A.V.C. COLLEGE (AUTONOMOUS)

Affiliated to Annamalai University

NAAC Reaccredited 'A+' Grade Institution (4th Cycle) (CGPA=3.46/4.00)

NIRF All India Ranking 2023: College Rank Band 101-150

UGC Recognised "College with Potential for Excellence" - Phase I & II

MANNAMPANDAL, MAYILADUTHURAI - 609 305.

Program Outcomes, Program Specific Outcomes & Course Outcomes

Internal Quality Assurance Cell (IQAC)

A.V.C. College (Autonomous)

Mannampandal, Mayiladuthurai, Tamilnadu – 609 305.

POST GRADUATE -- PROGRAMME OUTCOMES

Programme Outcomes are the statements which highlight the capabilities the students are expected to have obtained by the time of graduation. On Completion of Post Graduate Degree Programmes, the Students will be able to acquire the following Programme Outcomes (POs).

1. **Enhanced Knowledge:** Students will be able to develop specialized field knowledge and integrate knowledge across content areas. Through Curriculum and assessment mechanisms defined by each Post Graduate Degree Program, they will be able to demonstrate mastery relative to advanced knowledge, methods, research, pedagogy, communication and professionalism.

2. **Diverse Perspective:**They will be able to evaluate diverse points of view embedded within varying frameworks which may include temporal, cultural, linguistic social political or technological contexts. They are capable of demonstrating comprehensive knowledge and understanding of one or more disciplines.

3. **Critical Inquiry and Competency:** Students possess the capacity to engage in critical inquiry through principle approaches or methods and through effective and ethical information search and evaluation strategies. They possess the sense of inquiry and capability to ask appropriate questions, recognize cause and effect relationships, define problems, formulate and test hypotheses, analyze, interpret and draw conclusions from data, plan, execute and report the results of an experiment or investigations.

4. **Application of Learning:** They obtain the knowledge of application of their learning. They apply disciplinary or interdisciplinary learning across multiple contexts, integrating knowledge and practice. They are well equipped to apply analytic thought to a body of knowledge, analyse and evaluate evidence, arguments, claims on the basis of empirical evidence, identify relevant assumptions, formulate coherent arguments, critically evaluate practices, policies and theories and derive at logical conclusions.

5. **Exemplary Communication:** They display exemplary communication skills in presenting their ideas and thoughts both orally and in writing. They communicate with others using appropriate media. They confidently share their views and express their opinions. They demonstrate the ability to listen carefully, read and write analytically and present intricate and complex information in a distinct and effective manner to various groups.

6. **Ethical Reasoning Power:** Their learning undergoes refinement and they obtain high moral and ethical reasoning power. This makes them to reason ethically various perspectives, policies and practices relevant to their field of study. They possess knowledge of the values and beliefs of multiple cultures and have a global perspective. They aim for multicultural society interacting respectfully with diverse groups. Ethical values are embraced in their life and career.

7. **Constant Pursuit of Knowledge:** They have the ability to work independently, identify appropriate resources required for a project, acquire knowledge and skills through self-paced and self-directed learning aimed at personal development. They realise that the pursuit of knowledge is a lifelong process and one can achieve success only with untiring efforts and positive attitude.

UNDER GRADUATE PROGRAMME OUTCOMES

Programme Outcomes state the potentialities that the students are expected to have by the time of graduation.Students completing their Undergraduate Degree Programme will be able to acquire the following Programme Outcomes.

1. **Comprehension of Basic Facts:** Students acquire knowledge of basic facts and figures concerned with their subjects. They comprehend the basic concepts, fundamental principles and various theories in their relevant subjects.
2. **Scientific Outlook:** Their skills of observation and drawing logical inferences are enriched. They develop scientific outlook not only with respect to subjects of study but also in all aspects related to life.
3. **Integration of Skills and Knowledge:** They know how to integrate the learned skills and knowledge derived from the study of their respective subjects, acquiring the necessary depth and breadth required for a transdisciplinary perspective.
4. **Application of Knowledge:** Their demonstrative proficiency is enriched in using appropriate methods for research, critical analysis, creative work as professional performance. They articulate and apply values, principles and ideals derived from an individual as well as integrated understanding of their areas of study and demonstrate an awareness of current stream of thoughts and theories.
5. **Effective Communication:** They become effective communicators. They are able to communicate interpretations, implications and conclusions clearly, concisely and effectively. They excel both in oral and written communication in reaching out different types of audience. They are connected with and contribute to the world.
6. **Enhancement of Soft Skills and Stress Management:** Students are aware of the problems and challenges that they have to encounter. They acquire the stress management skill, enabling them to measure attitude, aptitude and interest and also adjust skills within the people. Appropriate and leadership qualities are obtained by them.
7. **Sensitisation of Environment and Gender:** They comprehend the unique relationship of man with the environment and are concerned with the havoc done by man to the environment. They are equally aware of the gender based issues. This leads to the change in the attitude of the students towards nature and opposite gender for more positive, proactive and eco-friendly and sustainable lifestyle. This not only ensures the high standard of behavioral attitude but also shapes the students socially responsible citizens.

DEPARTMENT OF ENGLISH

Program code: UAENG **Program Name: B.A. English**

Program Specific Outcomes

On completion of B.A. English Program, the students would be able to

PSO 1 : Understand literary terms, theories and concepts in criticism

PSO 2 : Apply critical faculties to relish literary works and reflect upon them

PSO 3 : Interpret literary pieces and explore the scope of research

PSO 4 : Follow the values of life and society expressed in literature

PSO 5 : Understand different cultures of various countries

PSO 6 : Increase his vocabulary bank

PSO 7 : Understand the structure and function of grammatical units

PSO 8 : Use English effectively in formal and informal situations

PSO 9 : Become academicians, critics, creative writers, journalists, administrators

PSO10: Have enriched confidence to appear for competitive examinations.

Course Outcomes

Course Code& Title:18EN101 - Prose I

Upon completion of the course, the students will be able to

CO1: Aware of eloquent expressions, brevity and aptness of voicing ideas in stylish language

CO2: To develop critical thinking

CO3: To enable them to write and appreciate different types of prose

CO4: To write grammatically correct sentences

CO5: To discuss the aspects of prose to list out new vocabularies

Course Code& Title:18EN102 - Poetry-I

Upon completion of this course the students will be able to

CO1: To recognize poetry from a variety of cultures and language focuses.

CO2: To understand and appreciate poetry as a literary art form.

CO3: To analyse poetry the various elements of poetry such as diction and tone etc.

CO4: To recognise the rhythms, metre and other musical elements of poetry.

CO5: To develop their own creativity and enhance their writing skills.

Course Code& Title: 18AEN 101 - Social History of England

Upon completion of the course, the students will be able to

CO1: To enable the students to acquire a fairly basic knowledge of the social history of England

CO2: To familiarize the students with the main currents of social and political developments in England and Europe from its beginning to the mid-twentieth century.

CO3: To explain how the great revolutions like Agriran and Industrial revolution changed economic condition of England.

CO4: To get the clear picture about American War independents and how it changed the social order

CO5: To facilitate the students understand the changing environment in the history of England and English literature.

Course Code& Title: 18EN203 - Prose II

Upon completion of the course, the students will be able to

CO1: To introduce Students to the possibilities of Bacon's prose styles of expression

CO2: To enable Students to understand the passage by silent reading

CO3: To make the Students to understand the feministic aspects of Ruskin

CO4: To stimulate the Students to understand the philosophical ideas of Russell

CO5: To teach Students the various sentence structures in English

Course Code& Title:18EN204 - Poetry-II

Upon completion of this course the students will be able to

CO1: To learn knowledge and skills about poetry

CO2: To inculcate the sense of appreciation and enjoyment of English poetry.

CO3: To expose students' comprehensive knowledge pertaining to the evaluation of English poetry.

CO4: To understand profound theme from the poetry.

CO5: To improve imaginative power to understand nature.

Course Code& Title: 18 AEN 202- Literary Forms and Terms

Upon completion of the course, the students will be able to

CO1: To inculcate a sense of appreciation of English Poetry in students.

CO2: To enable students to understand the growth of drama down the ages.

CO3: To train students in the simple literary discipline of sustained reading of prose writing of considerable length

CO4: To make students aware of the social problems from the themes of the novels in English.

CO5: To give opportunities to students and encourage them to practice creative writing

Course Code&Title: 18LEN 305 - Fiction - I

Upon completion of the course, the students will be able to

CO1: Comprehend different types of narrative techniques and be familiar with psycho-thrillers and humorous writings.

CO2: Identify the uniqueness of Indian writing in English and be exposed to the unexpected characteristic twists of short fictions.

CO3: Have perspective of human passions such as pathos and greed and observe how efficiently they are brought out by legendary Russian writers Chekhov and Tolstoy.

CO4: Develop critical thinking and imagination by being familiar with the style of eminent writers like Twain and Collins.

CO5: Have a glimpse of the complexities of human psychology and get to know the realistic portrayal of life in the artistic writings of Maupassant and Maugham.

Course Code& Title: 18AEN303- History of English Literature

CO1: Students learnt about the historical background of Chaucer's age, works of Chaucer and his contemporaries; they also learnt about the development of drama in Elizabethan's age.

CO2: Students had a clear idea of Puritanism, Caroline poets, Metaphysical poets and the rise of the modern prose in the Restoration age.

CO3: Students learnt about classical school of poetry, the revival of romance during Johnson's age.

CO4: Students familiarized with the political history and the literary history during the Victorian age and their influences upon each other.

CO5:The writers of the modern age and their works were introduced to students.

Course Code& Title:18ENE301-English Phonetics

CO1: Learner understands the difference of oral and written communication.

CO2: Students learn how to articulate consonant sounds effectively.

CO3: Learners use the vowel sounds towards a better enunciation.

CO4: Students acquire precise articulation displaying the attitude and mood of the language uses.

CO5: Learners master transcription (Phonemic), and use tone group boundaries.

Course Code& Title: 18 SEN 301 - Schools and Movements in English Literature

Upon completion of the course, the students will be able to

CO1: Analyze the Metaphysical School of Poets, the Classical Movement and the Romantic Revival in one or more interpretive contexts or frameworks.

CO2: Use one or more theoretical approaches to literary interpretation of Transcendentalism, Realism and Marxism.

CO3: Create aesthetic structures for the movements of Expressionism, Existentialism and Imagism.

CO4: Demonstrate knowledge of the history of Symbolism, Surrealism and Modernism.

CO5: Demonstrate knowledge of the processes and terminology of Post-Modernism, Feminism and Post Colonialism.

Course Code& Title:18EN 406&Fiction - II

Upon completion of the course, the students will be able to

CO1: Get exposed to the historical novels.

CO2: Acquire socio-cultural literacy of the period.

CO3: Comprehend the role of literature in the society and how it can bring about reformation in the society.

CO4: Understand treatment of nature and regionalism in literature.

CO5: Have a different perspective of war and the inherent qualities of human beings.

Course Code& Title: 18AEN404 - An outline History of the English Language

CO1: Students learnt the origin of language, the language theories and the descent of modern English.

CO2: Students had a clear idea of the development of language in old English and middle English period.

CO3: Students learnt the impact of Renaissance on the English language and the growth of vocabulary in Restoration period.

CO4: Students understood the methods by which words have changed their meaning and the evolution of standard English.

CO5: Students familiarized with the contribution of foreign languages to English.

Course Code& Title: 18ENE402 - Modern Grammar

CO1 : Learners learn the rubric of grammar rules.

CO2 : Students learn to be more semantic in the framed sentences.

CO3: The relation of the object to verbs is well comprehended by the uses.

CO4: Progress towards better sentence precision and avoid mistakes.

CO5: More Knowledge of rules, builds learner confidence in their use of language.

Program code: PAENG Program Name: M.A. English

Programme Specific Outcomes

On completion of M.A. English Programme, the students would be able to

PSO1: Acquire enriched communication skills and lateral thinking

POS2: Become familiar with authors of various countries and their masterpieces.

PSO3: Acquire advanced knowledge in various literary genres and critical theories.

PSO4 : Analyze the works of art critically with literary sensibility.

PSO5 : Get acquainted with the process of research and write thesis.

PSO6 : Compare literatures of various countries in terms of themes and genres,

PSO7 : Gain knowledge in teaching, learning and evaluation process of a language.

PSO8 : Obtain mechanical knowledge of a language and compare different languages.

PSO9 : Understand the problems and the process of translation

PSO10 : Attain confidence to appear for competitive examinations.

PSO11: Become academicians, critics, creative writers, translators, journalists, administrators.

Course Outcomes

Course Code& Title: 18PEN101 - Chaucer and the Elizabethan Age

CO1: Shows the development and first creation of poetry.

CO2: Introduces the metaphysical poets and their famous writings.

CO3: Explains Bacon's style of writings and the moral thoughts of the Bible.

CO4: Indicates the fatal weakness of human characters.

CO5: Indicates how to refine the unpolished thinking.

Course Code& Title: 15PEN102 - The Restoration Age

Upon completion of the course, the students will be able to

CO1:Know the picture of the period through the works of the writers

CO2:Identify the themes of the period

CO3:Compare the literary merits of the restoration period

CO4:Find out the difference among writing styles of the writers

CO5:Discuss the treatment of various themes in various genres

Course Code& Title: 18PEN103 - American Literature

Upon completion of this course the students will able to:

CO1: This lesson helps the students recast the text.

CO2: It makes the students more insightful readers and helps to develop creativity in thinking and writing.

CO3: To create, creative thinking, innovation, inquiry and analysis evaluation and communication.

CO4: To understand the structure of the play and learn the dramatic devices used in writing a play.

CO5: To learn the elements of the fiction – narrative technique, setting, point of view, style and detective fiction.

Course Code& Title:18PEN104 - Indian English Literature

CO1: Gain to ability to read, understand, analyze, interpret and develop their intellectual personal and professional abilities.

CO2: Acquire basic language skills.

CO3: Creative new knowledge.

CO4:Explains the life and the significance of the person.

CO5: Creating social and national awareness.

Course Code& Title: 18PENE101 - An Introduction to Journalism

Upon completion of this course the students will be able to

CO1: think critically, creatively and independently

CO2: to express oneself clearly, both in writing and orally

CO3: to carry out journalistic research and interviews

CO4: to prepare content for news media outlets

CO5: to meet deadlines and competently use technology appropriate to the medium

Course Code& Title:18PEN205 - The Romantic Age

CO1: Recalls the historical and social events andRelates the poem to the real life.

CO2:Explains the life and the significance of the person.

CO3:Improving society and bettering the human mind. Understanding the Social influencies.

CO4: It emphasizes emotional and self-awarness.

CO5: Mystical and removed from everyday experiences of life. May gain constanths in power, peace, and happiness

Course Code& Title:18PEN206 - The Victorian Age

CO1: Students would have got an idea about the massive literary output of the Victorian writers.

CO2: Students would have understood the prevailing controversy between Science and religious in Victorian era.

CO3: Students learnt about Trends, movement in Victorian age, the study of the prose work.

CO4: Students would have understood the theme, plot, characters and social milieu of the 19th century.

CO5: Students will be able to analyze the historical and cultural framing for the novel.

Course Code& Title:18 PEN 207 -Canadian and Australian Literatures

CO1: Students learnt about various Canadian Poets.

CO2: Students come to know the rich tradition of poetry in Australia through mostfamous poets and their poems

CO3:Students learnt the themes and techniques of Canadian Literature,

CO4:Survival issues and class struggles of various aborigines in Canada

CO5:Learnt Post world war Australia, Feministic issues, Europeans explorationsand cultural clashes.

Course Code& Title: 18PENE202 – The Study of Language

CO1: To understand key issues in the relationship between language and learning.

CO2: To understand the different ways in which language features in learning.

CO3: To recognizes and summarizes impact and intersections of race, class, gender, and sexuality.

CO4: To help students develop means of expressing concepts, propositions, and beliefs in coherent, concise and technically correct forms appropriate to their professional goals.

