper	Course Code	Course Objectives	Course Outcomes	Relevance
1	PROBLEM SOLVING TECHNIQUES	CS120	• To develop problem solving skills with top down design principles. • To become competent in algorithm design and program implementation. • To develop skills to apply appropriate standard methods in problem solving	• Upon Completing the Course, Students will be able to: • Develop programming techniques required to solve a given problem. • Develop problem solving skill using top – down design principles. • Design an algorithm for a problem. • Develop techniques to handle array structure • Develop techniques such as searching and sorting	**National**
2	WEB DEVELOPMENT USING HTML	CS121	• To provide a comprehensive overview of the two largest Web technologies, Hyper Text Markup Language (HTML), and Cascading Style. • To learn through hands-on,	• Upon Completing the Course, Students will able to: • Use knowledge of HTML and CSS code and an HTML editor to create personal and/or business websites	**National**

			practical instruction that will assist the students to tackle the real-world problems they face in building websites today—with a specific focus on HTML and CSS • To develop an ability to design and implement a web site	following current professional and/or industry standards. • Use critical thinking skills to design and create websites	
3	DIGITAL COMPUTER FUNDAMENTALS	CS221	• To explore the Number System, Number Conversion from one Base to another Base and Complements. • To understand the Logic Gates, Boolean Algebra and to design the Logical Circuits. • To simplify the Boolean Functions using K-Map Method • To Learn Combinational circuits as Adders and Subtractors, Encoders and Decoders. • To Learn the different types of Flip-Flops such as SR Flip flop, JK Flip flop, T Flip flop and D Flip flop.	• Perform conversions among different number systems, to be familiar with basic logic gates, • Draw the Logic circuits and truth table for Boolean functions • Simplify Boolean functions by using k-map method and Boolean Laws and Theorems. • Design of combinational circuits such as Adder, Subtractor, Multiplexer, Encoder and Decoder etc. • Understand the design of sequential Circuits such as Flip-Flops, Edge-trigger and master slave flip flops.	**National**
4	PROGRAMMING USING C	CS222	• To enhance analysing and problem-solving skills and use the same for writing programs in C. • To develop logics which will help them to create programs, applications in C. • To use the comparisons and limitations of the various programming constructs and	• After course completion the students will have the following Course Outcomes: • Understanding a functional hierarchical code organization. • Ability to define and manage data structures based on problem subject domain. • Ability to work with textual information, characters and	**National**

			choose the right one for the task in hand. • To enter the program on a computer, edit, compile, debug, correct, recompile and run it.	strings. • Ability to work with arrays, structures, pointers and files.	
5	COMPUTER ORGANIZATION AND ARCHITECTURE	CS322	• To understand the basics of Computer Organization. • To know the relationship between computer instruction and the Machine code execution. • To know about the various types of CPU Organization and Addressing Modes. • To recognize the need of interface between CPU and Input / Output devices. • To think critically, independently, and quantitatively about Computer Memory.	• Study basic computer organization, design and micro-operations. • Prepare machine code from the instructions • Understand CPU organization and different types of addressing modes. • Understand how the Input/ Output devices communicate with the computer • Learn various methods and techniques of memory organization.	**National**
6	DATA STRUCTURES AND ALGORITHMS USING C	CS323	• To provide the knowledge of basic data structures and their implementations. • To understand importance of data structures in context of writing efficient programs. • To develop skills to apply appropriate data structures in problem solving	• Upon Completing the Course, Students will able to: • Learn the basic types for data structure, implementation and application. • Know the strength and weakness of different data structures. • Use the appropriate data structure for a given problem. • Develop programming skills required to solve a given problem.	**National**

| 7 | SOFTWARE ENGINEERING | CS422 | Understand the principles of large scale software systems, and the processes that are used to build them. Acquire ability to the software-development process, including requirements analysis, design, programming, testing and maintenance. Understand the Communication issues in large, complex software projects. Understand purpose and importance of the project management from the perspective of planning, tracking and completion of project. | Upon completion of this course, students should be able to: Plan and deliver an effective software engineering process, based on knowledge of widely used development lifecycle models. Employ group working skills including general organization, planning and time management and inter-group negotiation. Capture, document and analyse requirements. Translate a requirements specification into an implementable design, following a structured and organized process. Make effective use of UML, along with design strategies such as defining a software architecture, separation of concerns and design patterns. Formulate a testing strategy for a software system, employing techniques such as unit testing, test driven development and functional testing. Evaluate the quality of the requirements, analysis and design work done during the module. | **National** |

| 8 | RELATIONAL DATABASE MANAGEMENT SYSTEMS | CS423 | • To understand the basic principles of Databases and Data Models.
• To know about the Relational Data Structures and Relational Algebra.
• To understands the concepts of Functional Dependency and Normalization.
• To learn the features and to write Queries using SQL.
• To explore the organization and to acquire skills in developing programs using/SQL. | • Gain a good understanding of the architecture functioning of database management systems as well as associated tools and techniques.
• Implement the Entity Relationship Diagram using various E-R Diagram Symbol.
• Develop a good database design using normalization techniques.
• Understand the use of structured query language & PL/SQL, its syntax, its working and its scope.
• Acquire a good understanding of database systems concepts and to be in a position to use and design databases for different applications | **National** |
| 9 | PROGRAMMING USING JAVA | CS540 | • To acquire the programming skills in core java applications.
• To learn the art of GUI programming with Applet.
• To write interface with Applet Controls.
• To understand the Layouts of Applets.
• To establish database connectivity.
• To learn the Interaction between AWT control and Data Base. | • Upon completion of this course, students should be able to:
• Understand the concept of OOP as well as the purpose and usage principles of inheritance, polymorphism, encapsulation and method overloading.
• Identify classes, objects, members of a class and the relationships among them needed for a specific problem.
• Create Java application programs using sound OOP practices (e.g., interfaces and | **National** |

				APIs) and proper program structuring (e.g., by using access control identifies, and create user define package for specific task,(reusability concepts) error exception handling) • Develop programs using the Java standard class library. • Develop software in the Java programming language, (using applet, AWT controls, and JDBC)	
10	WEB DEVELOPMENT USING XML	CS541	• To know how to represent data over the Web using XML. • Understanding of the XML Document Object Model. • Understanding xml DTD and its uses. • Understanding xml schema and its uses. • Understanding JSON and its uses	• Upon completion of this course, students should be able to: • Describe how namespaces are used in XML. • Follow XML syntax rules. • Validate XML using DTD. • Construct XSLT style sheets for transforming HTML. • Construct XPath expressions for use within XSLT style sheet templates. • Be able to write the schema for the given XML documents in both DTD and XML Schema languages. • Be able to parse XML documents by using DOM.	**National**
11	PROGRAMMING USING PHP	CS542	• To learn about PHP is a server scripting language, and a powerful tool for making dynamic and interactive Web pages	• Upon completion of this course, students should be able to: • Understand process of	**National**

			• To Understand File handling concepts • Understanding PHP code to connect, access, and update a MySQL database • Understanding PHP using XML	executing a PHP-based Script on a webserver. • Understand basic PHP syntax for variables use and standard language constructs, such as conditional and loops. • Storing data in arrays. • Using PHP built-in functions and creating custom functions • Understanding POST and GET in form submission. • How to receive and process form submission data. • Reading and writing cookies. • Create a database in phpMyAdmin Read and process data in a MySQL database.	
12	OPERATING SYSTEMS	CS543	• To acquire the principles of Operating System, Process, its Description, Uniprocessor and Multiprocessor and its Scheduling Techniques. • To understand the concept of Mutual Exclusion, Deadlock and its detection, prevention & avoidance. • To learn the various Main Memory and Virtual Memory Management techniques. • To explore the Organization and Management of I/O, Disk and File Managements.	• To make students able to learn different types of operating systems along with concept of file systems and CPU scheduling algorithms used in operating system. • To provide students' knowledge of memory management schemes and I/O handling algorithms. • At the end of the course, students will be able to implement various algorithms required for management, scheduling, allocation and communication used in operating system.	**National**

				• Able to compare & constant various scheduling algorithm	
13	COMPUTER GRAPHICS	CS544 A	• Understand the Role and importance of Algorithms like Line drawing Algorithm, Circle drawing Algorithm, Character generating Algorithm. • Understand 2D and 3D Transformations. • Understand various Clipping Algorithms like point clipping, line clipping and polygon clipping. • Understand the importance of the User Dialogue and various input functions. • Understand the Visible Surface Detection Methods.	• To provide comprehensive introduction about computer graphics system, design and two-dimensional transformations. • To make the students familiar with techniques of clipping, three-dimensional graphics and three-dimensional transformations. • Prepares the students for activities involving in design, development and testing of modelling, rendering, shading and animation	**National**
14	DATA MINING AND WAREHOUSING	CS544 B	• To understand data mining principles and techniques and Introduce DM as a cutting-edge business intelligence • To expose the students to the concepts of data warehousing architecture and implementation • To study the overview of developing areas – web mining, text mining and ethical aspects of data Mining • To identify business applications and trends of data mining		**National**

15	DECISION SUPPORT SYSTEM	CS544 C	• To introduce the decision-making system, models and support • To appraise the general nature and range of decision support and group support systems • To impart about knowledge-based system and advanced intelligent systems		**National**
16	SOFTWARE TESTING AND QUALITY ASSURANCE	CS544 D	• To introduce various approaches, techniques, technologies, and methodologies used in software testing and quality assurance. • To understand the role of testing in applications • To learn to design the test cases • To know the different levels of testing • To study the state-of-the-art of software testing and quality assurance		**National**
17	MOBILE APPLICATIONS DEVELOPMENT	CS633	• To develop a mobile application. • To understand the concept of SQLite	Upon completion of this course, students should be able to: • Describe the platforms upon which the Android operating System will run. • Create a simple application that runs under the Android operating system. • Access and work with the Android file system. • Create an application that uses multimedia under the Android operating system. • Access and work with	**National**

				database under the Android operating system.	
18	PROGRAMMING USING PYTHON	CS634	• Develop basic understanding of the basics of Python programming language. • Learn core Python scripting elements such as data types and flow control structures. • Design simple applications using Python.	After this course, the student will be able to • Understand and apply Python's core data types while writing new programs. • Express different decision-making statements and functions • Understand and summarize the different file handling operations	**National**
19	LINUX AND SHELL PROGRAMMING	CS635	• State the major components and describe the architecture of the UNIX operating system. • To learn and understand UNIX commands. • State how the shell functions at the user interface and command line interpreter. • Create structured shell programming with flow control constructs.	Upon completion of this course, students should be able to: • Understand the basic Unix command • Understand the concepts piping and redirections. • Create a shell script using VI editor. • Able to develop using shell script to solve simple application problem.	**National**
20	MICROPROCESSOR USING 8086/88	CS636	• To Understand the basic architecture of the Microprocessor • To learn the instruction sets of the processor • To write applications using assembly level language program • To study the input/output interfaces of the processor • To understand the importance	At the end of the course, students should be able to: • Identify the types of instructions and the organization of registers and memory • Describe the translation model of assembly language to machine language. • Understand the micro-program by mapping the instructions.	**National**

				of interrupts in programming	• Recognize the types of computer organizations. • Accept the better ways of Parallel and Vector processing.	
21	COMPUTER NETWORKS	CS637 A		• To learn the basic concepts of Computer Networks	• To explain how communication works in computer networks and to understand the basic terminology of computer networks • To explain the role of protocols in networking and to analyse the services and features of the various layers in the protocol stack. • To understand design issues in Network Security and to understand security threats, security services and mechanisms to counter it.	**National**

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Name of the Programme: M Sc. Computer Science

S No	Title of the Paper	Course Code	Course Objectives	Course Outcomes	Relevance
1	HUMAN RIGHTS	VE1004	• To strengthen respect for human rights and fundamental freedoms, • To value human dignity and develop individual self-respect and respect for others • To develop attitudes and behaviors that will lead to respect for the rights of others. • To promote respect, understanding and appreciation of diversity. • To empower people towards more active citizenship. • To ensure genuine mime gender equality and equal opportunities for women and men.	• On completion of the course, students should be able to • CO1: Understand the historical growth of the idea of human rights. • CO2: Summarize an understanding of what human rights. • CO3: Identify and analyze who is responsible for upholding human rights • CO4: Distinguish the meaning and significance of the Universal Declaration of Human Rights • CO5: Evaluate the concepts and ideas of Human Rights. • CO6: Adapt and apply the concepts of human rights to	national developmental needs

				their own lives	
2	HUMAN RIGHTS	VE1004	• To strengthen respect for human rights and fundamental freedoms, • To value human dignity and develop individual self-respect and respect for others • To develop attitudes and behaviors that will lead to respect for the rights of others. • To promote respect, understanding and appreciation of diversity. • To empower people towards more active citizenship. • To ensure genuine mime gender equality and equal opportunities for women and men.	• On completion of the course, students should be able to • CO1: Understand the historical growth of the idea of human rights. • CO2: Summarize an understanding of what human rights. • CO3: Identify and analyze who is responsible for upholding human rights • CO4: Distinguish the meaning and significance of the Universal Declaration of Human Rights • CO5: Evaluate the concepts and ideas of Human Rights. • CO6: Adapt and apply the concepts of human rights to their own lives	national developmental needs

| 3 | RESEARCH INVESTIGATION | MCS477S | To enable the students to choose an area of specialization. To help the students to focus on current research in computer science. To understand the research areas by collecting and reading research papers, analysing qualitative and quantitative aspects by a survey or implementation. | On completion of the course, students should be able to CO1: Identify the research ethics. CO2: Understand the research problem and research process. CO3: Develop skills in qualitative and quantitative data analysis and presentation CO4: Evaluate a well-structured research paper and scientific presentations CO5: Assess the adequate knowledge of research CO6: Demonstrate the ability to choose methods appropriate to research aims and objectives. | national developmental needs |

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Name of the Programme: MSW

S No	Title of the Paper	Course Code	Course Objectives	Course Outcomes	Relevance
1	THEATRE SKILLS - (SKILL PAPER -SK 1)	MSW116T	• To gain better understanding theatre fundamentals • Have Personality development through theatre • Have the ability to Create Alternative thoughts and Alternative Aesthetics	• Gain better understanding theatre fundamentals • Have Personality development through theatre • Have the ability to Create Alternative thoughts and Alternative Aesthetics	National Developmental Needs
2	HOSPITAL ADMINISTRATION (Main Elective-1)	MSW314B	• To gain basic knowledge on Hospital Administration • Understand the functions of Hospital • Acquire the skill for administering Hospitals.	• Gain basic knowledge on Hospital Administration • Understand the functions of Hospital • Acquire the skill for administering Hospitals.	National Developmental Needs
3	NGO MANAGEMENT	MSW412C	• To gain knowledge about establishing and managing a nongovernmental organization • Understand the functions and activities of a nongovernmental organization • Acquire the skill of working with nongovernmental organization	• Gain knowledge about establishing and managing a nongovernmental organization • Understand the functions and activities of a nongovernmental organization • Acquire the skill of working with nongovernmental organization	National Developmental Needs
4	LIVELIHOOD AND SOCIAL AUDIT	MSW413A	• To understand the concept, need, importance and principles of rural livelihood and social audit. • Gain knowledge on rural livelihood and the various methods involved in social auditing • Acquire skills to practice social accounts and audit.	• Understand the concept, need, importance and principles of rural livelihood and social audit. • Gain knowledge on rural livelihood and the various methods involved in social auditing • Acquire skills to practice social accounts and audit.	National Developmental Needs

5	HUMAN RESOURCE DEVELOPMENT	MSW413B	• To gain knowledge about human resource development • Understand the approaches and activities of human resource development • Acquire the skills of developing human resources in different sectors	• Gain knowledge about human resource development • Understand the approaches and activities of human resource development • Acquire the skills of developing human resources in different sectors	National Developmental Needs
6	COUNSELING & CAREER GUIDANCE	MSW413C	• To gain knowledge about counseling and career guidance • Understand the methods and steps of counseling and guidance • Acquire the skills of extending counseling services to the needy	• Gain knowledge about counseling and career guidance • Understand the methods and steps of counseling and guidance • Acquire the skills of extending counseling services to the needy	National Developmental Needs
7	CONCURRENT FIELD WORK – IV	MSW417F	• Gain experience by applying the theoretical knowledge in the field • Understand the functions and activities of field placement organization • Acquire of the skills of applying the class learning into practice	• Gain experience by applying the theoretical knowledge in the field • Understand the functions and activities of field placement organization • Acquire of the skills of applying the class learning into practice	National Developmental Needs
8	BLOCK FIELD WORK – II	MSW419F	• To gain experience in a social work field by being in an open or closed setting • Understand the techniques and approaches adopted by the organization • Apply the knowledge gained, in the field of social work	• Gain experience in a social work field by being in an open or closed setting • Understand the techniques and approaches adopted by the organization • Apply the knowledge gained, in the field of social work	National Developmental Needs

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Name of the Programme: BBA

S No	Title of the Paper	Course Code	Course Objectives	Course Outcomes	Relevance
1	FUNDAMENTALS OF ORGANIZATION	B109	• To impart to the students an understanding of business concepts with a view to prepare those to face emerging challenge of managing business. • To Comprehend different forms of organization and ethical issues in business. • To create awareness about trade associations.	• To Adapt the basic Concepts in Commerce, Trade and Industry and How they apply in the real world • To Construct the Ethical and Social Responsibility of Business • To Analyze about Positive and Negative aspects in the forms of Sole trader, Partnership and Joint Hindu Family System • To Compare and assess the functions of company and Cooperative societies • To Evaluate the features of Trade Associations • Categorize and appraise the basic concepts in business organization and social responsibilities of business	**National needs**
2	COST & MANAGEMENT	B321	• To enable the students to acquire the knowledge on	• List the basic knowledge of Cost and Costing	**National needs**

	ACCOUNTING		cost and management Accounting • Import the knowledge of cost accounting • To help the student to apply cost accounting practice. Apply basic ratio of a company.	• Construct the cost sheets and practice in the industries • Examine the basic concepts of management accounting and interpret the different financial statement of a company • To know what is Ratio? And combine the different methods of Ratio • Understand and relate the concept of marginal costing. To decide and formulate the working knowledge of the principles of practices of cost and management accounting	
3	LEGAL ASPECTS OF BUSINESS	B323	• To give an exposure to important commercial laws, the knowledge, that is essential for an understanding of the legal implications of the general activities of a modern business organization. • To understand the legal frame work related to contract To learn the basic business law concepts and apply in the practice in the business	• To take part in the students to understand the essential elements of Indian Contract Act 1872 • To decide the discharge of contract and contingent contract • Interpret the contract of indemnity and guarantee • Construct the basics of Joint stock company • Recall the procedures of formation and winding up of joint stock company Examine the relevance of business law and company law to individuals and businesses and the role of law in an economic, political and social context	**National needs**

4	FINANCIAL MANAGEMENT	B424	• To familiarize oneself with the techniques used in financial management. • Knowledge about capital structure, cost of capital, impact of dividend decisions in the corporate world • Understand the different financing decision and estimate the value of different financial instruments	• To decide the student to know the importance and objectives of financial management • To choose the students to know the capital structure • To make use of the students to enable them to know leverage • To recall and discover the decision making for Capital budgeting • To Interpret the theories of dividend • To compile the financial plans for practical decision making for manager	**National needs**
5	ELECTIVE - I: PAPER - III: SERVICES MARKETING	B522C	• To understand the role of Service Marketing in the Society • To make the students understand the uniqueness of Services Marketing • To know about the Marketing of Services, Services sector contribution in the area of marketing • Better exposure to students about the evolution and growth of service marketing sector • They gain expert knowledge on marketing of the wide variety of service also available	• Recall the Concepts of service design and expanded service marketing mix becomes familiar to students offer better employability skills to students • Summarize and Plan the Emerging Business sector like Healthcare, Hospitality, Tourism, Education, Logistics and Entertainment Industries • Examine the challenges and opportunities in banking and financial service sector • To Evaluate and Examine the students to gain knowledge on marketing on various services • To motivate and estimate the Delivery Quality Service • Formulate the Basic concepts of	**National needs**

				service	
6	SUBJECT SKILL - I: PAPER II: BUSINESS TAXATION	B523B	• To provide an understanding of the theory taxation for business. • To gain a theoretical knowledge about taxation. •	• Contrast the Tax System in India • Evaluate the Classification of Taxes • Interpret and Make use of GST • Develop the SWOC of GST • Recall the Types of GST • Formulate the Basic information related to tax	**National needs**
7	SUBJECT SKILL - I: PAPER - IV: INVESTMENT MANAGEMENT	B523D	• The purpose of this paper is to acquaint the student with the concepts which are helpful in developing a investment	• To enable and extend to the students to understand the nature, scope and structure of Investment Management • To impart and organize the basic knowledge and skills on Investment • To Apply and learn and understand the foreign Direct investment concepts • Recall and Appraise Stock Exchange • Originate Portfolio Management • Formulate the Fundamental Analysis of different indicators	**National developmental needs**
8	ENTREPRENEURIA L DEVELOPMENT	B624	• To introduce basis of Entrepreneurship • To familiar with concepts and process of Entrepreneurship • Acquire the knowledge of current business opportunities	• To Interpret and induce entrepreneurial thoughts to the students • To Construct ensure the qualities of entrepreneurs in the mind set of the students • To predict, Judge and motivate the students to become entrepreneur • To Utilize to start up the business plan and project	**National needs**

				• To organize the business, how to create and assist • To interpret the project and project formulation	
9	SOCIAL SENSITIVITY SKILLS	B625	• This course intends to facilitate coexistence in a rapidly changing world characterized by diversity and exponential new development in social structure. The course aims create ability to practice harmonious living and develop necessary skills to enrich each other in society. The skills covered will be social adaptability, Environmental adaptability, legal adaptability.	• After the completion of the course, the students will be: • More aware about their duties and responsibilities towards their society and fellow beings and will be able to assess the impact and consequences of their actions on the society. • Able to understand the procedures to file FIRs and RTIs, applying for their driving licenses, PAN card, VISA and other legal documentations. • Able to understand and exercise their rights and duties better and will have the knowhow of what to be done during the time of emergencies. • • Possessing the skills to examine environmental problems with a critical approach and will be able to develop sustainable models to help resolve and environmental issue.	**National needs**
10	ELECTIVE PAPER – II PAPER - IV: BANKING & INSURANCE	B626A	• Understand the role of Banking and Insurance sector in the changing environment • To know about the Banking Functions & Insurance Policies	• To develop the basic concepts of banking • To rephrase the different types of deposits • To Construct and defend the negotiable instruments • To Recall the basic principles of	**National needs**

				Insurance • Interpret the types of Insurance • To analysis and Evaluate the banking and insurance	
11	NON MAJOR ELECTIVE: PAPER - II: ORGANIZATIONAL BEHAVIOUR	NBB604	• To establish knowledge in the areas of Personality, Perception and attitudes.	• To identify and choose the fundamental concepts of Organization Behaviour • Construct and decide the Perception and Attitude of Human Behaviour • To relate and compare groups and construct their development by motivation and power • Discover and create effective leaders to manage the stress • Recall and learn the fundamentals of organization and climate • After the completion of this course the student shall be able to determine the nature, scope, importance of Organizational Behaviour	**local, regional ,national and global developmental needs**

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Name of the Programme: MBA

S No	Title of the Paper	Course Code	Course Objectives	Course Outcomes	Relevance
1	ACCOUNTING FOR MANAGEMENT	MBA133T	• To make the students get exposed to the various accounting systems, accounting control and linking the accounting system to the management decision making. • To create an awareness of the importance and usefulness of the accounting function.	• Enables the students to learn the basic functions, principles and concepts of finance in management. • Possess a managerial outlook on accounts	National
2	FINANCIAL MANAGEMENT	MBA233T	• To inculcate the basic concepts of mobilizing and utilizing the finance in an organization. • To enable the students to understand the application of financial management techniques in wealth maximization.	• Provides support for decision making and enables managers to monitor their decisions for any potential financial implications and for lessons to be learned from experience and to adapt or react as needed. • Helps in understanding the use of resources efficiently, effectively and economically to focus on wealth maximization rather than profit maximization.	National

3	CORPORATE LEGAL ENVIRONMENT	MBA234T	- To provide the students with practical legal knowledge of general business law issues to become more effective business leaders. - This course is intended to make students understand various social, political, legal and economic in making managerial decisions.	- Legal insight will be established in the business practices according to the situation of changing environment. - To integrate international law relating to Business laws in India	National

Name of the Program : BA Tamil

S No	Title of the Paper	Course Code	Course Objectives	Course Outcomes	Relevance
1	நன்னூல் (எழுத்ததிகாரம்)	TA108	தமிழ் எழுத்துகளின் அமைப்பு - சொற்களின் உருவாக்கம் - சொற்களின் புணர்ச்சி ஆகியவற்றை அறிமுகப்படுத்துதல் - அடிப்படை இலக்கண அறிவை ஏற்படுத்துதல்.	நன்னூலில் உள்ள பாயிரச் செய்திகளைஅறிந்துகொள்வர். எழுத்துக்களின் வகை, பிறப்பு, வடிவம் ஆகிய செய்திகளை அறிந்துகொள்வர். பதவியலில் உள்ள சொற்களை	national
2	நன்னூல் - சொல்லதிகாரம்	TA208	தமிழ்ச் சொற்களின் அமைப்பு - சொற்களின் வகைப்பாடு - சொற்களின் பயன்பாடு ஆகியவற்றை அறிமுகப்படுத்துதல் - அடிப்படை இலக்கண அறிவை ஏற்படுத்துதல்.	தமிழ்மொழியின் சொற்கள் அமைப்பதில் உள்ள அடிப்படைக் கட்டமைப்பினை அறிந்து கொள்வர்.	national

				சொற்களை அமைப்பினைப் பிற மொழிகளுடன் ஒப்பிட்டு நோக்கும் திறனைப் பெறுவர். இலக்கணத்தின் சொல் அமைப்புகளைத் தெரிந்துகொண்டு அதனை எழுதுகின்ற திறன்களைப் பெற்றிருப்பர். ஆங்கில மொழியில் எளிதாகப் பேசலாம் என்ற தன்னம்பிக்கையினைப் பெறுவர். சொற்களை அமைப்பினைப் பிற மொழிகளுடன் ஒப்பிட்டு நோக்கும் திறனைப் பெறுவர்.	
3	<u>யாப்பருங்கலக் காரிகை</u>	**TA308**	யாப்பிலக்கணத்தின் மரபையும்,இலக்கணத்தையும் அறிமுகப்படுத்துதல் – பிழையற பேசுதல்,எழுதல்- யாப்பிலக்கணத்தின் மூலம் செய்யுள்(பாட்டு)இயற்றும் ஆர்வத்தை ஏற்படுத்துதல்.	யாப்பிலக்கணத்தின் மரபையும்,இலக்கணத்தையும் அறிமுகப்படுத்துதல் – பிழையற பேசுதல்,எழுதல்- யாப்பிலக்கணத்தின் மூலம் செய்யுள்(பாட்டு)இயற்றும் திறன்களைப் பெற்றிருப்பர்.	**national**

| 4 | தமிழ்ப் பண்பாட்டு வரலாறு – 1 | TA309 | சங்ககால மக்களின் வாழ்வியலை அறிந்து கொள்வதன் மூலம் தமிழ்ப் பண்பாட்டின் சிறப்பினைப் புரிந்து கொள்வர். கழகக்கால சேர , சோழ, பாண்டிய மன்னர்களின் ஆட்சிச் சிறப்பை அறிவதன் மூலம் அரசியல் அறிவைப் பெறுவர். | நீக்கிரோ முதல் திராவிடப் பண்பாடு வரை உள்ள உலகப் பண்பாடுகளை ஆராயும் அறிவை வளர்த்துக் கொள்வர். ஐந்திணை சார்ந்த நிலவியல் அமைப்பினை அறிந்து கொள்வர். தொன்மையான தமிழ்ப் பணபாட்டினைப் பாதுகாத்து அடுத்தத் தலைமுறைக்குக் கடத்தும் மனப்பான்மையைப் பெறுவர். | **national** |
| 5 | தமிழ்ப் பண்பாட்டு வரலாறு - 2 | TA412 | நாயக்கர் காலத் தமிழ் மக்களின் வாழ்வியல் பற்றி அறிந்து கொள்வர். ஐரோப்பியர் கால தமிழகச் சூழலை அறிந்து கொள்வதன் மூலம் விடுதலைப் போராட்டத்தின் நிகழ்வுகளை நினைவுகூர்வர். பிற்கால தமிழக ஆட்சிமுறையினை அறிந்து கொள்வர். | சமூக சீர்த்திருத்தவாதிகளின் கொள்கைகளை அறிந்து கொள்வதன் மூலம் அரசியலில் பெரும் மாற்றங்களை உண்டாக்கும் திறனைப் பெறுவர். விஜய நகரப் பேரரசு உள்ளிட்ட பல்வேறு பண்பாட்டுகள் இந்தியாவுக்கு வழங்கிய கலைக்கொடையை மதிப்பிடும் திறனைப் பெறுவர். | **national** |