CO5: To articulate and apply values, principles, and ideals derived from an individual as well as integrated understanding of their areas of study that demonstrate awareness of current societal challenges

Course Code& Title: 18EDEN 201 - English for Career Examination

CO1: Students must know the basics of English language.

CO2: Students have flawless writing and good communication through grammar.

CO3: Students are able to read and write a passage having their own ideas with learning skills.

CO4: They understand all the written skills and are capable of maintaining their career in academic institution.

CO5: They should know how to write letters and reports at the time of interview.

Course Code& Title:18 PEN308 - The Modern Age

CO1.By the end of course, students would have understood the new techniques i.e. Psycho analysis and stream of consciousness

CO2.Students would have gained knowledge about the various aspects of women's movement along with the different causes contributed to the rise of such movement

CO3.Students would have understood the aftermath of the movement and it's impact on society

CO4.Students would have realize the decay and decadence of morality and human values in modern age

CO5.Students learnt about various modern poets.

Course Code& Title:18 PEN 309 - African and Caribbean Literatures

CO1: Students learnt about racism, imperialism and slavery in African Continent

CO2: Students familiarized themselves on various poets who emerged in 1950's

CO3: Students learnt the language and identity crisis prevailed in Africa during Colonialism

CO4: Students learnt the ethnic culture and tradition of Africans

CO5: Students learnt Nigerian Politics, Domestic Violence's and Contemporary writers

Course Code& Title: 18PEN310 - Research Rhetoric and research methodology

CO1: Students would have learnt the importance of reading and writing skills.

CO2: Students learnt about meaning, characteristics and types of research etc.

CO3: Students will identify characteristics of certain structures of the body and explain how structure governs function.

CO4: Students would have got idea an Evaluating and Creating, monitor, test, revise, compose. Etc.

CO5: Students would have got idea of basic knowledge of the most widely used research techniques in development studies.

Course Code& Title:18PENE 303 - English Language Teaching

Upon completion of the course, the students will be able to

CO:1 Use the language learning strategies effectively.

CO:2 Understand, interpret and evaluate different tests that they may encounter in their daily and professional life.

CO:3 Communicate in English in a way close to native language level.

CO:4 Have professional confidence.

CO:5 Develop new materials to be used in the teaching process.

Course Code& Title: 18EDENP302 - Oral communication Skills

Upon completion of this course the students will be able to

CO1: Develop an understanding of the process of oral communication.

CO2: Become more effective and efficient writers.

CO3: Gain insight into your own speaking style.

CO4: Improve listening skills, note taking and observation skills.

CO5: Develop message generating and delivery skills.

Course Code& Title: 18PEN411 - Literary Criticism. Theory and Practice

Upon completion of the course, the students will be able to

CO1: Understand the critical theory formed by critics

CO2: Make use of the theories in analysing a work of art

CO3: Compare the literary theories of writers

CO4: Know the stylistic aspects of the work of art

CO5: Apply the stylistic aspects in a work of art

Course Code& Title: 18PEN412 - Shakespeare

CO1: Makes the students to understand the historical background of the English Kingdoms.

CO2: Shows how to get rid of vulgar qualities.

CO3: Explains how usurping destroys the life of human beings.

CO4: Indicates the fatal weakness of human characters.

CO5: Insists how to refine the unpolished thinking.

Course Code& Title:15PEN413 - Comparative Literature and Classics inTranslation

CO1:These studies can be used to evaluate many different exposures and are relatively quick to be conducted.

CO2 : A literary man is as much a product of his society as his art is product of his own reaction to life.

CO3: It is one of the two oldest works now extant in Tamil literature in their entirety, the other being the Tolkappiyam.

CO4 : The translator should be equipped with additional qualifications for the task, and able to meet the differing criteria of the medium.

CO5 : A translator always risks inadvertently introducing source-language words, grammar, or syntax into the target-language rendering.

Course Code& Title: 18PEN414 - English literature for Competitive Examination

Upon completion of the course, the students will be able to

CO: 1 Employee knowledge of literary traditions to produce imaginative writing.

CO: 2 Demonstrate knowledge of the history or culture of the English language.

CO: 3 Contribute to Innovative thinking both within and outside of the sphere of English literary studies.

CO: 4 Analyze a wide range of problems relating to literary and historical scholarship in English.

CO: 5 Extend knowledge and skills to new areas in order to carry out advance application to literary studies in English.

DEPARTMENT OF ECONOMICS

Program Code: UAECO **Program Name: B.A. Economics**

Programme Specific Outcomes

On completion of B.A. Economics Programme, the students would be able to

PSO1: Students acquire the knowledge about the concepts, Determinants and Indicators to Economic Development and Sectoral relations to Economic Development Process and Policies.

PSO2: Students understand Inextricability of Agricultural Sector with Economic Development of a Nation and the Problems and Policies for Agricultural Development.

PSO3: Students understand the Features and Components of Tamil Nadu Economy and its Development Perspectives.

PSO4: Student can understand the Incidence, Impact and Measures of various Environmental Issues and its relation to Development Process of a Modern Economy.

PSO5: Students Understand the Fundamental Concepts, Theories on Utility, Production and Distribution and its applications to Economic Problems at Micro Level.

PSO6: Students acquire the basic Knowledge on Computer Programmes especially Ms-Office and its Applications

PSO7: Students able to practice the Selling Process and Know the Sales Promotion Measures to reach Sales Target.

PSO8: Students can understand and develop the basic Personality Development Attitudes.

PSO9: Students Identify and Appraise the Functions and Problems of Personnel Management and able to understand the Management Strategies for Effective Human Resource Management.

PSO10: Students will be interested on the Development of Entrepreneurial Skills and able to know the Problems and Prospects of Entrepreneurship in the Economy.

PSO11: Students can acquire the knowledge on the Features, Significance and Problems of Category wise Industries and its Policy Measures.

PSO12: Students can acquire the basic concepts in Economics and their Utilities in the National Economic Development. Further make confident enough to face the Competitive Examinations.

Course Outcomes

Course Code& Title:18 EC 101- Indian Economic Development Outcome:

CO1: Knowledge on the Basic Concepts and Strategies of Economic Development Process

CO2: Adequate understanding on Features, Causes, Effects and Policy measures on Population Dynamics.

CO3: Understand the significance of National Income Analysis and its Measures.

CO4: Know the Industrial Development Process and Policy Perceptions of industrial Development

CO5: Have understanding on inter linkages between Infrastructure and Economic Development.

Course Code& Title:18 EC 102- Agricultural Economics

CO1: Know the significance of Agriculture in National Development

CO2: Understand the issues related to Institutional changes in Agriculture-Land Reforms.

CO3: Know the need and Sources of Agricultural Finance and its Problems.

CO4: Assess the features and problems of Agricultural Labour and its Solutions.

CO5: Able to assess critically Agricultural Price Policy and Food Security Issues

Course Code& Title:18 EC 203- Tamil Nadu Economic Development

CO1: Know the basic features relating to Human Resources and Natural Resources in the State of Tamil Nadu

CO2: Helps to know the Development of Agricultural Sector in Tamil Nadu

CO3: Appraise the Industrial Structure and its Development.

CO4: Have adequate knowledge on significance problems of basic Infrastructural Facilities in the State.

CO5: Know the Fiscal Dimensions in the state of Tamil Nadu.

Course Code& Title:18 EC 204-Environomics

CO1: Understand the basic concepts and significances of Environmental Economics

CO2: Have an insight to the various Problems and Environment Issues.

CO3: Understand the Environment and Development Nexus.

CO4: Have knowledge on the Features and Issues pertaining to Externalities and Market Failures.

CO5: Able to access the major Policy measures on Environmental Protection.

Course Code& Title:18 EC 305-Micro Economics

CO1: Understand the Definitions, Scope and Methods of Economic Analysis.

CO2: Know the Utility Analysis both Cardinal and Ordinal Approaches and able to compare them.

CO3: Understand the Determinants and Theories of Production.

CO4: Able to analyze the Behavior of Cost and Features of different Market Structure in the Economy.

CO5: Understand various theories on Factor Pricing and their Utilities.

Course Code& Title:18ECE 301- Introduction to Computer in Economics

CO1: Understand the Evolution and Developments and Components of Computer.

CO2: Able to understand the Function and uses of Operating Systems and have Practical Knowledge.

CO3: Able to work with Ms-Word

CO4: Know the feature and purposes of Ms-Excel and Power point and able to work with them.

CO5: Have exposure on uses of Internet and able to access to Document through Mails.

Course Code& Title:18AEC 303- Sales Management

CO1: Understand the Characteristics and Significance of Salesmanship

CO2: Able to know the complete Selling Process.

CO3: Understand the types, uses and problems in the various Advertising Media.

CO4: Know about Sales Organization and roles and Problems of Sales Manager.

CO5: Understand the important strategies of Sales Planning and Promotion.

Course Code& Title:18SEC 301- Communication and Personality Development

CO1: Identify the various forms of Communication and their Barriers.

CO2: Develop the Public Speaking Skills and know its Constraints.

CO3 Develop Listening, Reading and Writing Skills and have Practical Experience Over it.

CO4: Understand the Forms, Pattern and Qualities of Motivation and Leadership Skills.

CO5: Able to Develop the Personality Development Attitudes.

Course Code& Title:18EC 406 - Personnel Management.

CO1: Understand the characteristics, Functions and Challenges of Personnel Management.

CO2: Identify and appraise various Man Power Planning Strategies.

CO3: Know the Methods and Problems in the Selection and Recruitment Process of Man Power.

CO4: Able to justify the Need for Motivation and Morale and their Theories

CO5: Understand the Policies and Procedures and Programmes relating to Personnel management.

Course Code& Title: 18 ECE402- Entrepreneurial Development

CO1: Identify the concepts and various Traits of Entrepreneurs and their Functions and Problems.

CO2: Understand the Functions, Problems and Development Schemes of Women Entrepreneurs.

CO3: Outline State and National Entrepreneurial Promotional Agencies and their Functions.

CO4: Know the Pricing Strategies and Legislative Control Over prices of our Product.

CO5: Develop the Identification and Preparation of Projects.

Course Code& Title:18 AEC 404- Industrial Economics

CO1: Understand the Factors influencing, Road Blocks and Promotional Measures on Industrial Development.

CO2: Understand and Appraise the factors and Theories of Industrial Location.

CO3 : Understand various Sources Financing for Industrial Development.

CO4: Categories the Industry wise Development , Problems and Policies,

CO5: Know the concept of Industrial Productivity and its Measurements.

Course Code& Title:18 NMEC 401- Economics for Competitive Examinations

CO1: Familiarize with the Definitions and Scope of Economics.

CO2: Understand the basic Micro economic Concepts.

CO3: Have knowledge on basic Macro Economic Concepts and Problems.

CO4: Know the basic concepts relating to Monetary and Fiscal Economics.

CO5: Understand the Trends and Direction of International trade and Policy.

Program Code: PAECO Program Name: MA Economics

Programme Specific Outcomes

On completion of M.A. Economics Programme, the students would be able to

PSO1: Students familiarize with the Fundamental Concepts in Economics, Advanced Level Theories of Utilities, Production and Firms Behaviour.

PSO2: Students can acquire and understand the Macro Economic Concepts and Problems and Theories on Income, Employment, Consumption and Investment and General Equilibrium.

PSO3: Students can understand the Concepts, Theories and Practices of International Economics and its relation to International Economic Development Process.

PSO4: Students can be well informed about the Incidence and Impact of Various Environmental Problems both at National and International Level and its Solutions. Further able to evaluate the Environmental Values, Programmes and Policies.
PSO5: Students can outline the Forms, Functions and Theories on Money and its relations to The Measures on Economic Stability.
PSO6: Students will be able to acquire the knowledge about the Significance and Problems of Public Revenue, Expenditure, Debt and Budget Procedures. Further know the Central- State Financial Relations and its Aspects
PSO7: Students acquire adequate knowledge in the Research Process from Identification of Research Problem to Preparation of Research Report for Policy Making.
PSO8: Students not only understand the Agriculture and Developmental relations but also various Agrarian Relations Problems from Production to Marketing and their Solutions
PSO9: The Non-Economic Students will be able to acquire the Basic and Fundamental Environmental Issues and its Management Practice both at National and Global Level.
PSO10: Students acquire the theories of factor Pricing and Income distributions. Further the theories and applications of General Equilibrium Analysis and Welfare Ideas.
PSO11: Students able to understand the Major Macro Economic Problems in relation to changes in Price, Dimensions of Business Cycle and the Major Modern Macro Economic Theoretical Analysis
PSO12: Students can outline the subject matters of Managerial Economics from Demand Decisions to Project Appraisal Techniques for Effective Management of Modern Business.
PSO13: The Non-major Students can acquire the basic Economic ideas about India and the major Economic Problems and its Policy Measures.

Course Outcomes

Course Code& Title:18 PEC 101- Micro Economics-I

CO1: Understand and Compare the recent Developments in Utility Analysis.

CO2: Able to analyze Consumer Behaviour in Risks and Uncertain Situation.

CO3: Familiarize with various Cost and Revenue concept and Theories of Production.

CO4: Familiarize with the Features and Price Determination in different Markets.

CO5: Identify and Appraise the various approaches relating to Firms Objectives.

Course Code& Title:18 PEC 102- Macro Economics-I

CO1: Understand the concepts and methods of National Income and its analysis.

CO2: Know about the Theories of Employment and its Policy Implications.

CO3: Identify the concepts and theories of Consumption Function and their applications.

CO4: Have knowledge on Investment Function and its Theoretical Perspectives.

CO5: Outline the General Equilibrium in the Product and Money Market Equilibrium and their Policy Implications.

Course Code& Title: 18 PEC 103- International economics

CO1: Understand the salient features and scope of International Trade.

CO2: Know about important Theories on International Trade

CO3: Identify the Tariff and Non-Tariff Issues and Export Documentation Procedures in International trade Process.

CO4: Know about the functions of Foreign Exchange Market and Foreign Exchange Rates

CO5: Access the Agencies involved in International economic Relations.

Course Code& Title:18 PECE 101- Environmental economics

CO1: Understand the Fundamental Concepts and Theories and the aspects of Natural Resources.

CO2: Identify the major Environmental Pollutions and understand its relations with Population, Urbanization and Poverty.

CO3: Outline the various Methods available in the Valuation of Environmental Pollution.

CO4: Examine the Environment and Development relations through the concept of Sustainable Development.

CO5: Categorize the various Policy measures on Environmental Protection at National and International Level.

Course Code& Title:18 PEC 310- Monetary Economics

CO1: Outline the functions of Money Supply and its unique position in the economy

CO2: Acquire an understanding of the Traditional Theories of Money

CO3: Understand the Modern Theories for Demand for Money.

CO4: Comprehend the role of NBFI's in Economic Development.

CO5: Critically review the significance of Monetary Policy in Developing Countries.

Course Code& Title:18 PEC 311- Fiscal Economics

CO1: Understand the concept and Principles of Fiscal economics.

CO2: Recognize the source of Public Revenue and Expenditure and Theories.

CO3: Evaluate the Pros and Cons of Public Debt.

CO4: Review the budget highlights its impact on the Economy

CO5: Have awareness of the recent trends in the FiscalPolicy and Financial Relations.

Course Code& Title:18 PEC 312- Research Methodology in Economics

CO1: Understand the basic Ideas and Formulation of Research Problem.

CO2: Identify the issues in Research Design and Sampling Procedures.

CO3: Acquire the Sources and Methods of Data Collection for research.

CO4: Recognize the Process of Data Analysis and Interpretation.

CO5: Develop Report Writing Skill.

Course Code& Title: 18PECE303- Agricultural Economics

CO1: Know the significance of Agriculture in National Development and its Issues.

CO2: Acquire knowledge on Agrarian Relation and Institutional reforms.

CO3: Recognize the problems and Solutions of Agricultural Laborers

CO4: Identify the various sources of Agricultural Finance.

CO5: Pinpoint the Agricultural Marketing Theories and Practices.

Course Code& Title:18EDEC302-Environmental Issues and Management

CO1: Understand the basic concepts and Issues in Environment.

CO2: Able to Justify the relationship between environment and Economic Development.

CO3: Identify the major Environmental Pollution and their Incidences.

CO4: Acquire Knowledge on the Incidence of Global Level Environmental Issues.

CO5: Know the various Environmental Management measures at National and International Level.

Course Code& Title:18 PEC 206- Micro Economics-II

CO1: Pinpoint the Theories of Factor Pricing.

CO2: Acquire knowledge of Macro Theories of Income Distribution.

CO3: Understand the Evolution and Development General Equilibrium Analysis and its Applications in Economic Decision Making.

CO4: Able to understand the Concepts of Economic Welfare and Old Approaches to Welfare Economics.

CO5: Know the Recent Developments in Theories of Welfare Economics.

Course Code& Title:18 PEC 207- Macro Economics-II

CO1: Know about the Incidence of Inflation, Deflation and Stagflation in the Economy.

CO2: Understand the Dimensions of Trade Cycle and Economic Growth Models.

CO3: Acquire knowledge on the Recent Macro Economic Theoretical Issues.

CO4: Know the Theoretical Developments in MACRO Economics in relation to Open Economy.

CO5: Justify the perceptions of Monetary Policy and Fiscal Policy and Income Policy of the Economy.

Course Code& Title:18 PECE 202- Managerial Economics

CO1: Understand the Subject Matters Models of Managerial Economics

CO2: Justify the Managerial Implications of Demand Analysis.

CO3: Acquire knowledge on Pricing Strategies

CO4: Outline the Methods of Profit Planning and Forecasting and able to know the Cost Control and Cost Reduction Techniques.

CO5: Pinpoint the Methods available for appraising Projects.

Course Code& Title:18 EDEC 201- Issues in Indian Economy

CO1: Know the basic Economic Development Concepts and its Measurements.

CO2: Acquire knowledge on the Achievements and Failures of Indian Planning.

CO3: Justify the Functions and Issues relating to Monetary and Fiscal Aspects.

CO4: Outline the Trends and Structure of Foreign Trade and its Mechanisms in India.

CO5: Understand the Incidence of specific Socio-Economic Issues in India.

DEPARTMENT OF COMMERCE

Program Code: UCCOM **Program Name: B.Com**

Program Specific Outcomes

PSO 1: The students couldobtain the knowledge, skills and attitudes of business and accounting during the end of the B.com degree course. By virtue of the training they can become an Manager, Accountant , Management Accountant, cost Accountant, Bank Manager, Auditor, Company Secretary, Teacher, Professor, Stock Agents, Government jobs etc.,

PSO 2: Students will be developed as effective management professionals and take on more responsibilities in future and to give outstanding results in the area of their interest Programme

PSO 3: Serving as a launch pad for professional programmes like CA, CMA, ICWA and ACS. Moulding the students in such a way which will make them to acquire superficial knowledge about everything in commerce and in depth knowledge about core subjects.

PSO 4: The course enables the students to acquire knowledge in Law papers and they could develop their computer skills. They specialize in areas like Company Law, Secretarial Practice, General Laws, Industrial Law, Commercial Laws and laws relating to banking.

PSO 5: The Graduates of commerce are given priority in getting employment in leading banking and insurance sector as they are having better exposure in under graduation programme with industry specific curriculum.

PSO 6: Expand the Entrepreneurial and Marketing skills in relation to green, environmental and organic perspective of the business. This widened the opportunity to shine as a successful entrepreneur and marketer.

Course Outcomes

Course Code & Title: 18 CO 101- Principles of Accountancy

On completion of this course, the students will be able to

CO 1: Know the practical aspects of accounts like journal, ledger posting, preparation of Trial Balance.

CO 2: Develop the ability to prepare the final accounts of a sole trading concern. .

CO 3: Acquaint with the preparation of accounts of non-trading concern and come to know about the accounting procedures in single entry system

CO 4: Familiarize with the accounting practice of consignment and joint venture

CO 5: Learn how to solve the accounting issues relating to depreciation.

Course Code & Title: 18 CO 102 - Business Organization and Management

CO 1: Make the students to differentiate between the needs and wants of a society and can identify how these are satisfied through business activity. From this paper he/she can distinguish between the primary, secondary and tertiary sectors of the economy.

CO 2: Describe the differences between the public and private sectors of an economy and can identify their differing objectives and learn the basic structure and key features of various business organizations namely: sole proprietorship, partnerships, companies.

CO 3: Identify the importance of management and planning and acquaint with the principle of organization.

CO 4: Analyze and interpret the importance of directing and staffing

CO 5: Recognize the need for co-ordination and learn the process of Control.

Course Code & Title: 18 CO 203 - Financial Accounting

On completion of this course, the students will be able to

CO 1: Prepare the partner's capital accounts, P&L Appropriation account and compute the interest on drawings and capital.

CO 2: Enable the students to understand partnership accounts from admission to death of a partner.

CO 3: Practice the accounts of Dissolution of a firm and Garner Vs Murray rule in Insolvency of a partner.

CO 4: Familiarize with the Branch and departmental accounting system

CO 5: Compute the fire insurance claims.

Course Code & Title: 18 CO 204 - Marketing

On completion of this course, the students will be able to

CO 1: Explain the objectives, functions, importance, concepts of marketing and classification of markets, market segmentation.

CO 2: Assess the buyer behavior and analyze the buyer behavior towards organic and organic products

CO 3: Illustrate the features of product, various stages of the product life cycle and describe the Product line and product mix.

CO 4: Familiarize himself with the manner in which prices are determined and they can establish the equilibrium price. They can know functions of channels of distribution like whole sale trade, retail trade and e-distribution

CO 5: Familiar with the promotional activities and could explain the importance of green marketing and green packaging.

Program Code: PCCOM Program Name:M.Com

Programme Specific Outcomes

PSO 1: To inculcate the knowledge of business and the techniques of managing the business with special focus on marketing, Investment Management and Human Resource Management Practices

PSO 2: To enhance the decision-making skill through costing methods and practical applications of management accounting principles

PSO 3: To enhance the horizon of knowledge in various field of commerce To impart the knowledge on Advance Accounting principles and the latest application oriented corporate accounting methods.

PSO 4: To increase the knowledge in various field of commerce through services marketing, entrepreneurial development and Psychology for managers.

PSO 5: To augment the computer literacy and its applicability in business through the latest version on tally and e-commerce principles.

PSO 6: To create awareness on the researchable areas in the field of Commerce and to familiar with the statistical tools for research through research methodology and Statistical tools for business decisions.

Course Outcomes

Course Code & Title: 18 PCO101 - Services Marketing

On completion of this course, the students will be able to

CO 1:explain the features, importance, dimensions and classification of services and service marketing concepts.

CO 2: assess the pricing, promotional and distribution strategies for services

CO 3: design the service system and assess the service quality through SERVQUAL system.

CO 4:familiarize with the service leadership and marketing of educational, travel, transport, tourism, health care and hospital services.

CO 5: familiar with the marketing of financial, online and professional services.

Course Code & Title: 18 PCO102 - Cost and Management Accounting

On completion of this course, the students will be able to

CO 1: Recognize the importance of the application of cost and management accounting concepts in various managerial decision making process

CO 2: Understand the costing methods followed in operating sector, job & Batch, process oriented production industries.

CO 3: prepare cash flow and funds flow statements as per accounting standard 3.

CO 4: apply Break-even analysis and marginal costing

CO 5: familiar with the standard costing and analyze the material, labor and overhead variance

Course Code & Title:18 PCO103 - Managerial Economics

On completion of this course, the students will be able to

CO 1: understand the scope, usefulness of Managerial Economics and assess the role of Managerial Economist.

CO 2: know the theory of Demand and its application and familiar with the demand forecasting methods.

CO 3: familiar with the cost concepts and establish relationship between cost and output in the short run and long run

CO 4: determine price under different markets in different competition.

CO 5: learn about the business cycle and know how to solve the critical stage in the business cycle

Course Code & Title:18 PCOE101 - Investment Management

On completion of this course, the students will be able to

CO 1: understand the nature, scope and process of Investment and familiar with various investment alternatives

CO 2: know the functions of New Issue Market and Stock Exchanges

CO 3: familiar with the fundamental analysis and technical analysis ; apply EMH and Dow theory

CO 4: determine the risk and return on Investment

CO 5: learn about functions of SEBI and OTCEI; familiar with NIFTY and SENSEX.

Course Code & Title: 18 PCO 104- Psychology for Managers

On completion of this course, the students will be able to

CO 1: understand the nature, models and foundations of OB; know about the Hawthorne experiment.

CO 2: know the factors influencing individual behavior and group behavior; gain knowledge on group formation and cross cultural behavior.

CO 3: familiar with the determinants of personality, influence of personality on behavior and theories on personality; understand about qualities of leadership d leadership styles

CO 4: determine the aspects of perception, values and attitudes

CO 5: learn the importance and theories on motivation; determine the causes and consequences of less job satisfaction and know about how to improve the job satisfaction.

Course Code & Title: 18 PCO 205 - Human Resource Management

On completion of this course, the students will be able to

CO 1: understand the nature, functions and Challenges of Human Resource Management.

CO 2: plan for human resources for various levels by considering all the pre-requisite of an effective HR Planning

CO 3: know the recruitment and selection procedure in an organization; familiar with the methods and procedure of conduct of interview.

CO 4: familiar with the different methods of training and executive development

CO 5: appraise the performance of the employees through different methods and administer wage and salary system of employee in an organization

Course Code & Title: 18 PCO 206 - Statistical Tools for Business Analysis

On completion of this course, the students will be able to

CO 1: familiar with the concept and functions of statistics.

CO 2: gain practical exposure on calculation of measures of correlation and regression

CO 3: compute average, moving average, semi-average and least squares.

CO 4: identify the type of distribution of data through binomial, Poisson and normal distribution model

CO 5: apply T-test, Chi-square test and variance analysis

Course Code & Title: 18 PCO 208 - E-Commerce

On completion of this course, the students will be able to

CO 1: familiar with concepts of E-Commerce Business Model, Architectural framework, driving forces and ethical issues in E-Commerce.

CO 2: gain practical exposure on E-governance, components of EDI and know about commercialization of Internet and Information Super Highway.

CO 3: understand about the application areas of E-Commerce like e-tailing, e-tourism, e-learning, e-agriculture and societal marketing

CO 4: identify modes of E-payment, Online Shopping and Online advertising

CO 5: know about E-security, E-threats, cyber-crimes, Digital signatures and Cyber laws.

Course Code & Title: 18 PCO 207 - Advanced Corporate Accounting

On completion of this course, the students will be able to

CO 1: familiar with preparation of accounts for amalgamation, absorption and external reconstruction of companies.

CO 2: calculate the minority interest, cost of control and prepare the consolidated balance sheet of Holding companies.

CO 3: compute the provision for NPAs, interest on loan, rebate on bills discounted and Prepare the final accounts of Banking companies as per revised standards.

CO 4: prepare the revenue account and balance sheet of Life as well as General insurance companies as per revised format

CO 5: know about impact of price level changes in business; prepare accounts for Human Resources; familiar with Accounting Standards.

Course Code & Title: 18CO301-Business correspondence

On completion of this course the students will be able to

CO 1: Identified key principles and import barriers of business communication

CO 2: Discuss different process and consideration involved in writing in Business

CO 3: Identify the appropriate use of different channels written communication regarding enquiry and reply letter in business.

CO 4: Create a resume, a cover letter and a profile on professional media sites.

CO 5: Create various types of business report and their purpose

Course Title: Company law and Secretarial practice

On completion of this course the students will be able to

CO 1: To Know about the identify of public and private company and getting awareness CIN and DIN

CO2: Familiar with the qualifications, duties and liabilities of a company secretary and getting awareness for formation of company

CO3: Identifying the company prospect, knowledge about shares, allotment and forfeiture of shares

CO4: Identifying and arranging company meeting procedures, duties of secretary before and after the company meeting.

CO5: Familiarize with winding up of a company power of liquidator of a company and the effects of winding up

Course Title: 18CO Entrepreneurial Development

On completion of this course the students will be able to

CO 1: To gain knowledge about the role of an entrepreneur in economic development and the basic concept of women entrepreneurs and the problems faced by them.

CO 2: To get the knowledge about the EDPs and the contents of EDPs.

CO 3: To acquire knowledge in business opportunities in various sectors and sources of ideas generating while starting a business.

CO 4: To gather knowledge about the sources of finance and also in depth knowledge in market.

CO 5: To understand the basic knowledge about the procedures to start an industrial unit and problems of rural entrepreneurs.

DEPARTMENT OF MANAGEMENT STUDIES

Program Code: UMBBA **Program Name: B.B.A**

Program Specific Outcomes

PSO 1: To apply the knowledge of management theories and practices to solve business problems.

PSO 2: Students are able to conceptualize a complex issue into a coherent written statement and oral presentation.

PSO 3: Analyze the relationships between Government and business and understand the political, economic, legal and social policies of the country.

PSO 4: Analyze financial statements with the help of various tools and techniques of accountancy.

PSO 5: To evaluate the role and relevance of marketing organization in current marketing conditions.

PSO 6: Become familiar with the laws governing commercial deals.

PSO 7: Understand the basic concepts and technologies used in the field of management information systems with the help of computer.

PSO 8: To make the students understand the various services offered and various risks faced by banks. Demonstrate a comprehension of the principles of banking law and its relationship to banks and customers.

PSO 9: To develop and understand various methods and techniques cost management.

PSO 10: Design competition strategies, including costing, pricing, product differentiation, and market environment according to the natures of products and the structures of the markets.

PSO 11: To enable students to synthesize related information and evaluate options for the most logical and optimal solution such that they would be able to predict and control human behavior and improve results.

Course Outcomes

Course Code & Title: 18BU 305 - Marketing Management

CO 1: To understand the students about the marketing and its Environment.

CO 2. To acquire the information about the market segmentation and research.

CO 3. To gain knowledge about the product and pricing strategy.

CO 4. To know the importance of channels of distribution and to distribute the product through various types of channels.

CO 5. To understand the knowledge about the various promotional activities.

CO 6. To evaluate the advantages of different kinds of advertising media.

Course Code & Title: 18BUE 301 - Business Law

CO **1.** To determine and analyze the legal principle relating to the position of the persons to lack contractual capacity to enter into contract.

CO 2. To understand the basic concepts, how to undertake the contract and also know the difference way of discharge of contract.

CO 3. Students know the security or protection against a loss.

CO 4. Students are understood the basic duties and responsibilities of bailment and pledge contact concepts.

CO 5. To know the basic sales concept and also consumer awareness.

Course Code & Title: 18ACAB 303 - Computer Application in Business

CO 1: The students will able to understand the basic concept and various uses of computer in management.

CO 2: Construct business and academic documents using Micro soft Word.

CO 3: Create spreadsheets with formulas and graphs in business with the help of Microsoft Excel.

CO 4: Develop presentations containing animation and graphics using MS-PowerPoint.

CO 5: To introduce the students to the basic of accounts and the usage of tally for accounting purposes.

CO 6: The tally is simple to learn and is designed to meet the needs of Small, Medium and Large businesses.

CO 7: The students will able to understand the fundamentals of E-commerce and strategy.

Course Code & Title: 18SBA301 - Banking Practices

CO **1:** Students are Introduced to the basics of banking and the provisions of Banking regulation act for opening act for opening and closing of functioning of branches.

CO 2: Develop a clear understanding and knowledge about the functioning of a commercial bank.

CO 3. Demonstrate a comprehension of the principles of banking law and its relationship to banks and customers.

CO 4.To understand the various role and functions of reserve bank of India along with qualitative and quantitative techniques based for credit control.

CO 5. To Develop a clear understanding of the modern and recent banking technologies- Internet banking, types of credit cards and E-wallet Procedures.