6	இலக்கணம் 5 : புறப்பொருள் வெண்பாமாலை	**TA502**	பழந்தமிழர் போர் முறை, போருக்கான காரணம், அழிவு, அறம் முதலியவற்றை அறிந்து கொள்ளுதல் - பண்டைத் தமிழிலக்கியங்களில் பயின்று வரும் புறத்திணை மரபை அறிமுகப்படுத்துதல்.	பண்டைத் தமிழிலக்கியங்களில் பயின்று வரும் புறத்திணை மரபை அறிதல்.	**national**
7	தமிழ்மொழி வரலாறு	**TA503**	காலந்தோறும் பிறமொழிக் கலப்பாலும் ஆட்சியினராலும் தாக்கப்பட்டு அம்மொழியடைந்த மாற்றத்தினைக் கற்றுக் கொள்வதன் மூலமாக ஒரு மொழியின் வளர்ச்சிப் போக்கினை உணர்ந்து கொள்ளல் போன்றவற்றை நோக்கமாகக் கொண்டு இப்பாடம் கற்பிக்கப்படுகிறது.	தமிழ் மொழியின் வரலாற்றை அறிந்து கொள்ளல்.	**national**

8	விருப்பப்பாடம் 2 : தமிழ் இலக்கியவரலாறு 1	**TA505B**	தமிழ் இலக்கியங்களின் காலம் படிநிலை வளர்ச்சி வகை பாடுபொருள் வடிவம் முதலியவற்றுடன் தமிழ் இலக்கணப் பனுவல்களை அறிந்துகொள்ளல்.	தமிழ் இலக்கியங்கள் வளர்ந்த வரலாற்று அறிவு பெறல்.	**national**
9	இலக்கணம் 6 : நம்பியகப்பொருள்	**TA602**	பழந்தமிழரின் அகப்பொருள் ஒழுக்கம், திணைப்பாகுபாடு, காலம், களவுக்காலத்தும் கற்புக்காலத்தும் மேற்கொண்ட செயற்பாடுகள், சமூகக் கட்டமைப்புப் போன்றவற்றை அறிந்து கொள்ளல்.	பழந்தமிழரின் அகப்பொருள் ஒழுக்கம், திணைப்பாகுபாடு, காலம், களவுக்காலத்தும் கற்புக்காலத்தும் மேற்கொண்ட செயற்பாடுகள், சமூகக் கட்டமைப்புப் போன்றவற்றை அறிதல்.	**national**
10	விருப்பப்பாடம் 2 : தமிழ் இலக்கிய வரலாறு 2	**TA605B**	தமிழ் இலக்கியங்களின் காலம், படிநிலை வளர்ச்சி, வகைப்பாடு, பொருள், வடிவம் ஆகியவற்றுடன் தமிழ் இலக்கணப் பனுவல்களை அறிந்துகொள்ளல்	தமிழ் இலக்கிய வரலாற்றையும் வளர்ச்சிப் போக்கையும் அறிதல்	**national**

| 11 | NME :
தமிழ்
மொழியின்
வளர்ச்சிப்
போக்குகள் | TA606 | மாணவர்களுக்குத் தொல்காப்பியம் முதல் சமகாலம் வரையிலான இலக்கிய, இலக்கணப் பனுவல்களை அறிமுகப்படுத்துவது, அதன் வளர்ச்சிப் போக்குகளையும் நோக்குகளையும் உணர்த்துதல், போட்டித் தேர்வுகளை எதிர்கொள்ளும் வகையில் உருவாக்குதல். | போட்டித் தேர்வுகளை எதிர்கொள்ளல். | **national** |

Name of the Program : M.A Tamil

S No	Title of the Paper	Course Code	Course Objectives	Course Outcomes	Relevance
1	**தொல்காப்பிய ம் - எழுத்ததிகாரம்**	**TA718**	தமிழ்த்துறை மாணவர்களுக்கு இலக்கண அறிவு தேவை என்பதை அறிந்து கொள்வர். எழுத்துகளின் வகைகள்�௫ பிறக்கும் முறை எப்படி என்பதை அறிந்து கொள்வர். புணர்ச்சி முறையின் அடிப்படைக் கட்டமைப்பினை அறிந்து கொள்வர். பிழையில்லாமல் எழுத முடியும் என்ற தன்னம்பிக்கையினைப் பெறுதல்.	தமிழ்த்துறை மாணவர்களுக்கு இலக்கண அறிவு தேவை என்பதை அறிந்து கொள்வர். எழுத்துகளின் வகைகள்௫ பிறக்கும் முறை எப்படி என்பதை அறிந்து கொள்வர். புணர்ச்சி முறையின் அடிப்படைக் கட்டமைப்பினை அறிந்து கொள்வர். பிழையில்லாமல் எழுத முடியும் என்ற தன்னம்பிக்கையினைப் பெறுவர். ஆங்கிலத்திலிருந்து தமிழுக்கும் தமிழிலிருந்து ஆங்கிலத்திற்கும் உள்ள இலக்கண அமைப்பினைப் பொறுத்திப் பார்க்கும் திறனைப் பெறுவர். இலக்கணக் கோட்பாடுகளை விளங்கிக் கொள்வர்.	**national**

2	தொல்காப்பியம் - சொல்லதிகாரம	**TA819**	தொல்காப்பியம் மாணவர்களுக்கு சொற்பிழை இல்லாமல் எழுதுவதற்கும் வாசிப்பதற்கும் தேவை என்பதைஅறிந்து கொள்வர். உலகமயமாக்கச் சூழலில் தமிழ்மொழியின் வளர்ச்சிக்காக மொழியறிவுடன் இலக்கணம் அடிப்படைத்தேவை என்பதை அறிந்து கொள்வர். தமிழ்மொழியின் அடிப்படைக்கட்டமைப்பினை அறிந்து கொள்வர்.	தமிழ்மொழியினைப் பிழையின்றி எழுதவும் பேசவும் முடியும் என்ற தன்னம்பிக்கையினைப் பெறுவர். தன்திறமைகளை வளர்ப்பதோடு மட்டுமல்லாமல் பேச்சாளர் என்ற திறனைப் பெறுவர். இலக்கணக்கொள்கைகளை விளங்கிக் கொள்வர். இலக்கணநுட்பங்களை உணர்ந்துகொண்டு சிறந்த எழுத்தாளர் பேச்சாளர் என்ற திறன்களைப் பெற்றிருப்பர்.	**national**

(continuation from previous row, top of page)
எழுத்துகளின் கட்டமைப்பினைத் தெரிந்துகொண்டு சிறப்பான பிழையில்லாத தொடர்களை அமைக்கும் திறன்களைப் பெற்றிருப்பர்.

3	படைப்பிலக்கிய மும் ஆளுமைத்திறனு ம்	TA823	படைப்பாளி – படைப்பாக்கம் – படைப்பு ஆகியவற்றின் உறவுநிலை சார்ந்த அறிவைப் பெறுதல் நவீனப் படைப்புகளின் இயங்குதள விதிகள் குறித்த அறிவைப் பெறுதல் ஆளுமைப் பண்புசார் அறிவைப் பெறுதல்	படைப்பாளி – படைப்பாக்கம் – படைப்பு ஆகியவற்றின் உறவுநிலை சார்ந்த அறிவைப் பெறுதல் நவீனப் படைப்புகளின் இயங்குதள விதிகள் குறித்த அறிவைப் பெறுதல் ஆளுமைப் பண்புசார் அறிவைப் பெறுதல் ஆளுமைப்பண்புகளை மேம்படுத்தும் அறிவைப் பெறுதல் ஆளுமைகளின் பயிற்சியையும் படைப்பாக்கப் பயிற்சியையும் பெறுதல்	national
4	தொல்காப்பியப் பொருளதிகாரம்	TA918	**தமிழ் மொழியில் உள்ள தொல்காப்பியபொருளதி காரம் குறித்தும் அவற்றின் தமிழ்மொழியின் இலக்கணநூலான தொல்காப்பியத்தில் பொருளதிகாரத்தின் அக்கால மக்களின் அகப்புற வாழ்வியலை அறிந்துக் கொள்வது**	பழந்தமிழரின் அகவாழ்வியலுக்கான இலக்கணத்தை அறிந்துகொள்வர். பழந்தமிழரின் புற வாழ்வியலுக்கான இலக்கணத்தை அறிந்துகொள்வர். களவு – களவுக்கான கூற்று நிகழ்த்துபவர்களின் இலக்கணத்தை அறிந்துகொள்வர்.	national

				கற்பு – கற்குக்கான கூற்று நிகழ்த்துபவர்களின் இலக்கணத்தை அறிந்துகொள்வர். களவுஇ கற்பியலில் சொல்லப்படாத எஞ்சியுள்ள இலக்கணச் செய்திகளை பொருளியலில் அறிந்துகொள்வர்.	
5	<u>உரை மரபுகள்</u>	**TA920**	உரைமரபின் தோற்றப் பின்புலங்களை அறிந்துகொள்ளல்- உரையாசிரியர்களின் உரைப்போக்கினை விளங்கிக் கொள்ளல்- இலக்கணஇஇலக்கிய உரையாசிரியர்களின் உரை வேறுபாட்டினை உணர்ந்துக்கொள்ளல்.	இலக்கண உரையாசிரியர்களின் வரலாறுஇ இலக்கண நூல்களுக்கு உரை எழுதும் தன்மைக் குறித்த அறிவைப் பெறுதல். தமிழ் இலக்கியங்களுக்கு உரையெழுதுபோக்குக் குறித்தத் திறனைப் பெறுதல். நீதிநூல்களுல் ஒன்றான திருக்குறளுக்கு வரைந்துள்ள உரைப்போக்குஇசிந்தனைகள் குறித்தும் நன்கு தெளிந்த அறிவையும் பெறுதல்.	**national**

| 6 | போட்டித்தேர்வு களுக்கான தமிழ் | TA1023 | உலகமயமாக்கச் சூழலில் தமிழ் மொழியறிவும் அடிப்படைத் தேவை என்பதை அறிந்து கொள்வர். தமிழ் இலக்கண மொழியின் கட்டமைப்பினை அறிந்து கொள்வர். தமிழ் மொழியில் உள்ள இலக்கியத்தின் முக்கியதுவத்தினை அறிந்து கொள்வர்.. | போட்டித்தேர்வு நோக்கில் இலக்கியம் பெற்றிருப்பர். உலகமயமாக்கச் சூழலில் தமிழ் மொழியறிவும் அடிப்படைத் தேவை என்பதை அறிந்து கொள்வர். தமிழ் இலக்கண மொழியின் கட்டமைப்பினை அறிந்து கொள்வர். தமிழ் மொழியில் உள்ள இலக்கியத்தின் முக்கியதுவத்தினை அறிந்து கொள்வர்.. வினாவிற்கு ஏற்ற விடையையும் விடைக்கு ஏற்ற வினாவினையும் அமைக்க கற்றிருப்பர். போட்டித்தேர்வு கொள்கைகளை விளங்கிக் கொள்வர். தேர்வு நுட்பங்களை உணர்ந்து கொண்டு தேர்வு எழுதும் திறன்களைப் பெற்றிருப்பர். | national |

| 7 | தொல்காப்பியம் பொருளதிகாரம் -2 | TA1019 | தமிழ் மொழியில் உள்ள பொருளிலக்கணம் குறித்தும் அவற்றின் வளர்ச்சி நிலை குறித்தும் அறிந்துகொள்வது. அவற்றின் வழியாக மக்களின் வாழ்வியல் முறைகளையும் செய்யுள் புனையும் ஆற்றல் குறித்தும் அறிந்துகொள்வது | தமிழரின் அக வாழ்வியல் குறித்தும் அவ்வாழ்வியல் குறித்த படைப்புகளுக்கான மெய்ப்பாட்டு இலக்கணம் குறித்து அறிந்துகொள்ளுதல். செய்யுளுக்கு அழகு சேர்க்கும் அணி இலக்கணத்தைக் குறிப்பாக உவமையியல் குறித்து அறிந்துகொள்ளுதல். கவிதை இயற்றுவதற்கான இலக்கணம் குறித்தும் அக்கவிதை கட்டமைப்புக்கான இலக்கணத்தையும் அறிந்துகொள்ளுதல். செய்யுள் இயற்றுதலுக்கு வரையறைசெய்யப்பட்ட செய்யுள் உத்திகளை அறிந்துகொள்ளுதல். தொல்காப்பியர் உணர்த்திய மரபியல் சிந்தனைகளை அறிந்துகொள்வர். | national |
| 8 | தமிழக வரலாறும் மக்களும் பண்பாடும் | TA1021 | • தமிழ்ச் சமூக வரலாற்றையும் பண்பாட்டு வரலாற்றையும் அறிமுகப்படுத்துதல் -
 • பண்பாட்டுச் சிறப்பின் தனித்துவத்தை அறிமுகம் செய்தல் - வரலாற்றின் போக்கினையும் | தமிழக பண்பாடு தேவை என்பதை அறிந்து கொள்வர். தமிழர் வரலாறு அடிப்படைத் தேவை என்பதை அறிந்து கொள்வர். தமிழக பண்பாடு | national |

			இடையீடுகளையும் இடையூறுகளையும் தெளிவுபடுத்துதல்.	அடிப்படைக் கட்டமைப்பினை அறிந்து கொள்வர். பண்பாட்டு என்ற தன்னம்பிக்கையினைப் பெறுவர். தமிழ் பண்பாடு திறனைப் பெறுவர். தமிழ் பண்பாட்டு கொள்கைகளை விளங்கிக் கொள்வர். பண்பாட்டு நுட்பங்களை உணர்ந்து கொண்டு சிறந்த வரலாறு திறன்களைப் பெற்றிருப்பர்.	