Course Code & Title: Cost Accounting-Sub. Code: 18BU406

CO 1. Understand and explain the conceptual framework of Cost Accounting

CO 2. Explain the basic concepts and processes in determination of Material Cost.

CO 3. Asses how cost-volume-profit is related and uses CVP analysis as a planning and decision Making aid.

CO 4. Demonstrate how materials, labor and overhead costs are added to a product at each stage of the production cycle.

CO 5. Summarize process cost accounting and prepare a process cost and contract cost report.

Course Code & Title: Managerial Economics-Sub. Code: 18AME 404

CO 1. To understand the background of managerial economics.

CO 2. To provide a detailed view of various roles played by cost and revenues in business.

CO 3. To understand the managerial uses of break-even analysis.

CO 4. To understand the various theories of competition under product pricing.

CO 5. To understand the profit planning and forecasting methods.

Course Code & Title: OrganisationalBehaviour- Sub. Code: 18BUE404

CO 1. To discuss the development of the field of organizational behaviour and explain the micro and macro approaches.

CO 2. To analyze and compare different models used to explain individual behaviour related to motivation and rewards

CO 3. To identify the processes used in developing communication and resolving Conflicts

CO 4. To explain group dynamics and demonstrate skills required for working in groups (team building)

CO 5. To identify the various leadership styles and the role of leaders in a decision making process.

CO 6. To explain organizational culture and describe its dimensions and to examine various organizational designs

CO 7. To discuss the implementation of organizational change.

DEPARTMENT OF HISTORY

Program Code: UAHIS Program Name: B.A History

Program Specific Outcomes

On completion of B.A .History Programme, the students would be able to

PSO1: History is important in that it reveals all of the past. It is there for you to **study** and learn from so that the future can be improved upon. "A **people** who **do** not know their **history** are fated to repeat it." It is important because **history** helps you understand the past to predict the future and help in creating it.

PSO2: History majors gain valuable skills in research, writing, and analysis, which lead to careers in education, public **history**, and preservation. A bachelor's **degree** also qualifies graduates for entry-level positions in many fields.

PSO3: Careers in teaching and research. Many history degree graduates go on to share their interest in the subject by becoming teachers, at secondary level or within universities.Careers in archiving and heritage, Careers in politics, Careers in business and commerce, Careers in law.

PSO4: It helps students develop a sense of social responsibility; strong intellectual and practical skills that span all major fields of study, such as communication, analytical, and problem-solving skills; and the demonstrated ability to apply knowledge and skills in real-world settings.

PSO5: the reality is that a bachelor's degree in history can open the doors to a variety of fields, many of which have high employment rates and salaries. : Pursue lifelong learning so as to become Colum Writes, Journalist, Tour operator and Guides, Museum Curator, State and Central Government Administrative Officer, Archeologist ,Epigraphist, Political Activist.

Course Outcomes

Course Code & Title: 15HI 101 - World Civilization Excluding India.

CO1: Describe Prehistory and Proto history

CO2: Classify urbanization in the genetic Basin

CO3: Classification of Buddhism and Jainism

CO4: Acquire knowledge about Early Tamil Nadu

CO5: Identify Early Indian Maps

Course Code & Title:18 AHI 101-- Modern Governments I

CO1: There are many different forms of government but really just eight apply to us today. Absolute Monarchy (absolutism Limited Monarchy (Constitutional Monarchy) Representative Democracy, Direct democracy, Dictatorship, Oligarchy, Totalitarianism. Theocracy

CO2: The mostcommon form of government today is a democracy which is a government where the whole population votes on the government members or issues

CO3: Democracy is the best form of government, mostly because of its strong philosophical basis. Democracy places the right level of faith in humanity, gives us the autonomy to choose who rules us, and respects our rights of freedom and equality.

CO4: Government by the people especially: rule of the majority. a government in which the supreme power is vested in the people and exercised by them directly or indirectly through a system of representation usually involving periodically held free elections. 2 : a political unit that has a democratic government.

C05: The term "democracy" first appeared in ancient Greek political and philosophical thought in the city-state of Athens during classical antiquity. The word comes from demos, "common people" and kratos, "strength". Led by Cleisthenes, Athenians established what is generally held as the first democracy in 508–507 BC.

Course Code & Title: 18HI 203-- History of India from 1206 CE to 1757 CE

C01: Medieval period is an important period in the history of India because of the developments in the field of art and languages, culture and religion.

CO2: Features such as migration of people, invasions, population distribution, and urbanization characterized this period.

CO3: One important reason for studying medieval history is that it was during the medieval period that the early outline of Europe was being drawn. ... A study of the nationalistic development that took place during the medieval period can go a long way toward helping us to understand national issues to this day.

CO4: Identify the Medieval Period as an important stage in the evolution of human society.

CO5: Describe the changes in political organization that took place after the collapse of the Roman Empire

CO6: Explain the political, military and socio-economic aspects of Feudalism as it existed in Western Europe.

CO7: Describe the evolution of Islamic religion, society and polity in West Asia.

CO8: Recognize the features of political organization during the Medieval Period in India describe the main features of Medieval Indian economy.

CO9: Analyze how cultural and religious life during the Medieval Period in India represented a unique tradition of synthesis.

Course Code & Title: 18HI204 -- History of Science and technology

CO1: know the origin and development of astronomy in ancient India

CO2: understand the origin and growth of mathematics in ancient India

CO3: Assess the growth of engineering in ancient India

CO4: Identify the evolution and growth of medicine in Ancient India

CO5: list the contributions of India to the world in the field of Mathematics and other Science,

Course Code & Title: 18AHI202 -- Modern Governments II

CO1: To understand the need of Constitution and role of constitution in democratic society

CO2: Parliament is separate from government. Made up of the Houses and its role is to look at what the government is doing and debate issues and pass new laws

CO3: To know the Monarchial, Democratic and Socialist form of governments and their political decisions are taken by the government and Parliament

CO4: To understand the purpose of Federal Government is to "establish Justice, insure domestic Tranquility, provide for the common defense, promote the general Welfare, and secure the Blessings of Liberty to ourselves and our posterity

CO5: To understand the British and Indian Parliamentary form of government, USA Presidential form of Government, Switzerland federal form of Government

Course Code & Title: 18ES101-- Environmental Sciences

CO1: Articulatethe interdisciplinary context of environmental issues

CO2: Indentify and justify key stakeholders in humanities and social sciences that need to be a part of sustainable solutions.

CO3: Formulate an action plan for sustainable alternatives that integrate science, humanist, and social perspectives.

CO4: Demonstrate a general understanding of the breadth and interdisciplinary nature of environmental issues.

Course Code & Title: 18HI305 -- History of Modern India from 1757 CE to 1947 CE

CO1: Evaluate consolidation of English Power in India

CO2: Analyze social religious consciousness in India

CO3: Comparison of Nationalist movements- Pre - Gandhian and Post- Gandhian Era

CO4: Identify Modern Indian Maps- sites of mutiny of 1857, Princely States in 1858, major sites of National congress sessions, major sites in Civil Disobedience Movement Ahmadabad, Dandi, Midnapur, Peshwar.

Course Code & Title: 18AHI 303 -- Public Administration I

CO1: The ability to understand that public policies shape, and are shaped by, the institutional, legal, political and economic contexts in which they occur

CO2: the ability to critique and formulate public policies by collecting and analyzing qualitative and quantitative information

CO3: The expertise in a chosen field of public policy that is developed by taking at least three courses in that policy field

CO4: Effective written and oral communication skills and professional skills such as working in teams and understanding the need for tradeoffs in pursuing multiple objectives

Course Code & Title:18HIE 301-- Working of Indian Constitution

CO1: To know the back ground of Government and Politics

CO2: Analyze the salient features of Indian Council Act of 1909

CO3: to Trace the impact of social movements, rights and duties of citizens

CO4: Highlight the significance of Government of India Act of 1935

CO5: Learn the legacy of the British rule in India

Course Code & Title: 15HI406 -- History of Tamil Nadu upto 1801 CE

CO1: Evaluate the establishment of the British rule in Tamil Nadu and Vellore mutiny

CO2: Narrate the growth of language and literature under the British

CO3: Identify the socio- religious reform movements in Tamil Nadu

CO4: Describe the role of Tamil Nadu in Freedom movement

CO5: Examine the development of education in Tamil Nadu after Independence

Course Code & Title:15 AHI 404 -- Public Administration II

CO1: Demonstrate critical thinking research and communication skills as applied to the public and private sectors

CO2: Explain the cross-cultural context of public and private institutions operating in a global environment

CO3: Manage diversity issues within an organizational framework

CO4: Identify major issues in today's public and private institutions

CO5: Demonstrate the management legal, ethical and behavioral skills for effective job performance and career mobility

Course Code & Title: 15 HIE 402 --Panchayat Raj with special reference to Tamil Nadu

C01: to enhance the understanding of the students towards the dynamics of rural governance at grass root level

CO2: It also emphasis on the role of these institutions in the development of villages with an inclusive approaches

CO3: Demonstrate thorough Understanding of Panchayat Raj System and its different layers

CO4: Define the importance of Panchayat Raj Institutions towards local development

Course Code & Title: 15HI507 -- History of Tamil Nadu 1801 CE TO 2010CE

CO1: Evaluate the establishment of the British rule in Tamil Nadu and Vellore mutiny

CO2: Narrate the growth of language and literature under the British

CO3: Identify the socio- religious reform movements in Tamil Nadu

CO4: Describe the role of Tamil Nadu in Freedom movement

CO5: Examine the development of education in Tamil Nadu after Independence

Course Code & Title: 15HI508 --Contemporary India since 1947 CE

CO1: Recognize the integration of Indian states and SardarVallabai Patel's effort for this

CO2: Examine the internal and external policy of Jawaharlal Nehru, LalBahadurSastri and Indhira Gandhi

CO3: Narrate the internal external policies of Rajiv Gandhi, V.P. Singh, Vajpayee, Manmohan Singh and NarendraModi

CO4: Recognize the role of planning commission, five year plans and the development of science and technology in India

C05: Identify the contemporary challenges like terrorism, liberalization, privatization and globalization

Course Code & Title: 15HI509 -- History of Europe from 1453CE to 1789CE

CO1: Describe the Geographical discoveries and the Renaissance movement in Europe

CO2: Assess the causes and effects of Reformation and Counter-Reformation movements

CO3: Narrate the enlightened despotism in Europe, especially in France, Prussia and Austria

CO4: To learn the causes and results of Thirty years war

CO5: Discuss the reforms of Peter the Great and Catherine II of Russia

Course Code & Title: 15HIE503 -- Human Rights

CO1: To identify issues and problems relating to the realization of human rights, and strengthens

CO2: the ability to contribute to the resolution of human rights issues and problems

CO3: It also develops investigative and analytical skills

Course Code & Title: 15 HI 610 -- History of Europe from 1789CE to 1945

CO1: Realize the cause and results of French Revolution and the achievements of Napoleon Bonaparte

CO2: Visualize the importance of revolt of 1830 and 1848 in France and the efforts of Bismarck for the unification of Germany

CO3: Understand the causes and results for the First World War

CO4: Examine the Nazism and Fascism in German and Italy

CO5: Understand the causes and results of Second World War and the establishment of UNO

Course Code & Title: 15 HI 611-- History of USA from 1776CE to 1945CE

CO1: Discuss the Causes for the American war of Independence

CO2: Debate the achievements of George Washington

CO3: Evaluate the role of Abraham Lincoln as the President

CO4: Elucidate rise of USA as a World Power

CO5: Illustrate the participation of USA in the World Wars

Course Code & Title: 18 PHIE 303 -- Archives Keeping

C01: Identified a range of management skills relevant to providing professional services in an archive and records management context

CO2: Practiced some self-management's key skills

CO3: The Knowledge to plan their continuing professional development

C04: Learning is through a mixture of lectures, invited speakers, private reading and practical work

Course Code & Title: 18 SHI 301-- Tour Operation and tourist Guides

C01: To develop the ability of tourism management

CO2: To Understand the Historical Places and its significances

CO3: the field of trips must root to the core design which provides an incremental learning experience

Program Code: PAHIS Program Name: M.A History

Program Specific Outcomes

PSO1: Understand background of our religion, customs institutions, administration and so on

PSO2: Understand the present existing social, political, religious and economic conditions of the people

PSO3: Analyze relationship between the past and the present is lively presented in the history

PSO4: Develop practical skills helpful in the study and understanding of historical events

PSO5 : Develop interests in the study of history and activities relating to history

PSO6: The study of history helps to impart moral education

PSO7: History installs the feeling of patriotism in the hearts of the pupils

Course outcomes

Course Code & Title: 18PHI 1O1-- Indian civilization and Culture-Pre History to 1206 CE

CO1: Describe Prehistory and Proto history

CO2: Classify urbanisation in the gangetic Basin

CO3: Classification of Buddhism and Jainism

CO4: Acquire knowledge about Early States

Course Code & Title: 18PHI 102-- Indian civilization and Culture 1206 CE to 1707CE

CO1: Understanding of Delhi Sultanate

CO2: Analyse Mughal rule, administrations, art, and architecture

CO3: Identify cultural synthesis

CO4: Understand the concept of theocratic state

CO5: Analyze Medieval South India

Course Code & Title: 18PHI 103 -- History of Europe 1453CE TO 1453 CE

CO1: Describe the Geographical discoveries and the Renaissance movement in Europe

CO2: Assess the causes and effects of Reformation and Counter-Reformation movements

CO3: Narrate the enlightened despotism in Europe, especially in France ,Prussia and Austria

CO4: Learn the causes and results of Thirty years war

CO5: Discuss the reforms of Peter the Great and Catherine II of Russia

Course Code & Title: 18PHI 104 -- History of USA From 1860 CE TO 1991 CE

CO1: Discuss the Causes for the American war of Independence

CO2: Debate the achievements of George Washington

CO3: Evaluate the role of Abraham Lincoln as the President

CO4: Elucidate rise of USA as a World Power

CO5: Illustrate the participation of USA in the World Wars

Course Code & Title: 18PHIE101 -- Human Rights

CO1:the capacity to identify issues and problems relating to the realization of human rights, and strengthens

CO2: The ability to contribute to the resolution of human rights issues and problems

CO3: It also develops investigative and analytical skills

Course Code & Title: 18PHI205 -- colonialism in Nationalism

CO1: TO Understand the European activities in India

CO2: Evaluate consolidation of English Power in India

CO3: Analyse social religious consciousness in India

CO4: Comparison of Nationalist movements- Pre-Gandhian and Post- Gandhian Era

Course Code & Title: 18 PHI 206 -- Colonialism in Nationalism

CO1: Relate the geographical Features of Tamil Nadu with early politics

CO2: Contribution of Pallavas to Art and Architecture

CO3: Understand the Chola administration

CO4: Describe the Vijayanagar rule in Tamil Nadu

CO5: Explain the Poligar's administration in Tamil Nadu

Course Code & Title: 18PHI207 -- History of Europe From1453 CE to 1947 CE

CO1: Realize the cause and results of French Revolution and the achievements ofNapolean Bonaparte

CO2: Visualise the importance of revolt of 1830 and 1848 in France and the efforts of Bismarck for the unification of Germany

CO3: Understand the causes and results for the First world war

CO4: Examine the Nazism and Fascism in German and Italy

CO5: Understand the causes and results of Second World War and the establishment of UNO

Course Code & Title: 18PHIE 202-- Intellectual History

CO1: Interdisciplinary learning is characterized by the integration of multidisciplinary knowledge across a central program theme or focus

CO2: To understand the Principles of Philosophers like Sacratice, Plato, Aristotle

CO3: To Know the modern Philosophers like Thomas Hobbes, Montesquieu, Voltaire, Rousseau

Course Code & Title: 18PHI308 -- Socio-economic and cultural History of - . Tamilnadu from AD 1801 TO 1947

CO1: Know the significance of South Indian Rebellion

CO2: Understand the role of Tamil Freedom Fighters in National Movement

CO3: Describe the social reforms of E.V. Ramasamy

CO4: Assess the contribution of Christian missionaries on Education

CO5: Learn the Linguistic reorganization of states International Relations since

Course Code & Title: 18PHI309- History of India from AD 1947 TO 1984

CO1: Evaluate consolidation of state reorganization

CO2: Analyze social religious consciousness in India

CO3: Understand the policies of Nehru, Indra Gandhi

Course Code & Title: 18PHI310 -- Rise of Modern Asia and Africa 19th and 20th centuries

CO1: Understand the Colonization of Asian countries

CO2: Imperial status of Far East Countries under the British

CO3: Revolutionary movement against the British rule

CO4: Emergence of Japan in world power

Course Code & Title: 18PHIE 303 -- Archives Keeping

CO1: Identified a range of management skills relevant to providing professional services in an archive and records management context

CO2: Practiced some self management's key skills

CO3: The Knowledge to plan their contuning professional development

CO4: Learning is through a mixture of lectures, invited speakers, private reading and practical work

Course Code & Title: 18PHI 411-- Historiography

CO1: Produce written work that incorporates consideration of the relevant historiography along with the theory that informs it

CO2: Construct original historical arguments based on primary source material research

CO3: Demonstrate a superior quality of writing both in terms of mechanics and in developing an argument effectively

CO4: Develop an ability to convey verbally their thesis research and relevant historiography and theory

Course Code & Title: 18PHI 412 -- International Relations since 1945 CE: Theory and Practice

CO1: Analyze the aims and functions of UNO

CO2: Evaluate the causes of the Cold War

CO3: Discuss the origin and achievements of Common Wealth of Nations

CO4: Bring out the foreign policy of USA

CO5: Mention the relation between India and neighboring countries

Course Code & Title: 18PHI 413 -- History of Science and Technology

CO1: Trace the achievements of Plato and Aristotle

CO2: Highlight the contributions of Great Persons to Science and Technology

CO3: Evaluate the findings of Thomas Alva Edison

CO4: Bring out the significance of Atomic Energy

CO5: Analyze the progress of Science and Technology in modern India

Course Code & Title: 18PHI 414- An Introduction to Tamil Inscriptions

CO1: To Understand the ancient Tamil inscriptions

CO2: To the development of terminologies words

CO3: To learn the contribution of different Epigraphists.

DEPARTMENT OF COMPUTER SCIENCE

Program Code: UPBCA **Program Name: B.C.A**

Program Specific Outcomes

On successful completion of B.C.A. Program, the students are able

PSO-1: To apply knowledge of mathematics, computer science and management in real time applications

PSO-2: To develop effective communications, critical thinking and problem solving skills

PSO-3: To analyze a problem and to develop an algorithm to solve it

PSO-4: To inculcate various real time applications using latest technologies and programming languages

PSO-5: To recognize and resolve ethical issues in Software field

PSO-6: To think of new approaches for solving problems in different domains

PSO-7: To gain confidence to appear for various competitive examinations.

Course Outcomes

Course Code & Title: 18CA101 -- C Programming

Upon Completion of the course, the students are able

CO-1: To understand the concepts of data types and operators

CO-2: To analyze the usages of the various programming constructs and functions

CO-3: To interpret the importance of arrays and pointers

CO-4: To identify the purpose of structures, unions, macros and bit fields

CO-5: To develop programs using dynamic memory allocation and data file operations

Course Code & Title: 18CAP102 -- C Programming (Lab)

Upon Completion of the course the students are able

CO-1: To illustrate the control statements to write basic C programs

CO-2: To identify the usage of arrays, functions, structures, union and pointers

CO-3: To examine the various derived types

CO-4: To analyze the usage of recursion in c programs

CO-5: To develop C programs using file management concepts

Course Code & Title: 18CAP203 -- C++ Programming and Data Structures

Upon Completion of the course, the students are able

CO-1: To understand difference between the structured and object oriented programming

CO-2: To demonstrate the use of constructor, destructor and operator overloading

CO-3: To identify the importance of inheritance, pointers, virtual functions and polymorphism

CO-4: To manage console input output operator, working with files and exception handling

CO-5: To make the use of data structures such as liked list, stacks and queues

Course Code & Title: 18CAP20 - C++ Programming and Data Structures (Lab)

Upon Completion of the course the students are able

CO-1: To demonstrate the basics of object oriented programming concepts

CO-2: To apply the various conditional and control statements

CO-3: To examine the various derived types

CO-4: To interpret file and exception handling mechanism

CO-5: To build data structure application using C++

Course Code & Title: 18CA305- Web Technology

Upon Completion of the course the students are able

CO-1: To acquire the knowledge of HTML and CSS

CO-2: To familiar with java script

CO-3: To understand the basic features of PHP

CO-4: To work with arrays, functions, forms and database in PHP

CO-5: To develop applications using Ajax Technologies

Course Code & Title: 18CAP306- Web Design (Lab)

Upon Completion of the course the students are able

CO-1: Tooutline the concepts of web applications

CO-2: To develop HTML programs using tables and frames

CO-3: To use java script in HTML programs

CO-4: To develop PHP programs using arrays and strings

CO-5: To develop application using database

Course Code & Title: 18SCAP301- Business Communication Tools (Lab)

Upon Completion of the course the students are able

CO-1: To learn the important facilities and options available in word processing

CO-2: To create a resume using word document

CO-3: To develop a spreadsheet using built-in functions

CO-4: To create presentation slides

CO-5: To create databases and to generate repot.

Course Code & Title: 18CA407- Java Programming

Upon Completion of the course the students are able

CO-1: To summarize the basic concepts of java

CO-2: To build applications using branching, decision making and looping

CO-3: To demonstrate the use of arrays, inheritance, interfaces and packages

CO-4: To execute different applications using threads and exception handling

CO-5: To develop applications using applets

Course Code & Title: 18CAP408 -- Java Programming (Lab)

Upon Completion of the course the students are able

CO-1: To demonstrate the basic concepts in Java

CO-2: To make use of packages and interfaces in Java

CO-3: To apply the concepts of arrays and inheritance

CO-4: To create applications using threads and exception handling

CO-5: To develop GUI based applications

Program Code: USCSE Program Name: B.Sc. Computer Science

Program Specific Outcomes

On successful completion of B.Sc. Computer Science Program, the students are able

PSO-1: To understand the basic concepts involved in computing

PSO-2: To develop effective communications, critical thinking and problem solving skills

PSO-3: To share the ideas and the techniques they have learnt

PSO-4: To apply the knowledge in Computer techniques to solve real world problems

PSO-5: To think of new approaches for solving problems in different domains

PSO-6: To follow ethics in designing software

PSO-7: To gain confidence to appear for various competitive examinations.

Course Outcomes

Course Code & Title: 18CS101- C Programming

Upon Completion of the course, the students are able

CO-1: To understand the concepts of data types and operators

CO-2: To analyze the usages of the various programming constructs and functions

CO-3: To interpret the importance of arrays and pointers

CO-4: To identify the purpose of structures, unions, macros and bit fields

CO-5: To develop programs using dynamic memory allocation and data file operations

Course Code & Title: 18CSP102 -- C Programming (Lab)

Upon Completion of the course the students are able

CO-1**:** To illustrate the control statements to write basic C programs

CO-2: To identify the usage of arrays, functions, structures, union and pointers

CO-3: To examine the various derived types

CO-4: To analyze the usage of recursion in c programs

CO-5: To develop C programs using file management concepts

Course Code & Title: 18CS203 -- C++ Programming and Data Structures

Upon Completion of the course, the students are able

CO-1: To understand difference between the structured and object oriented programming

CO-2: To demonstrate the use of constructor, destructor and operator overloading

CO-3: To identify the importance of inheritance, pointers, virtual functions and polymorphism

CO-4: To manage console input output operator, working with files and exception handling

CO-5: To make the use of data structures such as liked list, stacks and queues

Course Code & Title: 18CSP204- C++ Programming and Data Structures (Lab)

Upon Completion of the course the students are able

CO-1: To demonstrate the basics of object oriented programming concepts

CO-2: To apply the various conditional and control statements

CO-3: To examine the various derived types

CO-4: To interpret file and exception handling mechanism

CO-5: To build data structure application using C++

Course Code & Title: 18CS305- Java Programming

Upon Completion of the course the students are able

CO-1: To summarize the basic concepts of java

CO-2: To build applications using branching, decision making and looping

CO-3: To demonstrate the use of arrays, inheritance, interfaces and packages

CO-4: To execute different applications using threads and exception handling

CO-5: To develop applications using applets

Course Code & Title: 18CSP306- Java Programming (Lab)

Upon Completion of the course the students are able

CO-1: To demonstrate the basic concepts in Java

CO-2: To make use of packages and interfaces in Java

CO-3: To apply the concepts of arrays and inheritance

CO-4: To create applications using threads and exception handling

CO-5: To develop GUI based applications

Course Code & Title: 18SCSP301- Business Communication Tools (Lab)

Upon Completion of the course the students are able

CO-1: To learn the important facilities and options available in word processing

CO-2: To create a resume using word document

CO-3: To develop a spreadsheet using built-in functions

CO-4: To create presentation slides

CO-5: To create databases and to generate repot.

Course Code & Title: 18CS407- XML AND PHP Programming

Upon Completion of the course the students are able

CO-1: To acquire the knowledge of HTML and DHTML

CO-2: To understand the basic features of PHP

CO-3: To work with functions, arrays and files in PHP

CO-4: To develop applications with forms and database

CO-5: To develop applications using XML technologies

Course Code & Title: 18CSP408- XML AND PHP Programming (Lab)

Upon Completion of the course the students are able

CO-1: Tooutline the concepts of web applications

CO-2: To develop HTML programs using tables and frames

CO-3: To create PHP programs using arrays and strings

CO-4: To develop application using database

CO-5: To Create XML documents

Program Code: PSCSE Program Name: M.Sc. Computer Science

Program Specific Outcomes

On successful completion of M.Sc. Computer Science Program, the students are able

PSO-1: To gain and apply the knowledge of computer science concepts in appropriate domain of interest

PSO-2: To analyze the problem, identify the required computing facility and implement it to obtain the solutions

PSO-3: To create a new design for the complex computational problems which meet the specific needs of the society

PSO-4: To solve complex real-time problems by considering professional, ethical, legal and social issues

PSO-5: To understand and choose the appropriate modern techniques and tools for the compsystems of various domains and understands the advantages and limitations

PSO-6: To work in a group with an effective rapport building with team members to accomplish a common goal

PSO-7: To gain knowledge on documentation and reports writing in a professional way

PSO-8: To analyze the local and global impact of computing on individuals, organization society

PSO-9: To demonstrate the principles of computer science and apply these in the multi disciplinary environments to manage project.

PSO-10: To gain confidence to appear for competitive examinations like UGC-NET, SET, GATE.

Course Outcomes

Course Code & Title: 18PCS101 -- Web Technologies

Upon Completion of the course, the students are able

CO-1: To understand the web programming concepts

CO-2: To acquire the knowledge of HTML and JavaScript

CO-3: To familiar with CSS and XML

CO-4: To develop applications using CGI and PHP

CO-5: To inculcate with Ajax technologies.

Course Code & Title: 18PCS102 -- PYTHON Programming

Upon Completion of the course, the students are able

CO-1: To understand the basics of python

CO-2: To acquire the knowledge of data types, operators and built-in functions

CO-3: To demonstrate the usage of Control and looping statements

CO-4: To inculcate the network programming in python

CO-5: To develop applications using GUI

Course Code & Title: 18PCS103 -- Design and Analysisof Algorithms

Upon Completion of the course, the students are able

CO-1: To gain the knowledge on data structures

CO-2: To demonstrate the role of divide and conquer strategy

CO-3: To identify the use of Greedy method

CO-4: To apply Dynamic programming concept to solve various problems

CO-5: To develop algorithms using Backtracking and Branch & Bound techniques

Course Code & Title: 18PCSE101 - Software Project Management

Upon Completion of the course, the students are able

CO-1: To illustrate key activities in software development and the role of modeling

CO-2: To apply the design and development principles in the construction of software systems

CO-3: To estimate the software effort and cost

CO-4: To monitor the project schedule

CO-5: To adapt the quality management systems in software development

Course Code & Title: 18PCSP104 -- Web Technologies (Lab)

Upon Completion of the course, the students are able

CO-1: To outline the concept of web applications

CO-2: To develop programs using JavaScript

CO-3: To design a web applications using CSS and PHP

CO-4: To demonstrate event handling aspects

CO-5: To create XML document

Course Code & Title: 18PCSP105 - PYTHON Programming (Lab)

Upon Completion of the course, the students are able

\CO-1: To demonstrate the usage of operators and strings

CO-2: To develop programs using lists and tuples

CO-3: To apply exception handling in programs

CO-4: To create applications using GUI and network programming

CO-5: To design programs using web clients

Course Code & Title: 18PCS201 -- Digital Image Processing

Upon Completion of the course, the students are able

CO-1: To summarize the fundamental characteristics of image processing

CO-2: To apply intensity transformations and spatial filtering

CO-3: To analyze image smoothing using frequency domain filters

CO-4: To gain the knowledge of image restoration and reconstruction

CO-5: To apply image compression techniques

Course Code & Title: 18PCS207 -- Java Server Programming

Upon Completion of the course, the students are able

CO-1: To understand the need of J2EE technologies

CO-2: To build applications using JNDI and RMI

CO-3: To acquire the knowledge of JDBC and Database programming

CO-4: To develop applications using Servlets

CO-5: To identify the usage of JSP and JSTL

Course Code & Title: 18PCS208 -- Distributed Operating System

Upon Completion of the course, the students are able

CO-1: To understand the issues of distributed operating system

CO-2: To acquire the knowledge of RPC and shared memory

CO-3: Todemonstrate the role of synchronization

CO-4: To apply resource and process management techniques

CO-5: To determine the usage of Distributed file systems

Course Code & Title: 18PCSP209 - Digital Image Processing (Lab)

Upon Completion of the course, the students are able

CO-1: To demonstrate the importance of filters

CO-2: To implement Fourier transform on gray scale image

CO-3: To segment the various regions in an image using threshold

CO-4: To perform blurring and de-blurring on an image

CO-5: To compress an image using predictive coding techniques

Course Code & Title:18PCSP210 - Java Server Programming (Lab)

Upon Completion of the course, the students are able

CO-1: To build applications using RMI

CO-2: To demonstrate the usage of exception handling in JSP program

CO-3: To illustrate the life cycle of the servlet

CO-4: To create a java program that uses the JMS technology

CO-5: To develop application using JSP Database connectivity

Course Code & Title: 18PCSE202- Data Mining and Data Warehousing

Upon Completion of the course, the students are able

CO-1: To Understand the data mining tasks

CO-2: To demonstrate data mining techniques

CO-3: To compare classification and clustering

CO-4: To acquire the knowledge of data warehouse architecture

CO-5: To assess the importance of Data marting

Course Code & Title: 18PCS311 -- Programming Smart Devices

Upon Completion of the course, the students are able

CO-1: To understand the concepts of android platform

CO-2: To design user interface using views

CO-3: To acquire the usage of data persistence and content providers

CO-4: To demonstrate location based services and socket programming

CO-5: To develop android services and publishing android applications

Course Code & Title: 18PCS312 -- Big Data Analytics

Upon Completion of the course, the students are able

CO-1: To understand the importance of Big data

CO-2: To demonstrate the application development in Hadoop

CO-3: To acquire the knowledge of storing data in Hadoop

CO-4: To apply Map reduce processing to real situations

CO-5: To customize MapReduce execution

Course Code & Title: 18PCS313 -- Compiler Design

Upon Completion of the course, the students are able

CO-1: To understand the structure of a compiler

CO-2: To examine the role of lexical and syntax analysis

CO-3: To gain the knowledge of Intermediate code generation

CO-4: To compare the code generation techniques

CO-5: To analyze machine independent optimization

Course Code & Title: 18PCSE303 -- Mobile and Cloud Computing

Upon Completion of the course, the students are able

CO-1: To impart the knowledge on the working of mobile communication systems

CO-2: To understand Mobile Internet protocol and Mobile databases

CO-3: Tocompare MANETs, VANETs and WSNs

CO-4: Toanalyze the concepts of cloud computing

CO-5: To assess the application areas of cloud computing

Course Code & Title: 18PCSP314 -- Programming Smart Devices (Lab)

Upon Completion of the course, the students are able

CO-1: To build android application that demonstrate activity life cycle

CO-2: To demonstrate an android application that uses GUI

CO-3: Toimplement application that uses GPS Location information

CO-4: To create a SMS application

CO-5: To develop an android application using database

Course Code & Title: 18PCSP315 -- Big Data Analytics (Lab)

Upon Completion of the course, the students are able

CO-1: To optimize Mapreduce Execution with combiner

CO-2: To design an application using word count mapper / reducer

CO-3: To create an application using Map reduce technique

CO-4: To construct an application using custom record reader / custom record writer

CO-5: To develop an application to control reduce execution with partitioner

Course Code & Title: 18PCSPR4 -- Project Workand Viva-Voce

Upon Completion of the course, the students are able

CO-1: To provide an 'unparalleled opportunity' to study the real world

CO-2: To give opportunity for developing leadership, programming and administrative skills

CO-3: Togain sufficient knowledge for entry into a professional career

CO-4: To create the opportunity to reinforce classroom-based learning

CO-5: To transfer knowledge and skill into accountable professional practice

DEPARTMENT OF PHYSICS

Program Code: PSPHY **Program Name: M.Sc. Physics**

Program Specific Outcomes

On completion of M.Sc., Physics Programme, the students will be able to

PSO- 1 Understand the basic concepts of physics particularly in classical mechanics, quantum mechanics, statistical mechanics and electricity and magnetism to appreciate how diverse phenomena observed in nature follow from a small set of fundamental laws through logical and mathematical reasoning.