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Accredited by NAAC (4th Cycle – under RAF) with CGPA of 3.31 / 4 at 'A+' Grade

Name of the Programme: B.Sc Bio chemistry

S No	Title of the Paper	Course Code	Course Objectives	Course Outcomes	Relevance
1	APPLIED MICROBIOLOGY	BC404	• To understand about mode of microbial infections, fermentation and waste management.	• By learning this subject, Students can demonstrate knowledge of microbial cell structure and metabolism, evolutionary forces and their consequences. It obtains wide knowledge as how microorganisms interact with their environment and interaction between humans. Students can describe and use new and existing methods and technologies in and out of the laboratory setting. They can also formally communicate the results of biological investigations using both oral and written. Students can demonstrate an understanding, and ability to use, the scientific method including observation, hypotheses testing,	**National developmental needs**

				data collection, analysis and interpretation.	
2	ANALYTICAL BIOCHEMISTRY	BC405	• To understand about principles, instrumentation and applications of various analytical instruments.	• Analytical biochemistry expertise the student in analyzing biochemical components found in a cell or other biological sample. It also makes the student skilled in using broad range of techniques for separation, identification, quantification and functional characterization of biological molecules. It also ensures the student to understand the insights of complex biological process in the cell. This course will develop basic knowledge on electrochemical techniques, chromatography, electrochemical radiation and atomic radiation techniques used in life science.	**National developmental needs**
3	BIOMEDICAL INSTRUMENTATION	BC520A	• To focus on biomedical instrumentation in life sciences.	• The main objective of this course is to introduce student to basic biomedical engineering technology. As a result student can understand, design and evaluate systems and devices that can measure, test and/or acquire biological information from the human body. This course will explore the students about various systems of the human physiology, signals of biological origin	**National developmental needs**

				obtained from these systems, biosensors, transducers, bioelectrodes used to acquire such signals, and amplifiers for measuring biopotentials. Electrical safety of medical devices; measurements of the blood pressure, blood flow, respiratory system, clinical laboratory equipment, medical imaging, and bioethics will also be discussed.	
4	SS1: BIOTECHNOLOGY	BC616	• To give knowledge on applied field of life sciences like DNA technology, tissue culture techniques and Fermentation technology	• Student will have a In-depth knowledge in the chemical structure and function of biomolecules, metabolism in the cell, knowledge of the concepts of molecular genetics and biosynthesis of proteins. A good theoretical and practical insight into methods used to obtain this knowledge of the relationship between structure and function at organ and/or organism level, of important cell biological communication principles and processes, and how they are regulated.	**National developmental needs**

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Name of the Programme: M.Sc Bio chemistry

S No	Title of the Paper	Course Code	Course Objectives	Course Outcomes	Relevance
1	ELECTIVE – I – BIOINFORMATICS	BC712A	• To give focus on online resources in life sciences and applications of Bioinformatics in scientific research. • To determine the function of genes and proteins, to establish evolutionary relationships, and to calculate the three-dimensional shape of proteins by using computer programs. • To learn algorithms and statistics for assessing the	• Understand the history and basic concepts in bioinformatics. • Determine the formative databases available for all the biological macromolecules. • Analyze global and local sequence alignment tools and their importance. • List the various protein structure prediction methods through computational approaches. • Integrate the significance of gene prediction methods. • Evaluate the tools and software in the analysis of nucleic acid and protein.	**National developmental needs**

			relationships among large sets of biological data. • To know the tools for the analysis and interpretation of the various biological data. • To understand various databases and learn the useful biological information.		
2	STEM CELL TECHNOLOGY	BC712C	• To learn about the basics of stem cells. • To understand the embryonic and adult stem cell therapy. • To examine the increasing potential of stem cell in medicine and understanding of the molecular determinants. • To develop the ability to understand the role of stem cells in research. • To learn about Stem cell based therapies in animal models.	• Enumerate the basics of stem cells and the concepts of embryonic and adult stem cell therapy. • Examine the increasing potential of stem cell science to contribute to medicine and understanding of the molecular determinants that define stem cells. • Demonstrate in vitro manipulation to create distinct cell lineages and understanding of the methodologies used for reverse engineering of mature cells to create induced pluripotent stem cells. • Compile the basic research methodologies used in current stem cell research. • Determine the ethical issues associated	**National developmental needs**

				• with stem cell research. • Defend the stem cell based therapies in animal models.	
3	RESEARCH METHODOLOGY	BC913	• To learn the Importance of Research and Ethics in Scientific research • To understand the collection and classification of research data. • To know the scope of Bioinformatics, the role of Computers in Biology and Useful search engines. • To acquire in-depth knowledge about the Laboratory animals used for Life science research. • To explain the Composition of the Institutional Ethical Committee (IEC) and General ethical issues.	• Observe the basic concepts of scientific research, types of research and research design. • Establish the knowledge about scientific writing and research publications • Generalise the Collection and Classification of Data and its analysis. • Perceive the Scope of Bioinformatics, and useful search engines for finding scientific articles. • Point out the Laboratory animals used for Life science research and its ethical issues. • Develop an understanding of the Composition of the Institutional Ethical Committee (IEC), IPR and Patenting.	**National developmental needs**

					National developmental needs
4	ELECTIVE III - BIONANOTECHNOLOGY	BC914C	• To understand the fundamental principles of nanotechnology and its applications. • To study about the basic knowledge about nanoparticles and its biological applications. • To apply engineering concepts and demonstrate a comprehensive understanding of state-of-the-art nano- scale and nano-fabrication methods. • To evaluate the processing conditions to engineer functional nanomaterials. • To apply and transfer interdisciplinary approaches to bionanotechnology.	• Demonstrate the fundamental principles of nanotechnology and their application to biomedical engineering. • Exhibit the state-of-the-art nano-fabrication methods • Apply the knowledge of assessing nanomaterials and their safety • Make inferences on handling methods required during characterization • Justify the usage of nanomaterials in biological applications. • Compile the information about nanomedicines and their uses.	

5	BIOTECHNOLOGY	BC1010	• To impart knowledge on basic tools in genetic engineering. • To provide knowledge on cloning vectors and DNA sequencing. • To create awareness on gene transfer and its applications. • To understand basics on Industrial biotechnology. • To develop sound knowledge on Bio-safety and bio-hazards.	• Perceive a broad knowledge on gene transfer system, restriction enzymes and hybrid vectors in genetic engineering. • Explain the gene cloning technique, gene library, PCR and Blotting Techniques. • Outline the Tissue Culture, protoplast fusion, GM foods and xenografting. • Describe the basic concepts of fermentation and their industrial applications. • Determine the biological weapons, gene drain and tangled genes. • Interpretation of Vaccines with RNA virus and safety of GMOs	**National developmental needs**

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Name of the Programme: BCA

1	DIGITAL COMPUTER FUNDAMENTALS	CA107	• To know and understand the fundamentals of a computer system • To understand the basics of digital design and number systems • To learn about combinational gates and k-maps to simplify the Boolean functions • To know and understand the purpose of sequential circuits • To learn the purpose of different registers and counters	• Explain the Characteristics, Generations of a Computer, Purpose and Types of Input & Output Unit, Processing Unit, Memory Unit and Storage devices • Understand different Number Systems, Complements available to represent data and IC Logic gates, Boolean algebra for the simplification of expressions for Computer processing. • Apply the Boolean Algebra rules and K-maps for simplification of expressions and explain the purpose and working of Combinational Circuits • Understand and analyze the Sequential logic circuits - flip flops • Draw the circuit diagram and	**National Developmental Needs**

			Course Objectives	Course Outcomes	
				• explainthe purpose and types of registers, counters. • Understand and analyze the different types of memory units	
2	OPERATING SYSTEM	CA208	• To study the basic concepts of operating systems and the design of operating system • To understand various CPU scheduling algorithms, Process synchronization and the deadlocks. • To learn the memory management, paging and segmentation techniques. • To be aware of the concepts of file system, allocation methods and Free space management. • To understand the concepts of disk scheduling.	• Describe the important computer system resources and the role of operating system in the coordination and control of computer resources. • Understand the process management techniques and scheduling algorithms • Evaluate the requirement for deadlock process synchronization and deadlock handling methods. • Explain and analyze the memory management and its allocation policies. • Apply the file management policies with respect to different storage management technologies • Understanding the integration of various File system structure	**National Developmental Needs**
3	ELECTIVE – I: OBJECT ORIENTED ANALYSIS AND DESIGN	CA315B	• To understand the diagrams UML. • To prepare the students to draw class modeling diagrams.	• Understand the modeling concept and object Oriented designs, recognize the notations of UML • Create UML diagrams with proper notations and uses • Apply their skill on framing new design based on the requirements • Analyze the system requirements	**National Developmental Needs**

			• To make the students to understand the importance of state modeling diagrams. • To become knowledgeable in interaction modeling diagrams. • To understand the basic concept of system conception and design.	with UML diagrams and design the systems • Implement modules, process flows of the systems • Evaluate the requirements, designs, and process flow of the systems	
4	ELECTIVE - I: SYSTEM ANALYSIS AND DESIGN	CA315C	• To learn the system development design strategies. • To understand structured analysis development methods. • To know computer input and output design strategies. • To design online dialogue and auxiliary storage devices. • To understand the Systems engineering and quality assurance concepts.	• Understand the design and development of systems • Apply and analyze the design based on requirements to develop systems • Create system designs based on inputs and outputs • Describe the memory storage devices • Evaluate the quality of the system • Acquire knowledge on software development	**National Developmental Needs**
5	SOFTWARE ENGINEERING	CA518	• To Understand the Software Engineering Practice and Process Models.	• Identify the need for engineering approach to software development and various processes k1 • Understand about software myths, generic view of the process and	**National Developmental Needs**

			Objectives	Course Outcomes	
			• To Understand Software Process Modeling Concepts. • To know the concept of Architectural Design method in Software Engineering. • To understand Component based software Engineering. • To know the various methods of Reengineering.	process models k2 • Analyze various software engineering models and apply methods for design and development Process. K4 • Acquire knowledge on the wider perspective of software engineering architecture design • Assess the concept of Component Based software Engineering • Enhance in the techniques of risk management and re-engineering	
6	EMERGING COMPUTING PARADIGM	CA415	• To learn the benefits of E-Commerce and the features available in e-business. • To introduce the basics of Block Chain and its applications. • To know and implement content management system and various CMS models exist. • To know and understand machine learning and its different categories of algorithms. • To understand the basics and uses of Artificial	• Explain the benefits of E-Commerce and the features available in e-business. • Understand the basics of Block Chain and its applications. • Study and apply content management system and various CMS models exist. • Understand, analyze and evaluate machine learning and its different categories of algorithms. • Explain and implement the basics and uses of Artificial Intelligence System. • Understand and analyze the basics of Quantum Computing	**National Developmental Needs**

			Intelligence System and quantum computing.		
7	COMPUTER GRAPHICS	CA515	• The main objective of the course is to introduce fundamental concepts and theory of computer graphics. It represents the important drawing algorithm, polygon filling, clipping and 2D transformation curves and an introduction to 3D transformation. It provides the basics of OpenGL application programming interface.	• Enumerate the mechanisms involved in basic transformation of an object in Two dimensions. • Identify the basic function of displays and algorithm mechanism for generating line and circle. • Apply the transformation effects to the objects in Three dimensions. • Analyze the procedure in manipulating an object from window to viewport. • Predict the possible surface for the visibility of the objects • Determine projected objects to naturalize the scene in 2D • view.	**National Developmental Needs**
8	ELECTIVE II: INTERNET OF THINGS	CA615C	• This course gives a foundation in the Internet of Things, including the components, tools, and analysis by teaching the concepts behind the IoT and a look at real-world solutions. This Course focuses on hands-on IoT concepts such as sensing, actuation and communication. It covers the	• Remember the IOT based solution for real world applications • Realize the evolution of domain specific IoT. • Understand the building blocks of Internet of Things and its characteristics. • Understand the concepts of IOT and its application. • Develop the IoT devices with help	**National Developmental Needs**

			development of Internet of Things (IoT) prototypes including devices for sensing, actuation, processing, and communication.	of Tools • Apply the knowledge and skills acquired during the course to build and test a complete, working IoT system involving prototyping, programming and data analysis	

Name of the Programme: MCA

S No	Title of the Paper	Course Code	Course Objectives	Course Outcomes	Relevance
1	**OPTIMIZATION TECHNIQUES**	MCA162T	• To obtain knowledge on linear programming problems, transportation problems, assignment problems, inventory models, queuing models, project management and Game theory problems.	• Generalize and Formulate linear programming problems. • Choose, Draft and Formulate transportation problems. • Classify and Design assignment problems. • Devise , Build and Design inventory models. • Elicit and Design queuing models • Define, Build and Formulate project management and Game theory problems.	**national developmental needs**
2	**PYTHON PROGRAMMING**	MCA360T	• To understand the fundamentals of writing Python scripts, Python scripting elements. • To create a dynamic web page using Python.	• Observe and practice the fundamentals of writing Python scripts and Python scripting elements. • Express and Apply the concepts of file handling, exception handling and database connectivity. • Apply and build the different dimensions of design and development. • Devise and Design GUI applications. • Draft and Create a dynamic web page using DJANGO. • Devise and Develop domain based applications	**national developmental needs**

3	**ELECTIVE II: CLOUD COMPUTING**	MCA363A	• To understand the concept of cloud computing. • To appreciate the evolution of cloud from the existing technologies. • To have knowledge on the various issues in cloud computing. • To be familiar with the lead players in cloud. • To appreciate the emergence of cloud as the next generation computing paradigm	• Observe and Discuss the fundamental ideas behind Cloud Computing. • List and Explain about cloud computing and the services that are available. • Observe and Correlate the major three services IaaS, SaaS and PaaS. • Observe the various storage services (like amazon S3) and able to practice them. • Understand the benefits Cost Effectiveness of Cloud computing and Analyze the Cost Effectiveness. • Analyze and Evaluate the performance of Cloud Computing	**national developmental needs**
4	**ELECTIVE II: SOCIAL NETWORK ANALYSIS**	MCA363B	• To learn knowledge representation using ontology. • To understand the sources for network analysis. • To understand the concept of semantic web and related applications. • To understand knowledge representation on semantic web. • To model and aggregate social networking of data.	• At the end of the course, the students will be able to • Adopt to the concepts of semantic web. • Perform social network analysis • Represent knowledge in semantic web. • Model social network data • Aggregate and analyze social network data	**National developmental needs**

| 5 | **ELECTIVE III: ENTERPRISE RESOURCE PLANNING** | MCA364A | To provide a basic understanding and knowledge of the Enterprise Computing techniques used in industries. To understand basic concepts, tools and Techniques of Enterprise Resource Planning. To analyze and propose IT solutions for the integration of business process throughout the enterprise. To aim for careers in various ERP consultancies, ERP-support services and Software Developers. To understand the business model and ERP Implementation. | Observe and Comprehend the knowledge of business benefits of implementing the enterprise computing techniques in the industries. Examine and Assess the ERP package's technology and how they help to streamline the company process. Analyse , Evaluate and integrate ERP into various business modules. Evaluate and comprehend the ERP system's pre and post implementation phases.
Draft and Design ERP with future e-commerce / internet and ccompare the benefits of re-engineered business process through a case study. Recognize and Observe the importance of ERP package through case studies | **national developmental needs** |

| 6 | **ELECTIVE V: DATA MINING TECHNIQUES** | MCA467A | • To Learn the fundamentals of Data Mining.
• To Learn the concepts of clustering and classification.
• To understand the trends in Data mining.
• To analyze data, choose relevant models and algorithms for respective applications.
• To develop research interest towards advances in data mining. | • Understand the fundamentals of Data Warehouse and Data Mining
• Observe and Discuss the concepts of preprocessing, association mining, clustering, classification and Regression
• Recognize and Explore various tools and its uses for data analysis
• Apply and analyze the clustering and classification techniques for a specific problem.
• Recognize and Solve real-world problems in business and scientific information using data mining.