PSO-2 Learn to carry out experiments in basic as well as certain advanced areas of physics such as nuclear physics, condensed matter physics, nanoscience, lasers and electronics.

PSO-3 Understand the basic concepts of certain sub fields such as nuclear and high energy physics, atomic and molecular physics, solid state physics, general theory of relativity, nonlinear dynamics and complex system.

PSO-4 Gain hands on experience to work in applied fields.

PSO- 5 Gain a through grounding in the subject to be able to teach it at college as well as school level.

PSO-6 Viewing physics as a training ground for the mind developing a critical attitude and the faculty of logical reasoning that can be applied to diverse fields.

Course Outcomes

Course Code & Title: 18 PPH 101 - Classical&Relativistic Mechanics

Having successfully completed the course, the student will be able to

CO1 : Derive Euler Lagrange equations for a system of particles (D'Alembert's principle)

CO2: Describe Hamilton's equations of motion

CO3 : Discuss the central force problem: Kepler's problem, Canonical transformations, Poisson brackets and its properties.

CO4 : Obtain the normal frequencies and the normal modes of a linear triatomic molecule and discuss the nature of oscillations.

CO5 : Review of the special theory of relativity and Lagrangian and Hamiltonian of relativistic particles.

Course Code & Title: 18 PPH 103 - Advanced Electronics

Having successfully completed the course, the student will be able to

CO1 : Knowledge of Electronic components such as Resistors, Capacitors, Diodes, Transistors measuring equipment like DC power supply, Multimeter, CRO, Signal generator, DC power supply.

CO2 : Determination of input-offset voltage, input bias current and Slew rate, Common-mode Rejection ratio, Bandwidth and Off-set null of OPAMPs.

CO3 : Know the application of OPAMP

CO4 : Understand the simplification of Karnaugh maps and the operations of various flip flops

CO5 : Understand the functions of various combinational circuits in digital electronics.

Course Code & Title:18 PPHP 104– Practical – I

Having successfully completed the course, the student will be able to

CO1 : Understand the practical knowledge of the working principles of certain elementary electronic components.

CO2 : Understand the working of analog and digital circuits.

CO3 : Design certain linear and nonlinear circuits

CO4 : Design and working of filter circuits

CO5 : Understand the Operation of op-amp based simulations.

Course Code & Title:18 PPHE 101 – Advanced optics

Having successfully completed the course, the student will be able to

CO1 : Gain knowledge in optical fiber and their applications in communication

CO2 : Explain the fundamental theory of laser actions

CO3 : Illustrate the working of solid state and gas lasers

CO4 : Understand the working of semiconductor, liquid, chemical and dye lasers.

CO5 : Describe the elementary ideas of nonlinear optics

Course Code & Title:18 PPH 205 – Solid state physics

Having successfully completed the course, the student will be able to

CO1 : Understand crystal system and X-ray diffraction methods.

CO2 : Understand the nature of bonding.

CO3 : Discuss lattice vibrations and lattice heat capacity

CO4 : Understand the concept of band theory and defects in crystals

CO5 : Understand the properties of superconductors

Course Code & Title: 18 PPH 206– Quantum Mechanics

Having successfully completed the course, the student will be able to

CO1 : Explain the postulates of quantum mechanics and understand the concept of Schrodinger Equation.

CO2 : Understand thefeatures of certain exactly solvable systems

CO3 : Describe the time-independent and time-dependent perturbation theories

CO4 : Understand the concept behind angular momentum of the particles

CO5 : State the features of relativistic quantum theory.

Course Code & Title:18 PPH 207– Microprocessor and Microcontroller

Having successfully completed the course, the student will be able to

CO1 : Understand the architecture of 8085 microprocessor

CO2 : Understand the instruction set, cycles of 8085 microprocessor

CO3 : Understand the applications of 8085 microprocessor

CO4 : Understand the concept of assembly language programming

CO5 : Understand the architecture of 8051 microcontroller

Course Code & Title:18 PPHP 208– Practical – II

Having successfully completed the course, the student will be able to

CO1 : To understand the fundamental physics behind many scientific discoveries through hands on experience.

CO2 : To determine the various physical constants

CO3 : To understand the elastic behavior of various materials

CO4 : To determine the optical activity of the substance

CO5 : To identify the prominent spectral lines in various spectrum

Course Code & Title:18 EDPH 201 – Facts on everyday physics

Having successfully completed the course, the student will be able to

CO1 : Explain natural physical processes and related technological advances.

CO2 : Effectively solve problems encountered in appliances used in everyday life

CO3 : Analyse the concept of basic science in the professional world.

CO4 : Understand the concept of recent trends in physics

CO5 : Understand the global change and sustainability while placing the development of physics in its historical and cultural context.

Course Code & Title:18 PPH 309 – Electromagnetic Theory

Having successfully completed the course, the student will be able to

CO1 : Study the Electromagnetic Field equations and conservations laws

CO2 : Understand the concept of Plane Electromagnetic wave & their propagation

CO3 : Study the interaction of E.M.W. with matter on macroscopic scale

CO4 : Study the interaction of E.M.W with matter on Microscopic scale

CO5 : Study the field of Moving charges and Radiations

Course Code & Title:18 PPH 310 – Statistical Mechanics

Having successfully completed the course, the student will be able to

CO1 : Grasp the basic concept of ensemble approach and able to apply the approach to a wide range of situations.

CO2 : Learn the fundamental differences between classical and quantum statistics.

CO3 : Understand the thermodynamics of ideal Fermi systems in physics.

CO4 : Understand the thermodynamics of ideal Bose systems in physics.

CO5 : Understand the fluctuations in thermodynamic quantities and phase transitions

Course Code & Title:18 PPH 311 – Atomic And Molecular Spectroscopy

Having successfully completed the course, the student will be able to

CO1 : Understand the fundamental aspects of atomic and molecular physics at different levels,

CO2 : Explain rotational spectra of molecules.

CO3 : Explain vibrational spectra of molecules.

CO4 : Explain Raman spectra of molecules.

CO5 : Explain NMR and ESR spectra of molecules.

Course Code & Title: 18 PPHP 312 – Practical – III

Having successfully completed the course, the student will be able to

CO1 : To understand the fundamental physics behind many scientific discoveries through hands on experience.

CO2 : To determine the various physical constants

CO3 : Understand the working of digital circuits.

CO4 : Analyse the application of laser

CO5 : Determine the magnetic property of the substance

Course Code & Title:18 PPHE 302 – Photonics and Nano Physics

Having successfully completed the course, the student will be able to

CO1 : Know the fundamentals of nanoscale systems and its physical, chemical and electrical properties

CO2 : Gain knowledge on the synthesis of Nano materials and their merits

CO3 : Acquire knowledge about the optical and electron transport properties of nanomaterials

CO4 : Gain perception of characterization techniques

CO5 : Expand their knowledge on applications of nanomaterials and design of new materials for next generation applications

Course Code & Title:18EDPH 302 - Functional Physics

Having successfully completed the course, the student will be able to

CO1 : Explain natural physical processes and related technological advances.

CO2 : Effectively solve problems encountered in appliances used in everyday life

CO3 : Analyse the concept of basic science in the professional world.

CO4 : Understand the concept of recent trends in physics

CO5 : Understand the global change and sustainability while placing the development of physics in its historical and cultural context.

Program Code: USPHY Program Name: B.Sc. Physics

Program Specific Outcomes

PSO- 1 To enhance the student's academic abilities, personal qualities and transferable skills which will give them an opportunity to develop as responsible citizens.

PSO- 1 To define the basic laws involved in Physics

PSO- 2 To understand the concepts and significance of the various physical phenomena.

PSO- 3 To carry out experiments to understand the laws and concepts of Physics.

PSO- 4 To apply the theories learnt and the skills acquired to solve real time problems.

PSO- 5 To acquire a wide range of problem solving skills, both analytical and computational and to apply them in diverse scientific fields.

Course Outcomes

Course Code & Title:18 PH 101 –Properties of Matter and Sound

Having successfully completed the course, the student will be able to

CO1 : Study the elastic behaviour of various materials

CO2 : Study of bending behaviour of beams and analyse the expression for elastic modulus

CO3 : Understand the concept of surface tension and viscosity of liquid

CO4 : Analyse waves and oscillations

CO5 : Study the basic properties and production of ultrasonics by different methods

Course Code & Title: 18 PHP 102 – MAJOR PRACTICAL – I

Having successfully completed the course, the student will be able to

CO1 : Study the elastic behaviour of materials

CO2 : Analyse the relationship between various types of experiments

CO3 : Perform the procedure as per standard values

CO4 : Study the emf, resistance, behaviour of the materials

CO5 : Analyse the specific heat capacity, refractive index, as per the standard procedure

Course Code & Title:18 PH 203 – Mechanics and Relativity

Having successfully completed the course, the student will be able to

CO1 : Study the projectile motion of the body

CO2 : Study the behaviour of rigid body dynamics

CO3 : Understand the concept of gravitation and its applications

CO4 : Understand the concept of hydrodynamics and its applications

CO5 : Understand the nature of relativity

Course Code & Title:18 PHP 204 – Major Practical – II

Having successfully completed the course, the student will be able to

CO1 : Study the elastic behaviour of materials

CO2 : Analyse the relationship between various types of experiments

CO3 : Understand the thermal behavior of the substance

CO4 : Study the specific resistance of the materials

CO5 : Study the acceleration due to gravity at a given place

CO6 : Analyse the emissive power as per the standard procedure

Course Code & Title: 18 PH 305 – Heat and Thermodynamics

Having successfully completed the course, the student will be able to

CO1 : Understand the concept of specific heat capacity of various substances

CO2 : Understand the laws of thermodynamics and its applications

CO3 : Understand the concept behind the liquefaction of gases

CO4 : Understand the concept behind thermal conductivity

CO5 : Understand the fundamentals of statistical mechanics

Course Code & Title:18 PHP 306 – Major Practical– III

Having successfully completed the course, the student will be able to

CO1 : Analyse the relationship between various types of experiments

CO2 : Perform the procedure as per standard values

CO3 : Understand the calibration of instruments

CO4 : Study the emf, resistance of the materials

CO5 : Analyse the specific heat capacity, refractive index, as per the standard procedure

CO6 : Study the elastic behaviour of materials

Course Code & Title:18 SPH 301 – Trouble Shooting ofBasic Lab Equipments

Having successfully completed the course, the student will be able to

CO1 : Understand the principle, testing of transformer and troubleshooting of electrical meters

CO2 : Study the testing of resistors

CO3 : Study the performance of capacitors

CO4 : Study the testing of capacitors

CO5 : Understand the troubleshooting of semiconductor devices

DEPARTMENT OF BOTANY

Program Code: USBOT Program Name: B.Sc. Botany

Program Specific Outcomes

PSO- 1: To develop the basics knowledge needed to make sustainable contributions to the conservation and sustainable exploitation of the plants.

PSO- 2: To learn the role of genetics that shapes the future of medicine, healthcare and food production.

PSO- 3: To identify and analyze the morphological and anatomical features of plants, plant structures and learn plant function and plant evolutionary history.

PSO- 4: To acquire knowledge of various techniques of breeding economically important crops.

PSO- 5: To exploit the potentiality of microorganisms for the welfare of human beings by employing the principles of genetic engineering.

PSO- 6: To ensure students to achieve an up-to-date level of understanding and knowledge on the scope and significance of Botany.

Course Outcomes

Course Code & Title:18 BO 101- Algae& Bryophytes

On the successful completion of the course, the students will be able to

CO 1: Students will be made aware of the lower groups of plants, i.e. algae and bryophytes.

CO 2: Students would have understanding of the classification, characteristics features, cell structure, growth, reproduction and life cycle of major groups of algae and bryophytes.

CO 3: Students also aware of ecological and economic importance of algae and bryophytes.

Course Code & Title: 18 PBOP 102 - Major Practical – I

On the successful completion of the course, the students will be able to

CO 1: Familiarize with the use of microscope

CO 2: Understand the external and internal structure of cryptogams

CO 3: Known the vegetative and reproductive structures of cryptogams

CO 4: Enable to identify algae from algal culture

Course Code & Title: 18 BO 203 - Fungi, Lichen, Viruses& Bacteria

On the successful completion of the course, the students will be able to

CO 1: Enable students will be made aware of the major groups of microbes, i.e. Bacteria, fungi, lichen and viruses.

CO 2: Students would have understanding of the characteristics features, cell structure, growth and reproduction of major groups of algae and bryophytes

CO 3: Gain knowledge on economic importance of major groups of microbes.

Course Code & Title:18 PBO 204 - Major Practical II

On the successful completion of the course, the students will be able to

CO 1: Familiarize with the external and internal structure of lower group of organisms

CO 2: Known the vegetative and reproductive structures of Lichens

CO 3: Identify disease of plants

Course Code & Title: 18 ABO 101- Botany – I (Plant diversity, Anatomy and Embryology)

On the completion of this paper, students will be made aware of

CO 1: Students will be made aware of the major groups of microbes, i.e. Bacteria, fungi and virus.

CO 2: Understand the characteristics features, cell structure, growth, reproduction and life cycle of Algae, Bryophytes, Pteridophytes and Gymnosperms.

CO3: Understand the basics of tissues, anatomical features and embryology of angiosperms.

Course Code & Title: 18 ABOP 102 - Botany Practical I

On the successful completion of the course, the students will be able to

CO 1: Familiar to distinguish the lower group of plants.

CO 2: Known the vegetative, anatomical and reproductive structures of lower group of plants.

CO 3: Understand the anatomical features and embryology of angiosperms.

Course Code & Title: 18 ABO203 - Botany –II (Taxonomy, Physiology, Ecology and Biotechnology)

On the successful completion of the course, the students will be able to

CO 1: Students will understand the basic system of plant classification and salient features of a few families.

CO 2: Understand the physiological principles of plants

CO 3: Known the basic techniques in biotechnology

CO 4: Gain knowledge on principles of ecology

Course Code & Title: 18 ABOP 204 - Botany Practical II

On the completion of this paper, students will be made aware of

CO 1: Enable students to gain knowledge on taxonomy and identification of plants

CO 2: Understand and perform the physiological experiments

CO 3: Learn the basic techniques of biotechnology

CO 4: Able to distinguish mesophyte, xerophytes and hydrophytes.

Course Code & Title: 18 BO 305 - Pteridophytes, Gymnosperms &Palaeobotany

On the completion of this paper, students will be made aware of

CO 1: Understand the characteristics features, classification and life cycle of Pteridophytes and Gymnosperms.

CO 2: Understand the morphological and anatomical characters of Pteridophytesanf Gymnosperms.

CO 3: Gain knowledge on the geological time scale and fossil related studies

Course Code & Title: 18 BOP 306 - Major Practical – III

On the successful completion of the course, the students will be able to

CO 1: Known the morphological and anatomical structures of Pteridophytes and Gymnosperms

CO 2: Learn fossil studies

Course Code & Title: 18 SBO 301 - Herbal Home Remedies

On the successful completion of the course, the students will be able to

CO 1: Understand the various systems of medicines and classification of drugs

CO 2: Learn the importance and uses of medicinal plants

CO 3: Known the preparation of herbal remedies for various ailments

CO 4: Known the preparation of herbal food products

Course Code & Title: 18 BO 407- Morphology&Taxonomy of Angiosperms

On the successful completion of the course, the students will be able to

CO 1: Demonstrate and understanding of the basic principles of taxonomy, including identification, nomenclature, classification and the inference of evolutionary patterns from data.

CO 2: Demonstrate the ability to handle and analyse plant materials in the laboratory and herbarium in the field.

CO 3: Observe the variations among in angiosperms.

Course Code & Title: 18 BOP 408 - Major Practical – IV

On the successful completion of the course, the students will be able to

CO 1: Enable students to gain knowledge on taxonomy and identification of plants

CO 2: Known about herbarium preparation and maintained

Program Code: PSBOT Program Name: M.Sc. Botany

Program Specific Outcomes

By studying M.Sc. Botany will shape and prepare students for the current educational circumstances. The main goal of this programme is to promote students to do all the tasks in order to develop themselves during the studies in our institution. During their study period they not only improve their qualities but also help them to replicate on the wider spectrum of education. On completion of the programme students will acquire the following graduate qualities.

PSO 1: To ensure students familiar with understanding and knowledge on the scope and importance of Botany.

PSO 2: To pledge students a clear, broad and advanced mastery in the field of Botany.

PSO 3: Help students to understand the advanced branches of biological sciences with special reference to Botany.

PSO 4: Expose students to diverse plant life-forms and to inculcate curiosity towards nature and analyse the relationships among animals, plants and microbes.

PSO 5: Understand the issues of environmental contexts and sustainable development.

PSO 6: Assist students to realize the need for conserving the plant resources.

PSO 7: To serve a permanent and practical basis for a career in research (industry or academia) or teaching.

PSO 8: Student gain skill in practical work, experiments, use of recent and advanced biological tool and techniques.

PSO 9: Help students to think critically; ability to design and execute an experiment independently; capacity to carry out innovative research projects; enhance their confidence and ability in communicating ideas, thereby enkindling in them the spirit of knowledge creation.

PSO 10: Facilitate students to understand, practice and implement ethical knowledge in research and studies in the field of biological science.

PSO 11: To enable students expertise in statistical analyses of data for better interpretations and problem-solving

PSO 12: To facilitate students to function as a member of an interdisciplinary problem solving team.

Course Outcomes

Course Code & Title: 18 PBO 101 - Plant Diversity – I (Algae, Fungi, Lichens and Bryophytes)

On the completion of this paper, students will be made aware of

CO 1: Understand the characteristics of, Algae, Fungi, Lichens and bryophytes.

CO 2: Students would have understanding of the classification, cell structure, thallus organization, reproduction, life-cycle and evolutionary trends of Algae, Fungi, lichen and bryophytes.

CO 3: Understand the ecological and economic importance of Algae, Fungi, lichen and bryophytes.

Course Code & Title: 18 PBO 102 - Plant Diversity – II (Pteridophytes, Gymnosperms and Paleobotany)

On the completion of this paper, students will be made aware of

CO 1: Understand the characteristics features and affinities of Pteridophytes and Gymnosperms.

CO 2: Understand the classification, stellar evolution, gametophyte forms, evolutionary trends and economic importance of Pteridophytes.

CO 3: Understand the classification structure of reproductive organs, evolutionary trends and economic importance of Gymnosperms.

CO 4: Understand the evolutionary sequence with the knowledge of the geological time scale and fossil related studies.

Course Code & Title: 18 PBO 103 - Anatomy, Morphogenesis and Experimental Embryology

On the completion of this paper, students will be made aware of

CO 1: Understand the basics of tissues and anatomical features of plants.

CO 2: Understand the various aspects of plant morphogenesis.

CO 3: Understand the key aspects of experimental embryology of angiosperms.

Course Code & Title: 18 PBOP 104- (**Algae, Fungi, Lichens and Bryophytes**), **Plant diversity- II (Pteridophytes, Gymnosperms and Paleobotany), Anatomy, Morphogenesis and Experimental Embryology**

On the completion of this paper, students will be made aware of

CO 1: Familiarize with the external and internal structure of lower group of organisms and plants

CO 2: Study the anatomical preparation and structures of Bryophytes, Pteridophytes and Gymnosperm

CO 3: Learn anomalous structures of angiosperms

CO 4: Know about the embryological structure of angiosperms

Course Code & Title: 18 PBOE 101 - Horticulture & Plant Breeding

On the completion of this paper, students will be made aware of

CO 1: Understand the basics of horticulture.

CO 2: Understand the principles of garden and maintenance.

CO 3: Create interest in self employment.

CO 4: Understand the methods of plant breeding.

Course Code & Title: 18 PBO 205 - Taxonomy and Economic Botany

On the completion of this paper, students will be made aware of

CO 1:Understand the various systems of classification.

CO 2:Through field study they will be able to collect, identify and classify the plants and become familiar with the important taxa.

CO 3:Develop skills of prepare and maintenance of herbarium.

CO 4:Understand the economic importance of selected families.

CO 5:Understand the utilization of plant products.

Course Code & Title: 18 PBO 206 - Cytogenetics, Evolution and Molecular Biology

On the completion of this paper, students will be made aware of

CO 1:Understand the various aspects of genetics.

CO 2:understand the organization and functioning of genetic material

CO 3:Understand gene regulation.

CO 4:Understand the various aspects of evolution.

CO 5:Understand the principle and importance of marker techniques.

Course Code & Title: 18 PBO 207- Microbiology and Phytopathology

On the completion of this paper, students will be made aware of

CO 1:Understand the classification and culture techniques of microbes.

CO 2:Understand the applications of microbes in agriculture.

CO 3:Understand the principles and pathological importance of fungi, bacteria and viruses in plant diseases.

CO 4:Identify common plant diseases and their control measures.

Course Code & Title: 18 PBOP 208 - Taxonomy and Economic Botany; Cytogenetics, Evolution, Molecular Biology, Microbiology and Phytopathology

On the completion of this paper, students will be made aware of

CO 1:Enable students to gain knowledge on taxonomy and identification of plants

CO 2:Understand and perform the experiments on genetics and molecular tools

CO 3:Know to construct Chromosome mapping and study gene frequency

CO 4:Gain knowledge on plant pathological diseases

Course Code & Title: 18 EDBO 201- Horticulture

On the completion of this paper, students will be made aware of

CO 1:Understand the basics of horticulture.

CO 2:Understand the principles of garden and maintenance.

CO 3:Create interest in self-employment.

Course Code & Title: 18 PBO 309 - Physiology, Biochemistry and Biophysics

On the completion of this paper, students will be made aware of

CO 1:Known about the mechanism of water and mineral transport

CO 2:Understand the process of Photosynthesis and Respiration

CO 3:Understand the mechanism of Nitrogen fixation and know about the physiological effects of Plant Growth hormones

CO 4:Known about the basics of stress physiology

CO 5:Gain knowledge on the principles of biochemistry, biophysics and Bioenergetics

Course Code & Title: 18 PBO 310 - Biotechnology & Genetic Engineering

On the completion of this paper, students will be made aware of

CO 1:Understand the basics of Recombinant DNA technology

CO 2:Learn the specific and non-specific methods of gene transfer

CO 1:Known about the detail of tissue culture technique and its application

CO 1:Understand the process of fermentation technology and it application

CO 1:Gain knowledge on IPR, Biosafety, Bio piracy, Bioterrorism and Bioethics

Course Code & Title: 18 PBO 311- Principles of Ecology and Forest Science

On the completion of this paper, students will be made aware of

CO 1: Known about the principles of ecology, structure and functions of various ecosystem and mechanism of biogeochemical cycle

CO 2: Understand the concept of community and vegetation development and succession

CO 3: Learn the principles of conservation and know about protected areas

CO 4: Understand the scope and importance of forest and forest types

CO 5: Gain knowledge about the principles of silviculture systems.

Course Code & Title: 18 PBOP 312 - Physiology, Biochemistry and Biophysics; Biotechnology & Genetic Engineering; Principles of Ecology and Forest Science

On the completion of this paper, students will be made aware of

CO 1:Understand and perform the experiments on membrane permeability and water relationship

CO 2:Understand and perform basic techniques in micropropagation and embryo culture

CO 3:Gain knowledge on isolation and screening of AM fungi

CO 4:Learn basic techniques of forest practices and silviculture

Course Code & Title: 18 PBOE 302 - Marine Botany

On the completion of this paper, students will be made aware of

CO 1:Know about the basics of marine environment

CO 2:Gain knowledge on planktons and seaweeds

CO 3:Learn about of composition of wetlands and plant communities

CO 4:Understand the adaptations and physical process in halophytes

CO 5:Known about the culture and products of algae

Course Code & Title: 18 EDBO 302**- HERBAL MEDICINE**

On the completion of this paper, students will be made aware of

CO 1:Understand the different types of medicine systems

CO 2:Know about the basics principles of pharmacognosy and techniques

CO 3:Understand the uses and pharmacological aspects of medicinal plants

CO 4:Know about the remedial plants for various diseases

CO 5:Gain knowledge on the preparation of herbal formulations

Course Code & Title: 18 PBO 413 - Ethanobotany and Herbal Technology

On the completion of this paper, students will be made aware of

CO 1: Understand the scope and importance of ethanobotany

CO 2: Gain awareness about interdisciplinary approaches and methods of ethno botanical studies

CO 3: Understand the various systems of medicines and know about the basics principles of pharmacognosy and techniques

CO 4: Know about the remedial plants for various diseases and gain knowledge on the preparation of herbal formulations

CO 5: Understand the uses and pharmacological aspects of medicinal plants

Course Code & Title: 18 PBO 414 - Research Methodology

On the completion of this paper, students will be made aware of

CO 1: Understand the principle and applications of microscopy, spectroscopy, chromatography, PCR and biomarker techniques

CO 2: Gain knowledge on biostatistics and analyses of data for better interpretations.

CO 3: Enable students to planning and preparing thesis

Course Code & Title: 18 PBOP 415 - Herbal Technology and Research Methodology

On the completion of this paper, students will be made aware of

CO 1: Helps students to identify the cude drugs

CO 2: Understand and perform the phytochemical screening

CO 3: Extraction of phytochemicals

CO 4: Understand and perform electrophoresis and chromatography techniques

CO 5: Enable students to design and execute research projects and write research articles.

CO 5: Help students in presentation of their research works

Course Code & Title: 18 PBOE 403 - Bioinformatics and Bionanotechnology

On the completion of this paper, students will be made aware of

CO 1: Gain knowledge on basics of computer and networking

CO 2: Know about the bioinformatics concepts

CO 3: Learn the bioinformatics tools in solving biological problems

CO 4: Understand the basics of bio- nanotechnology, synthesis and characterization of nanostructures and applications of nanotechnology.

DEPARTMENT OF ELECTRONIC SCIENCE

Program Code: USESE **Program Name: B.Sc Electronic Science**

Program Specific Outcomes

On successful completion of B.Sc Electronic Science, the students would have

PSO1: Acquire skills by making series and parallel connections with electronic components such as resistor,capacitor,inductor etc., using AC and DC as power source and learn to measure Voltage,Current,Power like parameters using instruments

PSO2: Capacity to design oscillator,amplifier circuits and know to design regulated power Supplies

PSO3: Confident in electronic number systems and associated circuits such sequential and combinational logic circuits

PSO4: Skills in circuit designing and troubleshooting using Linear Integrated Circuits for different applications

PSO5: Impart knowledge in programming using processors and controllers

PSO6: Acquire the skills in developing program inVLSI and Embedded Systems

Course Outcomes

Course Code & Title:18EL203-Electronic Devices

Upon completion the course, the students will be able to

CO1: Learn about the basics of electronics

CO2: Understand the operation of Semiconductors

CO3: Know more Knowledge about the operation of BJT

CO4: Understand the knowledge for Feedbacks

CO5: Acquire more knowledge about oscillators

Course Code & Title:18ELP204-Major Practical – II

Upon completion the course, the students will be able to

CO1: Understand the Characteristics of PN diode and Zener Diode

CO2: Construct and working of various types of Transistors

CO3: Know about the Characteristics of LED

CO4: Design the various Oscillators

CO5: Learn how to Construct the Rectifiers

Course Code & Title:18EL305-Digital Electronics

Upon completion of the course, the students will be able to

CO1: Understand the various number systems and Conversions

CO2: Know the different Logic gates and families

CO3: Study the Boolean algebra and how to reduce it using K map

CO4: Design the Combinational and sequential Circuits

CO5: Learn about the Counters and Shift registers

Course Code & Title:18ELP306- Practical – III Digital Experiments

Upon completion of the course, the students will be able to

CO1: Learn the basics of Gates

CO2: Construct the basic combinational circuits and verify their functionalities

CO3: Apply the design procedures to design basic sequential circuits

CO4: Learn about counters and shift registers

CO5: Understand the basic digital circuits and verify their operation

Course Code & Title:18SEL301-Computer Hardware

Upon completion of the course, the students will be able to

CO1: Introduce hardware and software and the design of front and backside of PC

CO2: Learn the operation of Memory, trouble shooting, Assembly and disassembly of PC

CO3: Learn the working of mouse and scanner

CO4: Get the knowledge of hardware device and networks

CO5: Understand the different types of output and storage devices

Course Code & Title:18EL407-Operational Amplifiers and Linear Integrated Circuits

Upon completion of the course, the students will be able to

CO1: Learn the basic Principles and operation of Op-amp

CO2: Understand the Op-amp Parameters

CO3: Get the Knowledge about Filters, Comparators and Multivibrators

CO4: Understand the Knowledge for PLL, FSK Demodulator

CO5: Acquire more information about 555 Timer and its applications

Course Code & Title: 18ELP408 -Major Practical –IV

Upon completion of the course, the students will be able to

CO1: Know the basic operation of Op-amp

CO2: Make them Confident by designing converter

CO3: Design the basics of Oscillators and Multivibrators

CO4: Design the 555 Timer Circuits with its applications

CO5: Improve the trouble shooting Skill for the Students

Course Code & Title: 18EL509 -Microprocessors

Upon completion of the course, the students will be able to

CO1: Learn the architecture and timing diagram of 8085

CO2: Understand the Knowledge of Instructions of 8085 with some simple Programs

CO3: Know the Knowledge of 8086 architecture and instructions set

CO4: Design the circuit for interfacing peripheral device

CO5: Interface the I/O with simple programs

Course Code & Title: 18EL510 -Communication

Upon completion of the course, the students will be able to

CO1: Understand the basics of communications, transmitters and modulation

CO2: Develop the knowledge of FM, PM and sideband techniques

CO3: Understand the principle of AM and FM transmitter and receiver

CO4: Analyze the technique used in PAM, PCM, PWM, BPCM and DM

CO5: Learn the knowledge the wave propagation and antenna types

Course Code & Title: 18EL511-Instrumentation

Upon completion of the course, the students will be able to

CO1: Recognize the Evolution and standard measurement

CO2: Identify the various parameters that are measurable in Electronic instrumentation