• Recognize, Device and Build statistical predictive models using various techniques such as neural networks, decision trees and logistic regression. | **national developmental needs** |

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Name of the Programme: B.A ENGLISH

S.No	Title of the Paper	Course Code	Course Objectives	Course Outcomes	Relevance
1	Chaucer and Elizabethan Age	EN207	• To train the learners to get an overall perspective of the literature of Chaucerian Age • To make the learners to understand the poetic forms in Chaucer and Elizabethan Age • To expose the learners to the features of prose writings in Chaucer and Elizabethan Age • To enable the learners to appreciate the features of Chaucer and Elizabethan drama • To help the learners to understand the English Social life during Chaucer and Elizabethan Age	• Appreciate the features of Chaucer and Elizabethan poems, prose • Get an over view of the Chaucer and Elizabethan Age • They can understand the English Social life during Chaucer and Elizabethan Age • Catogorise various genres in Chaucer & Elizabethan Age • Create the similar traditional forms of poetry as in the particular age	**national**
	18th Century English Literature	EN208	• To give a broad introduction to the Literature and Culture of the Eighteenth Century England • To explore the classical notion of Science and Literature, Nature and Imagination during the	• Students will be able to Know and remember the various developmental stages of 18th century in the English literary field. • Students will be able to explain the classical notions of Science and	**national**

2			Eighteenth Century • To give a taste of the eighteenth-century poetry and novel • To enhance the students' knowledge of the literary accomplishments and an exposure to the eighteenth-century writers • To familiarize the students with the concepts that evolved during that era.	literature, Nature and Imagination during the eighteenth - century • Students will be able to enrich student's mind with the taste of the eighteenth-century Poetry with the concepts of Eighteenth-century writers • Students will be able to describe, analyze, interpret and evaluate 18th century dramatic literature and theatrical productions. • Students will be able to understand the theoretical concepts and its development that could develop student's critical thinking.	
3	Literary Forms	EN209	• To introduce students to the English literary background • To inculcate in the beginners a proper understanding of all the literary forms • To enable the students to understand each literary form in isolation and in relation to other forms • To identify literary forms of given literary pieces and their characteristics • To recognize and define a few important forms of poetry such as sonnet, ode, ballad, elegy, etc.	• CO1: Know and relate the English literary background with the literary pieces • CO2: Analyse the literary forms with the literary piece. • CO3: Compare each literary forms in relation to other forms. • CO4: Identify literary forms of given literary pieces and their characteristics. • CO5: Recognize and define a few important forms of poetry such as sonnet, ode, ballad, elegy, etc.	**national**
4	History of English Literature -I	EN308	• To enrich the students with the wide knowledge of the historical and biographical details of writers of various ages.	• CO1: Gain knowledge of the History of Literature and great authors of English. • CO2: Interconnect the history, biography of the author and the works.	**national developmental needs**

			• To make the students understand the development of British Literature	• CO3: Analyse the growth of literary genres of specific periods. • CO4: Evaluate the role of literary movements and their impact on the literary works. • CO5: Help the learners to identify great authors and their ages.	
5	History of English Literature – II	EN415	• To enrich the students with the wide knowledge of the historical and biographical details of writers of various ages. • To make the students understand the development of British Literature	• CO1: Gain knowledge of the History of Literature and great authors of English. • CO2: Interconnect the history, biography of the author and the works. • CO3: Analyse the growth of literary genres of specific periods. • CO4: Evaluate the role of literary movements and their impact on the literary works. • CO5: Help the learners to identify great authors and their ages.	**national developmental needs**
6	Elective-I: Common Wealth Literature	EN521A	• To sensitize the history of Common Wealth Nations • To familiarize the students with the recent works of writers from different pockets of the world with an open mind, to understand and appreciate them • To weigh the claims of universalism made on behalf of canonical texts in juxtaposition to the elements of heredity, marginality, plurality and 'otherness', by examining these texts • To demonstrate knowledge and awareness of some components of	• Appreciate all the literary works under Commonwealth Literature as a part of English Literature. • Understand the global relevance, significance and resonance of Commonwealth Literature today. • Analyse and evaluate the postcolonial aspects of the literary works from Commonwealth nations • Appreciate the contribution of translation studies to Commonwealth Literature. • Critically analyse the relevance of the works in the light of globalization.	**national developmental needs**

				Commonwealth Nations' cultural heritage such as artistic, historical, linguistics, literary, and philosophical foundations. • To Promote creative writing in English		
7	English Language Teaching	EN618		• To provide the history of English Language Teaching • To understand the historical need that called for innovation in teaching methods • To equip the learners with a knowledge of various methods both evolving and being used in ELT • To help the students to understand the current trends and methods in ELT • To enable the students to have hands on experience • To use the latest technology to acquire LSRW skills	• CO1: Trace the history of English Language Teaching and understand the importance of teaching and learning other languages • CO2: Discuss the historical need that called for innovation in teaching methods in language teaching • CO3: Know and demonstrate various approaches and methods, both evolving and being used currently in ELT • CO4: Apply ELT methods in real time to smaller groups • CO5: Use the latest technology to acquire LSRW skills and be autonomous learners.	**national developmental needs**

SACRED HEART COLLEGE (AUTONOMOUS)

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Accredited by NAAC (4th Cycle – under RAF) with CGPA of 3.31 / 4 at 'A+' Grade

Name of the Programme: M.A. English

	CHAUCER AND ELIZABETHAN AGE	EN719	• To introduce the learners to the versatility and range of Knowledge of this period. • To gain insight into the transition from the 16th to the 17th Centuries and the influence • of new philosophy and new science. • To enlighten the different genres employed during the period and the contribution of the writers of the age • To understand the rise of the drama in the period • To invest the knowledge of socio political and religious turmoil of the age among the learners	• At the end of the course, the learners will be able to: • Significantly point out the religious and cultural temperament of the period • Analyze and interpret the language of the early writers of the Modern English period and the rise of drama during the period • Interpret the different genres employed during the period and the contribution of the writers prescribed for study • Analyze the different characters of the drama in a unique way • Distinguish the various aspects of tragedy and comedy of the Elizabethan period • enable them to appreciate the	**National and global developmental needs**

			• To enable the learners to analyze the prescribed works	merits of the age	
2.	ELECTIVE I: SUBALTERN STUDIES	EN722B	• To introduce the current trends in Literature. • To concentrate on the social issues of recent years. • To bring about change in the attitudes towards the subaltern. • To help all to live in the society respecting every individual.	• Associate to the realities of Subaltern culture. • Establish the profound voices of Subalterns. • Identify and analysis the works of writers in Subaltern Literature. • Focus on the Sensibility of Subaltern predicaments • Evaluate the limitations of subaltern literature	**National and global developmental needs**
3.	ELECTIVE I: WOMEN'S WRITING	EN722C	• To initiate an interest in the learners for the women writers in English. • To enable them to appreciate the thought and expression of women writers who displayed their perception on the world, culture, and gender- bias with novelty in attitude and innovation in techniques. • To sensitize the learners to various issues that women experience. • To equip learners to examine and appreciate works produced by women. • To encourage learners to extend their understanding of issues	• Demonstrate knowledge of the texts, the authors and the literary and social movements. • Analyze the representation of female/feminist experience in literature. • Examine and critique the role played by socio-cultural-economic contexts in defining women. • Respect difference and transcend their knowledge gained from the text to the world around. • Analyse and engage in the theoretical and Scholarly debate about Feminist Writing	**National and global developmental needs**

			gained from the text to the world around them		
4.	RESTORATION AND EIGHTEENTH CENTURY	EN818	• To introduce learners to the poetry of Restoration and Eighteenth century within the context of the literary, cultural, religious and political developments of the age. • To survey the emergence of new models of poetry and drama in this period of high ideals combined with wit and language. • To analyze 18th-century literature from a variety of critical and theoretical frameworks. • To analyze the mechanisms of canon formation and the import of canonicity within literary studies. • To provide learners with guided research and writing experience in 18th-century studies.	• By the end of this course, learners will be able to: • Analyze the development of genres in 18th-century British literature. • Analyze 18th-century British literature within its cultural and historical context. • Analyze contemporary scholarship on 18th-century British literature. • Identify and evaluate the mechanisms of canonization. • Evaluate 18th-century British literature. • Engage in archival research.	**National and global developmental needs**
5.	ELECTIVE II: POST-COLONIAL LITERATURE	EN822C	• To enable learners to know the current social-Political climate in the developing countries. • To appreciate postcolonial literatures through a study of representative authors and poets	• Understand the Postcolonial theories • Understanding the histories and the past of the Postcolonial Nations • Identify the current political and	**National and global developmental needs**

			of native culture To impart the knowledge of the postcolonial theories	social issues of the developed and developing countries • Analysing the perspectives of the writers through the various texts of the world Identifying the current trends and the changing Postcolonial culture	
6.	ROMANTIC AND VICTORIAN AGE	EN918	• To provide an overview of the literary climate where the romantic sensibility finds an authentic voice touch and intensity. • To explore the development of the specialist forms of literature in the Victorian age led by thinkers, poets and novelist towards enlightenment. • To analyze and interpret the works of the Romantic writers applying the different canons of criticism • To grasp the political and social backgrounds of the growth of the romantic and Victorian spirit	• At the end of the course, the learners will be able to: • Grasp the political and social backgrounds of the growth of the romantic and Victorian spirit • Compare and contrast the Pre-Romantic and the Romantic and Victorian writers • Analyze and interpret the works of the Romantic writers applying the different canons of criticism • Understand the reasons for the conflicts experienced during Victorian period with the advent of science • Acquire a knowledge about the unique characteristics of the Romantic and Victorian society and its literary outputs	**National and global developmental needs**
7.	AMERICAN LITERATURE	EN920	• To remember, understand and evaluate the poetry of American writers. • To understand about the	• CO1: Recall and relate the various themes in the American poems. • CO2: Describe the impact and consequences of American war.	**National and global developmental needs**

			To analyse the class difference in the Drama and its impact on the society.	CO3: Compare and contrast the social variations portrayed by the American Playwrights.	
			• To comprehend and evaluate the Short Stories in terms of plot, character, themes, symbols and settings. • To understand about the struggle for life and determination from the Novel	• CO4: Critically appraise the story focusing on the symbolic and thematic representation of America. • CO5: Analyze the survival issues in the fiction	
8.	ELECTIVE III: MODERN ENGLISH GRAMMAR AND USAGE	EN921B	• To familiarize learners with basic concepts in English grammar • To acquaint learners with grammatical categories of words • To train learners in formal and functional analysis of sentences • To make learners understand rules of usage and verb-agreement	• CO1: Speak and write grammatically correct sentences • CO2: Identify the grammatical categories and apply them in appropriate situations • CO3: Carry out formal and functional analysis of sentences • CO4: Employ a good language with proper subject verb agreement • CO5: Write coherent and unified paragraphs with adequate support and detail	**National and global developmental needs**
9.	SHAKESPEARE	EN1022	• To reread Shakespeare texts in the light of recent approaches • To Understand the postmodern versions of Shakespeare • To Understand the critics view on Shakespeare	• At the end of the course, the learners will be able • To reread Shakespeare texts in the light of recent approaches • To Understand the postmodern versions of Shakespeare	**National and global developmental needs**

			• To review the traditional concepts of genres and also to focus on new interpretation in the contemporary context.	• To Understand the critics view on Shakespeare • To review the traditional concepts of genres and also to focus on new interpretation in the contemporary context.	
10.	INDIAN LITERATURE IN ENGLISH	EN1024	• To acquaint students with knowledge of Indian writers and their works. • To help the students to have a broad look on Indian literature and to make them and estimate the diverse path and significance of Indian culture. • To make the students aware of social, political and cultural issues reflected in writing in English.▯ • To elicit the various themes presented in Indian Literature.▯ • ▯To familiarize the characteristics of Indian sensibility.▯	• CO1: Identify the major works of Indian Literature • CO2: Analyse the representative literary texts of various periods and genres • CO3: Discuss the social, political and cultural issues reflected in Indian writing in English • CO4: Demonstrate an understanding of the various themes presented in Indian writing in English • CO5: Evaluate the characteristics of Indian sensibility with world literature	**Regional and national developmental needs**

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Name of the Programme: B.COM (CA)

S.No	Title of the Paper	Course Code	• Course Objectives	• Course Outcomes	Relevance
1	FINANCIAL ACCOUNTING – I	CC106	• To understand the fundamentals of accounts and basic concepts of accounting. • To educates the students about various subsidiary books. • To give an insight knowledge about single entry system. • To inculcate the knowledge on process of preparing Final Accounts with Adjustments. • To make the students aware about Depreciation methods.	• On successful completion of this course, students will be able to • Know the basic accounting principles and accounting procedure • Understand the preparation of various subsidiary books in Accounting. • Analyze the preparation of Final Accounts with Adjustments. • Ascertain missing figure and profit or loss by preparing single entry method. • Evaluate the present asset value by preparing methods of Depreciation.	National Needs
2	FINANCIAL ACCOUNTING – II	CC206	• To educate the students branch and department accounting preparation process • To give an insight knowledge of Hire	• Know the concept of Branch and Department accounting • Understand the Hire purchase and Installment purchase systems.	National Needs

			Purchase and Installment Purchase Systems. • To educate the students about Admission of the partners. • To know the accounting procedure related with Retirement and Death of the partners. • To make the students understand Insolvency of partners and Dissolutions of the firm.	• Discover knowledge on new profit sharing ratio, revaluation of assets and liabilities, adjustment of goodwill at that time admission • Summarizing the accounting problems and settlement procedure related to Retirement and Death of the partners and • Analyze and prepare the Dissolution of the firm and Insolvency of partners using Garner vs Murry Method.	
3	PRINCIPLES OF MARKETING	CC207	• To make students to aware of marketing concepts and elements of marketing Mix • To enhance the knowledge about Market segmentation, Marketing information system and Marketing Research • To make the students to understand the product classification and product life cycle • To know the different types of pricing and promotional strategies in realistic marketing situations • To impart knowledge on technological marketing	• Understand the importance of marketing and summarize role of marketing Mix • Use the market information and Research to develop new marketing strategies for organizations • Develop the product planning process through the concept of product life cycle. • Analyzing the different types of pricing strategy and deciding the promotion tools based on marketing environment. • learned about the technology in marketing and used in their day today life to buying goods and services	National Needs
4	MERCANTILE LAW	CC310	• To understand the Indian Contract law. • To know the basic knowledge of Indemnity and Guarantee • To impart knowledge on legal rules regarding Sale of Goods Act 1930. • To give an insight knowledge about Contract of Agency.	• Acquire the basic knowledge of essential of Indian contract Act. • Apply concepts while undergoing the Contract of indemnity and Guarantee. • Analyze the concepts of Law of Bailment and Pledge.	National Needs

			Course Objectives	Course Outcomes	
			• To inculcate the knowledge of Sale of Goods Sold Act 1930.	• Summarize the creation of agency and kinds of agents. • Perceive the knowledge of sale, agreement to sell and hire purchase	
5	CORPORATE ACCOUNTING – I	CC311	• To gain comprehensive understanding of all aspects relating to corporate accounting. • To develop a process for redemption of debentures and Preference shares. • To develop the skills for preparation of final accounts according to new format. • To calibrate the procedure involved in Amalgamation of companies. • To facilitate the students to understand liquidation accounting	• Acquire the knowledge in company accounts such as meaning of a company, characteristics of a company, issue and forfeiture of shares • Understand the accounting treatment of issue of debenture and redemption of preference shares • Make detailed understanding on acquisition of business and preparation of final accounts according to new format • Have knowledge on amalgamation and preparation of balance sheet of newly formed company • Understand the calculation of liquidator's remuneration and preparation of liquidator's final statement accounting	National Needs
6	PROGRAMMING WITH C	CC313	• To enhance their analyzing and problem-solving skills and use the same for writing programs in C. • To develop logics and that will help them to create programs, applications in C. • To identify programming task involved in a given computational problem. • To identify tasks in which the numerical techniques learned are applicable and apply them to write programs.	• Define appropriate solutions to problems in the field of computer science. • Illustrate the solutions to the problems in the form of simple algorithms and flowcharts • Apply various C programming language concepts and strategies to create and execute efficient and structured computer programs. • Analyze and compile the programs to detect any errors, debug and correct the programs.	National Needs

				• Test and perform critical evaluation of the program outcome to validate the program logic. • Integrate the concepts of control structures, functions and arrays to create more complex programming solutions.	
7	CERTIFICATE COURSE I: STOCK MARKET OPERATION	CC315X	• The objective of this paper is to gain comprehensive understanding of all aspects relating to stock market. • Acquaint with the procedure of opening DEMAT account • To develop the skill to trading in stock market. • *To make students to understand the procedures for the trading commodities and related investments*. • To make students aware about online trading	• Acquire the knowledge on stock market and its functions • Have knowledge on DEMAT account • Understand the functions of Indian stock exchanges • Analyze and Evaluate commodity exchange market • Explore knowledge on Online share trading	National Needs
8	CORPORATE ACCOUNTING – II	CC411	• To gain comprehensive understanding of calculation of goodwill and valuation of shares • Students able to learn about preparation of holding company accounts • To gain accounting knowledge in preparation of bank accounts • To know the procedures of preparation of life insurance company accounts • Students enable to prepare general insurance company accounts - fire and marine.	• Understand, various methods for calculating goodwill and valuation of shares • Develop the application skills to preparation of consolidated balance sheet of holding companies, • Familiarize on bank accounts maintains • Understand the Life insurance company accounts • Gain confidence in preparation of general insurance company accounts independently.	National Needs
9	MANAGEMENT ACCOUNTING	CC512	• To equip the students to interpret financial statements with specific tools of management accounting. • To educates the students about financial	• Know the basic financial statement analysis. • Understand the preparation of Ratios from Financial Statements	National Needs

			ratio statement. • To give an insight knowledge about fund flow and cash flow statement. • To inculcate the knowledge on process of preparing budgetary control. • To make the students aware about capital budgeting.	• Analyze the preparation of fund flow and cash flow statement as per AS 3. • Ascertain Zero base budgeting. • Evaluate the method of payback period and present value index.	
10	INCOME TAX LAW AND PRACTICE - I	CC513A	• To enable the students to understand the basic provisions of Income Tax Law. • To impart knowledge of students on filing of return, income tax authorities and assessment procedure • To be familiar with the taxation of various components of salary and with the computation of taxable income from salary. • To enable the students to compute the taxable income on retirement salary. • To acquire knowledge on computation of taxable income from house property.	• Apply the basic concepts of income tax to identify the residential status of person. • Understand about the assessment procedure and could file the income tax return • Evaluate the provisions of income tax on taxability of salary and create the components of salary with minimum taxability. • Apply the income tax provisions on computation of taxable income from salary on retirement • Apply the income tax provisions on computation of income from house property in real scenario.	National Needs
11	E- COMMERCE	CC613B	• To understand the concept of Electronic Commerce. • To impart knowledge regarding E-Security and encrypted websites. • To give an insight knowledge about Electronic governance and E-Records. • To inculcate the knowledge about electronic payment system through online. • To enable the student to become familiar with the mechanism for conducting business transactions through electronic means	• Acquire of technology used in E-Commerce business. • Explain the impact of vulnerability of E-commerce environment and attacking life hackings. • Construct the concepts of Offense and Cyber Crimes. • Identifying the methods of transfer money through online, Debit / Credit Card, Smart card, Mobile Application payments. • Summarize the problems and features of Online business-like G-	National Needs

				Pay, Amazon, OLA, OYO, Swiggy, Pharmaesy, etc.,	
12	AUDITING	CC613C	• To gain the knowledge about objectives and functions of Auditing • Beware of classification of Audit • Identify the key skill required for Internal Audit • Students to learn the procedure of vouching and verification of information • To enable the students to aware about legal requirements of auditor's qualification rights and powers.	• Students will get knowledge about the principles and techniques which are used in auditing • Understand the classification of audit • Be able to gain knowledge about internal Audit • Have knowledge about vouching and verification • Explore the knowledge on company audit and qualification of Auditor	National Needs
13	COMPUTERIZED ACCOUNTING -I	CC514	• To enable the students to acquire basic knowledge on computer application in the field of Accounting with Tally Prime Software or Higher Version. • To know about creation of voucher. • To aware about Inventory creation. • To enable to acquire the purchase and sales order. • To know the budget and control.	• Acquire the knowledge of company creation, select, alter, shut. • Create voucher types and steps to creation. • Construct the purchase and sales with GST entries. • Prepare the purchase order and sales order. • Design and practice about the Scenario Management Ratio Analysis.	National Needs
14	COMPUTERIZED ACCOUNTING - I (PRACTICAL -VI)	PCC504	• To enable the students to acquire basic knowledge on computer application in the field of Accounting with Tally Prime. • To educate about pass the voucher with and without stock item. • To the students aware about Final Accounts. • To enable to acquire the knowledge of budget and control. • To know the scenario management and Ratio Analysis.	• Prepare the Trial Balance Account. • Create voucher for the accounting transaction with stock and without stock items. • Create the Final accounts; extract gross profit and net profit. • Prepare account for budget control. • practice the Scenario Management and Ratio Analysis.	National Needs

15	SELF STUDY PAPER: I 1.3 BUSINESS MANAGEMENT	CC518SP3	• To familiarize students with the principles, functions and techniques of management • Explore knowledge on planning and use appropriate resources for decision-making. • To learn organisation structure and span of management • Students will inculcate the types of leadership and theories of motivation • To study the system and process of effective controlling in the organization	• Acquire the knowledge and skills to manage a business • Familiarize the planning and decision-making process in the organization • Understand the structure of the organization and have knowledge to delegation of authority and responsibility • Demonstrate the ability to directing, leadership and communicate effectively • Evaluate the issues and formulate best control methods.	National Needs
16	HUMAN RESOURCE MANAGEMENT	CC612	• To understand the basic perspective of Human Resource management and Strategic HRM • To gain knowledge about human resource planning • They will be able to design, implement and evaluate training programmes • Demonstrate the ability to prepare a recruitment and selection strategy for a specific job • To enable the students to be aware on the procedure of performance appraisal	• Students will be able to possess the skills required by today's HR professionals and the scopes in the field of HRM and SHRM • Students are enabled make an appropriate Human Resource Planning • Apply right recruitment and selection process in business scenario • Analyze the training needs, apply the right training methods and evaluate the same • Understand and evaluate the way in which appraising the performance of an employee	National Needs
17	FINANCIAL MANAGEMENT	CC613	• To introduce the basic concepts of Financial Management. • To educates the students about financial planning. • To give an insight knowledge about	• Know the fundamental source of short- and long-term finance. • Understand the preparation of operating, financial and combined leverages.	National Needs

			Course Objectives	Course Outcomes	
			factors of capital structure. • To inculcate the knowledge on cost of equity, debentures, preference share. • To make the students aware about Working capital management.	• Analyze the preparation of capital structure theories (NI, NOI, Traditional, MM approach) • Ascertain Methods of computation of Cost of Capital. • Evaluate the method of Dividend Policy (Walter, Gordon and MM Model.	
18	INCOME TAX LAW AND PRACTICE - II	CC614A	• To enable the students to compute taxable income from business and profession • To be familiar with the transfer of capital assets and computation of taxable amount of capital gain. • To impart knowledge of students on taxability of income from other source. • To acquire knowledge on adjustment of losses under various heads of income. • To enable the students to compute Total Income and Tax Liability of an Individual	• Apply the provisions of income tax on computation of taxable income from business and profession in real cases. • Create the suitable investment portfolio based on provisions of exempted capital gain under section 54. • Understand the income tax provisions on taxability of other incomes • Apply the income tax provisions on adjustment of losses to minimize the taxable income of Assessee. • Compute the amount of taxable income and reduce the tax liability in legal ways by applying the concept of deductions,	National Needs
19	COMPANY LAW	CC614C	• To enable the students to understand the principles and procedures of company law • To impart basic knowledge of the provision of the companies act • To expose on appointments and powers of directors and secretaries of company. • To understand about the proceedings of meeting at company • To be familiar with the types of winding	• Acquire basic knowledge on company and basic documents on formation of company • Understand the powers, rights and duties of directors and secretary of company • Analyse the proceedings of various types of meeting at company with its norms • Understand the basics of ordinary	National Needs

			of companies with the process.	and special resolution • Aware about the process and methods of winding of companies	
20	MANAGEMENT INFORMATION SYSTEM	CC616	• To demonstrate effective communication with individuals, teams and large groups. • To demonstrate effective analytical and critica thinking skills. • To distinguish and analyze ethical problems th occurs in business and society. • To apply leadership skills and competencies in business situations. • To demonstrate an understanding of the major functional areas of Business.		National Needs

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Name of the Programme: B.Sc Psychology

S No	Title of the Paper	Course Code	Course Objectives	Course Outcomes	Relevance
1	STATISTICS IN PSYCHOLOGY	AM310D	• To understand basic concepts of a random variable and its probability distributions. • To graphically represent and calculate mean, median and mode. • To perform hypothesis testing and problems on inferential statistics • To outline of normal distribution, skewness and kurtosis • To define non parametric statistical test and find Spearman rank correction coefficient • To discrete and Continuous	• Understand basic concepts of a random variable and its probability distributions. • Graphically represent and calculate mean, median and mode. • Perform hypothesis testing and problems on inferential statistics • Outline of normal distribution, skewness and kurtosis • Define non parametric statistical test and find Spearman rank correction coefficient • Discrete and Continuous Variables	National developmental needs

2	SOCIAL PSYCHOLOGY - I	SY502	Variables	
			• To learn the nature, history, principles and scope of social psychology • To understand the significance of self- presentation behaviors • To classify the interconnections between attitude and behavior • To understand the dynamics behind conformity, compliance and obedience • To know about the social belief and judgement.	• Explain the nature, history, principles and scope of social psychology and methods used in social psychology research • Demonstrate the significance of self- presentation behaviors in relation to the multifaceted development of the self • Elaborate on the interconnections between attitude and behavior • Compare and contrast the dynamics behind conformity, compliance and obedience • Summarize the conditions promoting helping behavior • Discover the attitudes, self presentation and self-justification. • Identify the altruism and pro social behavior.	**national developmental needs**
3	INTRODUCTION TO RESEARCH METHODOLOGY	SY503	• To describe the importance and process of research • To classify research problems and formulate hypothesis • To compare and contrast the different types of sampling • To elaborate on the methods used in data collection • To demonstrate an	• Explaintheneeds,objectives,importance,problemandprocessof researchbasedonreview of literature • Identify research problems and formulate hypothesis • Compare and contrast the different types of sampling • Elaborate on the methods used	**national developmental needs**

				Course Outcomes (CO)	
			understanding of writing are search report	- in data collection - Illustrate diagrammatic and graphic representation of data. - Demonstrate an understanding of writing a research report - Examine the process of research methodology by undertaking a research	
4	BEHAVIOUR MODIFICATION- (ELECTIVE I)	SY504C	- To know the basic concepts of behavior modification - To learn the basic principles of behavior modification - To understand the measurement of behavior and behavior change - To transmit knowledge and develop skills needed for applying behavior modification techniques. - To understand the cognitive behavior modification	- Explain the basic concepts of behavior modification - Demonstrate the basic principles of behavior modification - Use the reward system for modifying behavior - Identify the measurement of behavior and behavior change - Develop knowledge and skills needed for applying behavior modification techniques. - Describe the cognitive behavior modification - Use therapies for changing their behavior	**national developmental needs**
5	HEALTH PSYCHOLOGY	SY601	- To know the basics of Health Psychology and health behavior - To understand the changing health habits using theoretical models - To gain the knowledge about the chronic illness and pain	- Explain the basics of Health Psychology and health behavior - Illustrate the changing health habits using theoretical models - Gain the knowledge about the chronic illness and pain - Use techniques and psychosocial	**national developmental needs**

				interventions for illness and pain	
			• To summarize the concept of stress and coping • To understand the Promoting health behavior	• Summarize the concept of stress and coping • Explain theoretical models and its contributions • Express the need to promote health behavior	
6	SPORTS PSYCHOLOGY- (ELECTIVE- II)	SY604A	• To learn the need, importance and research methods in sports psychology • To understand and apply psychological techniques and theories. • To understand the nature, measurement of attitude towards sports behavior • To classify various abilities and skills • To explain the prevalence, etiology and intervention of alcohol and drug use among athletes	• Explain the need, importance and research methods in sports psychology • Apply psychological techniques and theories. • Relate physical activity and mental health • Discuss the nature, measurement of attitude towards sports behavior • Develop physical activity and psychological principles of human performance • Classify various abilities and skills required for sports person • Explain the prevalence, etiology and intervention of alcohol and drug use among athletes	**national developmental needs**
7	HUMAN RESOURSCE MANAGEMENT- (ELECTIVE- II)	SY604B	• To learn the basic concepts of human resource management • To understand the need of job analysis in relation to Human Resource Planning and Recruiting	• Outline the basic concepts of human resource management • Identify the need of job analysis in relation to Human Resource Planning and Recruiting • List strategies for analyze training	**national developmental needs**

			• To learn strategies for analyze training needs and developing employees • To explain the techniques of performance appraisal • To understand the importance of Employee motivation in organization	• needs and developing employees • Explain the techniques of performance appraisal • Examine current issues, trends, practices, and processes in human resource management • Relate the importance of Employee motivation in organization • Acquire knowledge in managing the workforce of the organization	
8	RESEARCH PROJECT	SY605J		• To identify areas in Psychology in which they have strong interests • To understand use of relevant review of literature to the research project. • To understand and apply an appropriate techniques or research methodology • To acquire the skills of undertaking a research project. • To produce final dissertation outcomes of a high professional standard	• Identify areas in Psychology in which they have strong interests • Gain research methodology knowledge by undertaking a research project. • Relate use of relevant review of literature to the research project. • Apply an appropriate techniques or research methodology • Acquire the skills of undertaking a research project. • Examine the scope of statistics. • Demonstrate diagrammatic and graphic representation of data.	**national developmental needs**

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Name of the Programme: M.Sc Counselling Psychology

S No	Title of the Paper	Course Code	Course Objectives	Course Outcomes	Relevance
1	FIELD PRACTICUM-I (FP-1)	MSY135F	• To help students develop counselling skills in applied settings. • To acquire the skills in Ice-breaking and Team building training. • To co-ordinate effectively with their supervisors at the counselling centre and the department. • To conceptualize the client's concerns, demonstrate and apply counselling skills and write a report. • To familiarize with basic psychological tests.	• Apply counselling skills in applied settings. • Identify the relevant tests to be used for specific counselling needs. • Analyze the skills and therapies offered in counselling centres for various issues. • Understand usefulness of counselling skills and techniques. • Write verbatim, draw genogram and write psychological test reports. • Identify various areas of counselling.	**local developmental needs**

2	FIELD PRACTICUM – II (FP-2)	MSY234F	• Apply theoretical knowledge in the counselling field. • Uunderstand the functions and activities of field place organization. • Teach students to administer psychological tests in counselling • Offer a comprehensive view of various therapeutic practices. • Educate the student to create intervention strategy	• Know to practice counselling skills in diverse settings. • Write counselling report, case study and psychological assessment report. • Evaluate the different the techniques of counselling that they learn during field practicum. • Analyse the link between theory and practice • Administer psychological tests in counselling. • Create intervention plans in counselling set up	**local developmental needs**
3	SUMMER INTERNSHIP (SI-1)	MSY235F	• Develop competency in a various domains of psychology by being in a social settings. • Increase the experience with multiculturalism and diversity, developing knowledge of ethical practices in the various domains of psychology. • Learn to maintain professional relationship and became more competent in providing direct services, such as counseling, psychotherapy and crisis intervention.	• Transmit the theoretical and practical knowledge of psychology by being in social settings. • Evaluate the skills, values, ideas and experience that are opted during in the various domains of the Psychological related organizations. • Starts applying the gained knowledge, in the field of various • Sectors of Psychology. • Interpret the link between theories and practice. • Connect the structure and	**local developmental needs**

			• Helps to start applying a theoretical knowledge in the practical exposure. • Find a meaningful educational opportunity that helps student to decide their preferred areas of practice in the psychology.	functions of the various fields of Psychology • Applies specific psychological concepts, theoretical perspectives, empirical finding and historical trends in psychology.	
4	SCHOOL COUNSELLING (MC-9)	MSY332T	• Equip students with basic concepts related to school counselling and guidance • Comprehend the problems of children in educational settings. • Educate the students with the knowledge regarding school counselling programs • Offer information regarding adolescents and their problems • Teach students to handle social and personal problems	• Describe the basic concepts related to school counselling and guidance • Understand the problems of children in educational settings • Gain knowledge regarding school counselling programs • Appraise the school counselling program, its related objective, process and instruments. • Apply the acquired skills related to exceptional children in school setting • Connect with various issues of adolescents and the determinants	**local developmental needs**

5	FIELD PRACTICUM – III (FP-III)	MSY335F	- Apply theoretical knowledge in the counselling field. - Uunderstand the functions and activities of field place organization. - Teach students to administer psychological tests in counselling - Offer a comprehensive view of various therapeutic practices. - Educate the student to create intervention strategy	- applying the theoretical knowledge in the Counselling Field - Comprehend the functions and activities of organization - Administer psychological tests in counselling. - Relate the connection between theory and practice - Connect the various therapeutic practices. - Plan the counselling intervention strategy	**local developmental needs**
6	RESEARCH PROJECT (RP)	MSY434J	- Understand research methodology by undertaking a research project. - Plan the steps of research by its application. - Acquire the skills of undertaking a research project. - Recognize the scope of statistics. - Interpret diagrammatic and graphic representation of data.	- Design substantial research-based project - Relate and manage change through collaboration with others - Analyse data and synthesize research findings - Extract research findings in written and verbal forms - Use research findings to advance education and psychological theories and practice - Understand ethical issues associated with practitioner research	**Local developmental needs**

| 7 | SUMMER INTERNSHIP (SI-2) OPTIONAL | | | • Value experience in a counselling field by being in an open or closed setting.
• Understand the Skills, techniques and approaches adopted by the organization.
• Apply the knowledge gained, in the field of counselling.
• Understand the structure and functions of the organization.
• Prioritize to get placed in an institution. | • Relate the theoretical experience with the field by being in an open or closed setting.
• Understand the skills, techniques and approaches adopted by the organization.
• Apply the knowledge gained, in the field of counselling.
• Understand the link between theory and practice.
• Connect the structure and functions of the organizations.
• Appraise the situation and use the appropriate therapies | **local developmental needs** |

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Name of the Programme: B.Sc. Microbiology

1	MICROBIAL DIVERSITY AND CLASSIFICATION	MB104	• To learn the Taxonomy of microorganisms. • To analyze the Ultrastructure of Fungi, Algae and Protozoa. • To understand the Classification of microorganisms. • To recognize the fundamentals on Economic importance of microorganisms. • To impart knowledge on Molecular identification of microorganisms	• Understand the knowledge of Classifications and Taxonomy of Microorganisms in detail. • Acquire the basic knowledge on the Ultrastructure, Classification, Mode of nutrition and Reproduction of Fungi, Algae and Protozoa. • Discuss the Economic importance of Fungi, Algae and Protozoa. • Examine and define the structure, properties and classification of Human, Plant and Animal viruses. • Explore and recommend the Molecular techniques applied in identification of microorganisms. • Compile the basic information on the diversity and classification of Fungi, Algae, Protozoa and Algae.	**National and global developmental needs**
2	BIOINSTRUMENTATION	MB204	• To provide knowledge about Safety measures in Microbiology laboratory and First aid methods. • To understand the principles and applications of various instruments used in Life science. • To learn the techniques for operating the Microbiological instruments.	• Determine the Safety measures in Microbiology laboratory and First aid methods. • Define and explain the principles and applications of various instruments used in Life science. • Explain the Working principles and Applications of Various Microbiology laboratory instruments.	**Local, national and global developmental needs**

			To explain the principles and applications of types of Chromatography techniques. • To learn principles, types and applications of Calorimeter and Spectrophotometer.	• Analyzing the principles and applications of types of Chromatography techniques. • Evaluate the Working principle and Applications of Electrophoresis techniques. • Perform the detailed analysis on Calorimeter and Spectrophotometer.	
3	IMMUNOLOGY	MB301	• To make the students to understand the Immune system. To strengthen the knowledge of students through a detailed study on Antigens, Antibodies and Immunoassays	Introducing the Immunology to study various types of Cells and Organs in Immune systems and Mechanism of immune activation	**National and global developmental needs**
4	BIOINOCULANT TECHNOLOGY	MB401	• To study about the Production, Formulation, Method of application and Quality control of Bioinoculants. • To understand the role of Nitrogen fixers, Phosphate solubilizers, AM fungi and Algal biofertilizers. To learn the ability of Biofertilizers and Biocontrol agents	The course Bioinoculant Technology has been designed to provide the knowledge to the students about Natural organic farming. This paper also provides the details of Production, Formulation, Method of application and Quality control of Bioinoculants	**Local, National and Global developmental needs**

5	SSP – 1: NUTRITION AND DIETICS	MB507SP1	• To know about importance of food, nutrition and nutrients. • To understand the nutrients associated health risks. To learn about the various diets used for various disease conditions	Nutrition is the study of nutrients in food, how the body uses nutrients, and the relationship between diet, health and disease. In this Self-study paper Nutrition and Dietics, students will gain knowledge about the Importance of nutrients and various diets used for various disease conditions	**Local, National, and global developmental needs**
6	MICROBIAL BIOTECHNOLOGY	MB601	• To learn the basic tools in Microbial Biotechnology. • To understand the various concepts of Recombinant DNA Technology and Microbial products. To emphasize on IPR issues and need for knowledge in patents in Biotechnology	The paper Microbial Biotechnology helps the student to study theoretical concepts of Biotechnology and their applications in Genetic engineering and Microbiology. It also creates awareness on the Intellectual property rights and patenting of Biotechnological processes.	**National and global developmental needs**
7	VERMITECHNOLOGY	MB603	• To study about the properties of soil and microbial composting. • To understand the biology of Earthworms and its role in Vermicomposting. • To learn the ability of Earthworms in Organic farming and Solid waste reclamation	The course Vermitechnology has been designed to provide the knowledge to the students about Organic farming through Composting and Vermicomposting. This paper also provides the details of Earthworms and its role in Solid waste reclamation	**National and global developmental needs**

8	SSP – 2: DAIRY TECHNOLOGY	MB607SP1	• To encode the importance of the role of microorganisms in Dairy industries • To obtain a good understanding of Dairy microbiology and become an Entrepreneur. To obtain knowledge in food quality and spoilage of Dairy products.	The Self-study paper Dairy Technology is about the study of milk and milk-derived food products. It focuses on the biological, chemical, physical, and microbiological aspects of milk itself, and on the technological aspects of the transformation of milk into its various consumer products including fermented products, concentrated and dried products, butter and ice cream. This course also provides information about the role of microorganisms in Dairy products development	**Regional and national developmental needs**

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Name of the Programme: M.Sc Applied Microbiology

S No	Title of the Paper	Course Code	Course Objectives	Course Outcomes	Relevance
1	ELECTIVE: PHYCOLOGY AND MYCOLOGY	MB705C	• To illustrate the basics of Phycology and Mycology. • To understand the relevance of algal- fungal interactions in maintaining aquatic periodicity. • To implement the biomimetic products by studying the real internal symbiotic mechanisms in lichen. • To acquire knowledge regarding harmful environmental changes occurred due to anthropogenic activity via lichen indicator. • To study the various applications of Algae and Fungi.	• Illustrate the basic principles of Phycology and Mycology. • Understanding and evaluate the natural biodiversity for controlling pollution rate. • Identify, Classify and Cultivate medically important fungi and parasites. • Evaluate the toxic effect of fungi and algae for avoid the hazardous affects. • Examine the food industry in curbing the growth of toxic mold in food and animal feed. • Focusing on associative benefits of Algae and Fungi.	**Local, and National developmental needs**

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Name of the Programme: B.A. History

S No	Title of the Paper	Course Code	Course Objectives	Course Outcomes	Relevance
1	HISTORY OF INDIA UP TO 712 A.D	HT103	• To understand the evolution of human civilization of Ancient India • To enable the students to learn the social, economic and religious condition of India. • To examine the political unity, art and architecture of India. • To evaluate the cultural progress of various dynasties. • To assess the importance of native empires in Ancient India.	• Recall the historical evolution of Indian culture and civilization. • The student would have a background understanding of the socio – economic and religious developments shaping India in its early phase. • Explain the cultural and political achievements of the Mauryan kingdom. • Point out the significance of the Indian culture. • Recognize the native empires of India up to 712 A.D.	**national developmental needs**

2	HISTORY OF INDIA (712 – 1526 A.D.)	HT203	- To enable the students to acquire knowledge about the role of Rajputs and Delhi Sultanate. - To evaluate the administration of the Delhi Sultanate. - To analyze the administrative skills of Khilji dynasty. - To evaluate the contribution of Sultanate to Art and Architecture. - To know the historical significance of Vijayanagar empire in Medieval India.	- Recall impact of Arab invasion and the establishment of Delhi Sultanate. - Evaluate the political and administrative system of the slave dynasty. - Point out the administrative and Economic reforms of Khilji Dynasty. - Identify the richness of the Medieval Indian Art and Architecture. - Summarize the cultural contribution of the Vijayanagar Empire.	**national developmental needs**
3	ALLIED – I: HISTORY OF INDIA (1858 – 1947 A.D.)	AH112	- To focus on the socio-economic changes and development of administration during the British Rule. - To understand the emergence of the National Movement in India. - To study the significance of the Home Rule Movement and Non-Cooperation Movement. - To appraise the different phases of National Movement and Constitutional advancement. - To highlight the factors that led to the partition of India.	- Assess the socio-economic and administrative impact during the British Rule - Recall the concept of nationalism and causes for the national awakening. - Discuss the role of Annie Besant and Gandhian in the freedom movement. - Summarize the development of representative institutions with special reference to reservation. - Explain the impact of partition of India.	**national developmental needs**

4	ALLIED-II: HISTORY OF INDIA (1947-2014 A.D)	AH212	• To create awareness on the challenges of Independent India during the tenure of Jawaharlal Nehru. • To study the administrative initiatives of Lal Bahadur Shastri and Indira Gandhi. • To highlight the factors that led to the emergency and its impact for the rise of Janata Party. • To understand the factors for the introduction of new economic policy since Rajiv Gandhi. • To study the evolution of Indian Foreign Policy and the growth of science and technology.	• Examine the challenges of free India in Constitution making and socio-economic planning. • Analyze India's relations with foreign powers with special reference to Pakistan. • Assess the factors for the proclamation of emergency and the consolidation of opposition parties under the leadership of Jayaprakash Narayan. • Point out the various dimensions of New Economic Policy and its relative impact in society and economy. • Summarize the evolution of India's foreign policy since 1947.	**national developmental needs**
5	INDIA AND HER NEIGHBOURS	HT604	• To study the development of the Indian foreign policy during the period of J Nehru, L B Sastri, Indira Gandhi, Rajiv Gandhi and Narendra Modi. • To critically evaluate the failures of India's Foreign Policy. • To examine India's role as a member in the international organizations like BRICS, ASEAN etc. • To enable the students to understand the core issues on India's foreign policy and the challenges faced	• Explains the development of the Indian foreign policy during the period of J Nehru, L B Sastri, Indira Gandhi, Rajiv Gandhi and Narendra Modi. • Demonstrate the core issues on India's foreign policy and the challenges faced with its South Asian neighbours • Significance of regional organizations for the promotion of peace and stability. • Importance of India's role as a member in the international organizations like BRICS,	**national developmental needs**

			with its South Asian neighbours. • To make them realize the importance of regional organizations for the promotion of peace and stability.	ASEAN etc • Evaluate the failures of India's Foreign Policy	

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S No	Title of the Paper	Course Code	Course Objectives	Course Outcomes	Relevance
1	General Laboratory and Instruments Maintenance	BCD109	• To Understanding the importance of standard operating procedures and safety precautions in maintaining a safe and efficient working environment. • To enhancing knowledge of safety precautions while handling and storing samples. • To provide knowledge on proper handling and storage of lab equipment to ensure its longevity. • To learn about comprehensive understanding of microscopy techniques and applications.	• Understanding the importance of SOPS and safety precautions in the work place. • Awareness of safety precautions and practices while handling and storing samples. • Competence in identifying and operating common laboratory equipment. • Explain the working mechanisms and functionalities of various microscopy techniques. • Integrate knowledge of colorimeter and spectrophotometer. • Recall demonstrates knowledge and understanding of the basic principles and components of ELISA, Turbidometer and Autoanalyser.	**Local/ National developmental needs**

2	CLINICAL BIOCHEMISTRY	BCD112	• To understand the renal threshold value and normal blood glucose value. • To learn about the defects associated with carbohydrate metabolism. • To gain knowledge about various diseases related to amino acid metabolism. • To study about functions of various organs of the body and their functional tests. • To understand the disorders of metabolic organ.	• Describe the normal blood glucose level and explain the carbohydrate metabolic defects and its diagnostic methods. • Differentiate the metabolic diseases associated with amino acids like phenyl alanine, tyrosine and cysteine, and lipoprotein abnormalities. • Apply the suitable diagnostic method to identify the Jaundice type and explain the different liver metabolic disorders. • Analyze the renal function by various clearance tests, urine • concentration and dilution test and express about renal disorders • Decide the methods of gastric sample collection technique and analyze gastric residue by stimulation tests. • Manage to collect various diagnostic samples and explain about gastric and pancreatic disorders.	**National developmental needs**
3	HUMAN PATHOGENS & BODY FLUID ANALYSIS	BCD210	• To acquire broad knowledge on human pathogens, its symptoms, causes and treatment. • To understand the fundamentals concepts in bacteriology, virology and mycology. • To know the basics of source and mode of action of Viruses and fungi infecting the humans. • To comprehend the formation,	• Identify the fundamentals concepts in human pathogens, its symptoms, causes and treatment. • Demonstrate broad knowledge on the fundamentals concepts in bacteriology and virology. • Distinguish the fundamentals concepts in mycology and its pathogenesis in humans. • Determine to know the fundamentals of source and mode	**Local/National developmental needs**

| | | | collection and functions of Amniotic and Cerebrospinal fluids.
• To exhibit skills on the formation, collection and functions of Serous fluid and other body fluids. | of action of Human Viruses and fungi.
• Correlate and measure the formation, collection and functions of Amniotic and Cerebrospinal fluids.
• Originate on the formation, collection and functions of Serous fluid and other body fluids. | |

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Name of the Programme: PG Diploma in Human Resources Management

S No	Title of the Paper	Course Code	Course Objectives	Course Outcomes	Relevance
1	HUMAN RESOURCE MANAGEMENT AND INFORMATION SYSTEM	MSDH122	The basic objective of this course is to provide to the country a steady stream of competent young men & women with the necessary knowledge, skills and foundations for acquiring a wide range of rewarding careers into the rapidly expanding world of Human Resource Management.	• Understand the concept of human resource management and to understand its relevance in organizations • Analyze the strategic issues and strategies required to select and develop manpower resources. • Integrate the knowledge of HR concepts to take correct business decisions • Explain the purpose of Human Resources Information System and how it facilitates HR Program • Develop HRIS software with a focus on Recruitment, Selection, Performance Management, Employee Tracking, Payroll, and Employee Separation	**National**
2	INDUSTRIAL RELATIONS AND EMPLOYEE WELFARE	MSDH124	The basic objective of this course is to provide to the country a steady stream of competent young men & women with the necessary knowledge, skills and foundations for acquiring a wide range of rewarding careers into the rapidly expanding world of Human	• Describe fundamental concepts and nature of Industrial Relations • Understand the nature and role of trade unions for workers and industries • Examine the relevance of Welfare measures collective bargaining and its impact on employee-	**National**

			Resource Management.	management relations • Assess the issues related to Industrial health hazards, hygiene and psychological problems faced by the employees in Industry • Acquire skills in handling employer-employee relations in labour management	
3	EMPLOYEE LEGISLATION	MSDH221	The basic objective of this course is to provide to the country a steady stream of competent young men & women with the necessary knowledge, skills and foundations for acquiring a wide range of rewarding careers into the rapidly expanding world of Human Resource Management.	• Illustrate the laws relating to Industrial Relations, Social Security and Working conditions and also learn the enquiry procedural and industrial discipline • Evaluate the role of trade union in the industrial setup • Explain the laws regarding Issues of wages, bonus and State Insurance. • Appraise the laws relating to Industrial Relations, Social Security and Working conditions • Comprehend the salient features of welfare and wage legislations also to integrate the knowledge of labour law in general HRD practice	**National**

| 4 | COMPENSATION AND BENEFITS | MSDH222 | The basic objective of this course is to provide to the country a steady stream of competent young men & women with the necessary knowledge, skills and foundations for acquiring a wide range of rewarding careers into the rapidly expanding world of Human Resource Management. | • Relate compensation management to behavioral theories and concepts and within the wider context of human resources management
• Examine the factors of job analysis and job description as the basis of compensation strategy offering students an opportunity to develop competencies in making equitable compensation decisions
• Describe the process and evaluate the implications of job evaluation
• Analyze, integrate, and apply the knowledge to solve compensation related problems in organizations
• Demonstrate an understanding of the process of designing a pay structure taking account of the company environment | **National** |

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Name of the Programme: PG Diploma in Import and Export Management (PGDIEM)

S No	Title of the Paper	Course Code	Course Objectives	Course Outcomes	Relevance
1	EXIM POLICY & EXPORT PROCEDURE & DOCUMENTATION	MSDI121	The basic objective of this course is to provide to the country a steady stream of competent young men & women with the necessary knowledge, skills and foundations for acquiring a wide range of rewarding careers into the rapidly expanding world of Import Export Management.	• On successful completion of this course, students will be able to • Learn and understand the export policy and procedure related to export domain • Categorize the various terms and conditions of exports with due respect to pre-shipment, post-shipment and EGC services • Update the benefits and gains of export and apply it in real life • Articulate export promotion scheme and create business	**National**

2	EXPORT AND IMPORT MANAGEMENT	MSDI223	The basic objective of this course is to provide to the country a steady stream of competent young men & women with the necessary knowledge, skills and foundations for acquiring a wide range of rewarding careers into the rapidly expanding world of Import Export Management.	- opportunities amidst graduates - Focus on the commodities of India and create an awareness - Develop an understanding of export and import - Outline the nature of international trade - Formulate the methods of EXIM documentation - Understand the importance and relevance of foreign trade policy - Compile the ways and means of processing the EXIM orders.	**National**

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Name of the Programme: PG Diploma in Logistics Management (PGDLM)

S No	Title of the Paper	Course Code	Course Objectives	Course Outcomes	Relevance
1	TRANSPORTATION AND DISTRIBUTION MANAGEMENT	MSDL122	The basic objective of this course is to provide to the country a steady stream of competent young men & women with the necessary knowledge, skills and foundations for acquiring a wide range of rewarding careers into the rapidly expanding world of Logistic and Supply Management.	• Apply the flow of goods, Ordering rules and Information transmittal methods. • Evaluate the different types of transportation and Insurance procedure to ship the goods. • Predict the scope and relationship of transportation with other business functions. • Model the network planning, routing and scheduling in transportation • Relate the applications of information technology in transportation and distribution management	**National**
2	LOGISTICS MANAGEMENT	MSDL124	The basic objective of this course is to provide to the country a steady stream of competent young men & women with the necessary knowledge, skills and foundations for acquiring a wide range of rewarding careers into the rapidly expanding world of Logistic and Supply Management.	• Design network that denotes the number and location of production plants, storage houses, equipment for handling of materials in moving products with optimization of time and cost • Develop knowledge of risks associated and time utility by delivering goods at right time and in right order • Identify process and functions of logistics system and examine the	

				major building blocks, functions, business process, performance metrics and decision making in supply chain network. • Analyze to lower the transportation expenses by choosing efficient transportation source, planning of shortest route, freight consolidation and load unitizing in reducing the freight charges. • Adapt latest technologies in information processing and communications to enhance the decision-making capability in terms of accuracy and time, enabling the enterprise to be flexible enough to fulfil the customer requirements	**National**
3	SUPPLY CHAIN INVENTORY MANAGEMENT	MSDL222	The basic objective of this course is to provide to the country a steady stream of competent young men & women with the necessary knowledge, skills and foundations for acquiring a wide range of rewarding careers into the rapidly expanding world of Logistic and Supply Management.	• Apply warehouse concepts, various inventory control techniques and application of inventory management in supply chain • Improve confident approach towards supply chain inventory issues • and they can use different tools appropriately to solve the problems • Evaluate various tools and	

				techniques in inventory management	**National**
				• Inspect the possibility of keeping extra stock, since the needs are predetermined, thus eliminating needless storage expenses.	
				• Show various costs indulged with inventories like purchase cost, carrying a cost, storage cost, etc. and to keep material cost under control as they contribute to reducing the cost of production	
4	PURCHASE AND INVENTORY MANAGEMENT	MSDL223	The basic objective of this course is to provide to the country a steady stream of competent young men & women with the necessary knowledge, skills and foundations for acquiring a wide range of rewarding careers into the rapidly expanding world of Logistic and Supply Management.	• Determine reasonably low prices for the best values obtainable, negotiating and executing all company commitments. • Plan to keep inventories as low as is consistent with maintaining production. • Measure and constantly monitor inventory losses due to damage, deterioration or outdated features • Analyzing the materials in storage, handling, packaging, shipping distributing and standardizing • Understanding the potential risks and developing innovative strategies to manage them is an important aspect of purchasing and supply management	**National**

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Name of the Programme: PG Diploma in Cyber Security (PGDCS)

S No	Title of the Paper	Course Code	Course Objectives	Course Outcomes	Relevance
1	Security Strategies in Operating Systems	CADC104	• To learn the fundamentals of security strategies in Operating Systems. • To Learn Operating system security tools.	• Observe and Discuss the basics of Information security. • Recognize, Elicit and Apply the Authorization and access control • Observe and Discuss about Laws and Regulations of the privacy policy • Recognize and Apply the fundamentals of security strategies in Operating Systems. • Demonstrate and Practice the concepts of the network security. • Analyze and Evaluate the Operating system security tools	**national developmental needs**
2	Network Cyber Security	CADC201	• To understand the basics of network cyber security. • To learn the issues in wireless networks and internet.	• Understand and Describe about the basic cyber security and Network security aspects. • Describe and infer about the mechanisms of firewall, intrusion detection system and public cryptography. • Apply various cryptographic techniques and analyze the protocols used.	**national developmental needs**

				• Compare different types of firewalls	
				• Explore and understand different cyber threats	
				• Understand different defense mechanism and develop a model for a specific problem	

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Name of the Programme: PGDDS

| 1 | Introduction to Data warehouse and Data Mining | CADD103 | • To learn about the basics of Data warehouse and data mining.
 • To understand clustering and web mining. | • Remember, Understand and explain the fundamentals of Data Warehouse and Data Mining
 • Apply the concepts of association mining, clustering classification and Regression
 • Analyze and choose a suitable data mining task for a specific problem and support the choice of approach adopted.
 • Compare and Correlate the results various data mining techniques for a specific problem. | national and global developmental needs |

				• Identify and Apply real-world problems in business and scientific information using data mining techniques • Draft and Build statistical predictive models using various techniques such as neural networks, decision trees and logistic regression.	
2	Introduction to Data Analytics	CADD201	• To learn the basics of Data Analytics. • To understand the Data Analytics Techniques.	• Observe and Discuss the relevance of python in Data Analytics. • Recognize and Use the numpy package in python for data analytics. • Observe, Draft and Develop data Manipulation applications using pandas.	**national developmental needs**

				• Enumerate and Practice hierarchical indexing in pandas. • Devise and Create data visualization with MATPLOTLIB. • Identify and Integrate various components of python to perform data analytics.	

SACRED HEART COLLEGE (AUTONOMOUS)

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Name of the Programme: MSW (HRM)

1	STRATEGIC HUMAN RESOURCE MANAGEMENT	MHR202T	• To enable the students to understand the basic concepts of strategic human resource management in the management of human resource • To educate students the objective, functions and evolution of human resource management and develop in them the ability to work as a professional HR • To outline the concept of human resource planning, training and development in human resourcemanagement, with the goal ofimproving the skills needed in students to become successful human resource professionals in different settings	• Describe and understand the concept of strategic human resource management in the management of human resource • Illustrate the objective, functions and evolution of human resource management and develop in them the ability to work as a professionalHR • Analyze the concept of human resource planning, training and development in human resource management, with the goal of improving the skills needed in students to become successful human resource professionals in different settings	**National developmental needs**

			• To prepare students to create, evaluate and train in the human resource strategies through the application of techniques, methods and management • To prepare students to perform in the field of human resource management in various settings. • To develop the ability in students to critically analyze the challenges of human resource professionals	• To create, evaluate and train in the human resource strategies through the application of techniques, methods and management • To organize and perform in the field of human resource management in various settings • Incorporate human resource strategies, influence and develop the ability in students to critically analyze the challenges of human resource professionals	**National developmental needs**
2	HR ANALYTICS	MHR204T	• To enable the students to understand the concepts of human resource analytics and its importance in human resourcemanagement • To educate students on people analytics, HR analytics models and tools and develop in them the expertise to work as a professional HR • To outline the methodologies in HR analytics and metrics, with the goal of improving the skills needed in students to become successful HR analyst	• Describe and understand the concepts of human resource analytics and its importance in human resource management • Illustrate the people analytics, HR analytics models and tools and develop in them the expertise to work as a professional HR • Analyze the methodologies and metrics in HR analytics, with the goal of improving the skills needed in students to become successful HR analyst • To create, evaluate and practice effective analytics through the application of techniques, processes and approaches	**National developmental needs**

			• To prepare students to create, evaluate and practice effective analytics through the application of techniques, processes andapproaches • To prepare students to implement people and workload analytics approaches in various settings • To develop the ability in students to critically analyze the challenges as a HR analyst and develop efficient strategies	• To organize and implement people and workload analytics approachesin various settings • Incorporate strategies to critically analyze the challenges as a HR analyst and develop efficient strategies	