CO3: Measure the set of parameters

CO4: Testing and measuring electronic system

CO5: Relate the use of instruments

Course Code & Title: 18ELP512-Major Practical –V

Upon completion of the course, the students will be able to

CO1: Identify the relevant information to supplement the microprocessor

CO2: Set up programming strategies and select proper mnemonics and run the program on the training board

CO3: Prepare professional quality textual and computational results

CO4: Develop testing and experimental procedures on microprocessor and its operation under different cases

Course Code & Title: 18ELE501-Nanoelectronics

Upon completion of the course, the students will be able to

CO1: Understand the basic about Nanoelectronics

CO2: Learn about the Nanophysics and its applications

CO3: Give knowledge about the instrument and methodology

CO4: Understand the basics of Nanotechnology used in Industries

CO5: Known about the preparation of Nanofilms

Course Code & Title: 18NMEL501-Basic Electronics

Upon completion of the course, the students will be able to

CO1: Known about the basics of resistors and capacitors

CO2: Known about the inductors and types of diodes

CO3: Learn the opto-electronic device and its operations

CO4: Study the logic gates, flip flops and its operations

CO5: Give knowledge about the basics of Microprocessor

Course Code & Title: 18SEL 502-Electronic Components testing and designing

Upon completion of the course, the students will be able to

CO1: Learn the Symbols of various electronic Components

CO2: Understand the testing of electronic Components

CO3: Find the fault on electronic Components and devices

CO4: Design the various Power supplies

CO5: Construct the Hobby Projects

Course Code & Title: 18EL613 -VLSI and Embedded Systems

Upon completion of the course, the students will be able to

CO1: Understand the basic Concept of VLSI

CO2: Observe the Fabrication process techniques in VLSI

CO3: Develop the Knowledge of basic tools in VHDL by Programming

CO4: Give the architecture of Embedded Systems

CO5: Make them interest on Programming Skill using Embedded Systems

Course Code & Title: 18EL614--Power Electronics

Upon completion of the course, the students will be able to

CO1: Know the basic Concept of SCR

CO2: Understand the applications

CO3: Acquire information about inverters

CO4: Learn about Chopper

CO5: Get Knowledge in Ultrasonic and its applications

Course Code & Title: 18EL615-Printed Circuit Boards

Upon completion of the course, the students will be able to

CO1: Know the basic Knowledge of PCB

CO2: Learn the Designing rules of PCB

CO3: Understand the basic Approach of Artwork in PCB

CO4: Analysis the various Etching techniques used in PCB

CO5: Learn the designing of Multilayer and Flexible PCBs

Course Code & Title: 18ELP616 --Major Practical –VI

Upon completion of the course, the students will be able to

CO1: Identify the data analysis and synthesis method and work processes tools

CO2: Criticize the information about Microcontroller

CO3: Practice different types of Programming Language

CO4: Evaluate the Possible Cause of in Practical experiments

CO5: Develop the knowledge in the instructions and design the program by own

Course Code & Title: 18ELE602-Microcontroller and its application

Upon completion of the course, the students will be able to

CO1: Know about the architecture of 8051

CO2: Understand the importance of Counters and timers

CO3: Study the various instructions sets

CO4: Learn about the Calls and Subroutines

CO5: Understand and write program and interfacing

Course Code & Title: 18ELE603 -Programmable Logic Controller

Upon completion of the course, the students will be able to

CO1: Understand the basics of PLC

CO2: Learn the more knowledge about Ladder diagram

CO3: Know the PLC processors

CO4: Acquire the knowledge about instructions

CO5: Implement the applications of PLC.

Course Code & Title: 18NMEL602 -Computer Electronics

Upon completion of the course, the students will be able to

CO1: Know about the basics of computer

CO2: Learn the types of Memories

CO3: Understand the working of Keyboard and Mouse

CO4: Study the various computer Virus and DVDs

CO5: Known the working of Printers and Monitors

Course Code & Title: 18SEL603 - Everyday Electronics

Upon completion of the course, the students will be able to

CO1: Study the Conductor, insulator and different types of wires

CO2: Working of Condenser, Cells and batteries

CO3: Operation of Magnetism and Electromagnetism

CO4: Know the Uses of AC and DC Conversions

CO5: Learn the Knowledge of Electrical appliances

Program Code: PSESE Program Name: M.Sc.Electronic Science

Program Specific Outcomes

On successful completion of M. Sc. Electronic Science, the students would have

PSO1: Acquire skills in digital modulation techniques used in communication

Learn about the Micro Electro Mechanical System and its applications

Impart skills to develop programming using MATLAB

PSO2: Confident to develop problem solving skill using networks

Learn the application of Medical Instruments

To give awareness in renewable energy sources for our future power to satisfy our today' senergy demand

PSO3: Acquire knowledge in basic programming skills and automation with controllers and embedded systems

Develop the skill to aware Nano Applications

PSO4: Focus on VLSI programming by simulation

Impart knowledge to wireless communication techniques with recent trends

Acquire awareness in robotics and industrial automation

Develop the Entrepreneurial Skill

Course Code & Title: 18PEL101 - Fiber Communication

Upon completion of the course, the students will be able to

CO1: Learn the principle of operation, different types of fibers and materials

CO2: Understand the various types of fabrication and Splicing methods

CO3: Get the knowledge of light sources and loses

CO4: Measurements of attenuation and MFD

CO5: Study the operation of amplifiers and antenna

Course Code & Title: 18PEL102 -Advanced Communication

Upon completion of the course, the students will be able to

CO1: Learn about the pulse modulation systems

CO2: Analyze the digital modulation techniques

CO3: Acquire more knowledge about networks

CO4: Know the information about data communication basics

CO5: Learn fundamental of satellite communications

Course Code & Title:18PEL103-Micro Electro Mechanical System

Upon completion of the course, the students will be able to

CO1: Understand the basics of MEMS and Microsystems

CO2: Study the various sensors used in MEMS

CO3: Know about the types of materials

CO4: Study the Microsystems of fabrication process

CO5: Design and package the MEMS

Course Code & Title: 18PELP104 - Practical-I (Communication-Lab)

Upon completion of the course, the students will be able to

CO1: Know to design modulators and demodulators

CO2: Design oscillator, amplifier, converters and filters

CO3: Design the applications of PLL and DAC circuits

CO4: Know to design the sensor and timer based devices for real time applications

CO5: Learn the operation of fiber optic communication link

Course Code & Title:18PELE101- Elective Course – IDigital Signal Processing

Upon completion of the course, the students will be able to

CO1: Know the signals and systems

CO2: Design FFT and FIR filters

CO3: Know the applications

CO4: Study the architecture of Fixed point processor

CO5: Learn the basics of MATLAB

Course Code & Title: 18PEL205 -Circuit Theory

Upon completion of the course, the students will be able to

CO1: Know the Basics laws and their simple circuits

CO2: Give the knowledge on Network theorems

CO3: Observe the network function of Poles and Zeros

CO4: Analyze the basic network topology and interconnection of two port network

CO5: Improve the problems solving techniques using Hurwitz polynomial

Course Code & Title:18PEL206 -Biomedical Instrumentation

Upon completion of the course, the students will be able to

CO1: Learn the Human Physiology

CO2: Get the Knowledge in Transducers

CO3: Acquire knowledge in Bio potential recorders

CO4: Understand Physiological Assist devices

CO5: Study the bio telemetry Systems

Course Code & Title: 18PEL207- Solar Photovoltaics

Upon completion of the course, the students will be able to

CO1: Know the importance of solar energy and solar cell construction

CO2: Learn the PN Junction solar cell operation and its parameters

CO3: How to produce the solar energy maximum by tracking the sun

CO4: Know to design of solar cell converters, inverters and PV applications

CO5: Learn the operation of hybrid, Grid connections and the cost

Course Code & Title: 18PELP208- Practical II (Solar Photovoltaics, Network and Bio Experiments- Lab)

Upon completion of the course, the students will be able to

CO1: Construct to get the solar power in series and parallel connections of real time from sun

CO2: Learn to design the sensors such as temperature and displacement

CO3: Construct to get the solar power in series and parallel connections using simulator

CO4: Know to design sample of pacemaker circuit

CO5: Troubleshoot electronic circuits by using theorems

Course Code & Title:18EDEL201- EDC – I Computer Hardware

Upon completion of the course, the students will be able to

CO1: Learn the basics of computer

CO2: Understand the working of Keyboard, Mouse and Scanner

CO3: Study the processing of HDD

CO4: Know the different types of DVD, Pen drive and Memory cards

CO5: Learn the working of laser printer

Course Code & Title: 18PEL309- Embedded Systems and RTOS

Upon completion of the course, the students will be able to

CO1: Know the architecture of embedded systems

CO2: Learn the concept of programming

CO3: Know the applications in various platforms

CO4: Observe the concept of RTOS

CO5: Learn the platforms used in various field and future trends

Course Code & Title:18PEL310-Advanced Microcontroller

Upon completion of the course, the students will be able to

CO1: Learn the architecture, pin out and how to program the 8051 microcontroller

CO2: Know the architecture of ARM 7 processor and how to program to interface the I/O devices

CO3: Learn the architecture and programming of Arduino controller

CO4: Know to PIC microcontroller architecture and applications

CO5: Learn the skills to program the PIC

Course Code & Title:18PEL311-Programmable Logic Controller

Upon completion of the course, the students will be able to

CO1: Understand the basic concepts of PLC

CO2: Learn the ladder diagram and output modules

CO3: Understand the PLC processor and Watch dog timer

CO4: Understand basic knowledge of relay, timer and counter instructions

CO5: Get the Knowledge of applications

Course Code & Title: 18PELP312--Practical III- Microcontroller & Microprocessor Programming

Upon completion of the course, the students will be able to

CO1: Develop the skills to program to do arithmetic operations using 8051 microcontroller

CO2: Design the interface of 8051 with traffic light, stepper motor, timer and counter

CO3: Learn the skills to interface microprocessor with the stepper motor, scrolling board, DAC and temperature conversions

CO4: Know to Arduino microcontroller architecture and applications

CO5: Learn the skills to program the microcontroller and microprocessor to do conversions such as binary, hexa decimal, decimal and ASCII

Course Code & Title: 18PELE302-Nanotechnology and Its Applications

Upon completion of the course, the students will be able to

CO1: Know about molecules and structure of Compounds

CO2: Analyze the behavior of light in Crystal, Bucky ball and Nanotubes

CO3: Give the Knowledge of fabrication techniques

CO4: Understand the Knowledge about QDOTS and DNA

CO5: Know the applications of Nanotechnology in different fields

Course Code & Title: 18EDEL302-EDC – II Smart Electronics

Upon completion of the course, the students will be able to

CO1: Study the Headphone, Microphone and Projectors

CO2: Understand the Knowledge of Calculator and In car Computers

CO3: Learn the Microwave and Washing Machine

CO4: Study the AC, Fax and Fridge

CO5: Get knowledge about bar coding System, ATM and Dishwasher

Course Code & Title: 18PEL413 - Mobile Communication

Upon completion of the course, the students will be able to

CO1: Understand the Concepts in CCS, ISDN and SS7

CO2: Get the Knowledge of TDMA, FDMA, CDMA and SDMA

CO3: Learn the Cellular Technology

CO4: Understand the Concept of Bluetooth, WiMAX and ZigBee

CO5: Acquire information about GSM and GPRS

Course Code & Title: 18PEL414 - VLSI Design and VHDL Tools

Upon completion of the course, the students will be able to

CO1: Familiarize the basics of VLSI technology

CO2: Analyze various semiconductor devices used in MOS transistor

CO3: Enhance the concept of Fabrication technology using silicon semiconductor device

CO4: Understand the Concept of HDL in VHDL programming

CO5: Acquire Knowledge on programming using QUARTUS

Course Code & Title: 18PELP415 - Practical IV- Industrial Electronics & Linear Experiments

Upon completion of the course, the students will be able to

CO1: Develop the skills to design circuit breaker AC and DC

CO2: Design the power electronic devices DIAC,TRIAC and SCR for its applications

CO3: Learn the skills to assemble UJT oscillator circuit and application

CO4:Develop the skills of to design power supply DC and Solar power Source

CO5: Learn the skills to design the counter, multiplexer and comparator

Course Code & Title: 18PELE403-Industrial Electronics

Upon completion of the course, the students will be able to

CO1: Learn about SCR and Applications

CO2: Analyze the control system

CO3: Get knowledge for industrial controller

CO4: Study the concept of Robotics

CO5: Acquire knowledge for Robotic Sensors

Course Code & Title: 18PELPR4-- Project

Upon completion of the course, the students will be able to do project

CO1: Design Circuits in PCB using Embedded Systems

CO2: Design circuits using PLC

CO3: Design circuits using Microcontrollers

CO4: Design circuits using Wireless Communications

CO5: Acquire Knowledge in Updated Electronics Era

DEPARTMENT OF VISUAL COMMUNICATION

Program Code: USVIC Program Name: B.Sc. Visual Communication

Program Specific Outcomes

Students who graduate with a Bachelor of Visual Communication will:

PSO1: Obtain a significant knowledge on fundamental and advanced aspects of Visual Communication.

PSO2: Gain in-depth knowledge on pre-production, production and post-production process in Film Making.

PSO3: Gain proficiency in studio techniques such as Photography and Cinematography.

PSO4: Gain insight into the various aspects of script writing, direction and editing.

PSO5: Assimilate technical skills on Graphic Designing, Audio editing and Video Editing, 2D &3D Animation and Dubbing.

Course Outcomes

Course Code & Title: 18 VC 101 - Introduction to Visual Communication

CO1: Understand the importance, Process and models of Communication in all aspects of social life.

CO2: Acquire the significant knowledge about, developing skill in perceiving and interpretation.

CO3: Acquire an in-depth knowledge about the perceptions, illusion and colour theory.

CO4: Understanding about the types of media, public relation and campaign.

CO5: Knowing the importance of media literacy, speech styles and presentation.

Course Code & Title: 18 VCP 102 - BASIC DRAWING

CO1: Understanding the effective uses of various medium to drawings.

CO2: Understand the basics of drawing like lines, shapes and shading styles.

CO3: Understanding the study of different perspectives.

CO4: Understanding the human anatomy, flowers, fruits and etc.

CO5: Draw various concepts like model, landscape, still life, etc.

Course Code & Title: 18 AVC 101 -Media Culture and Society

CO1: Students understand the types of media and its functions, Role and the power of mass communication in the society.

CO2: Learn about the gender violence, media audience segmentation and audience effects theories.

CO3: Learn about approaches to media and theories of mass communication.

CO4: Understand the social responsibility of media and the relationship of media and society.

CO5: Student will learn about the role of media in the culture transformation of the society.

Course Code & Title:18 AVCP 102 - 2D DESIGNS & PAINTINGS

CO1: Understand the basics of drawing like lines, shapes and shading styles.

CO2: Create a font and its style in vanishing point.

CO3: Draw various types of headline for Newspaper or Books.

CO4: Draw various logo for different agencies like commercial, Govt., Advertising agencies and Newspaper.

CO5: Do abstract and to design a print advertisement for any branded products.

Course Code & Title: 18 VC 203 - ADVERTISING

CO1: Understand the needs, scopes, roles, process, elements and functions of advertising.

CO2: Gain knowledge about the organizational structure, layout, headline and its types.

CO3: Have complete knowledge about the Branding and Target audience.

CO4: Know the advertising agency relationship.

CO5: Understand about the moral and benefits of advertising with our culture and society.

Course Code & Title:18 VCP 204 - Advertising Techniques – Practical

CO1: Understanding the basic types and uses of layouts drawings

CO2: Understanding of the Designing software and feel more confident

CO3: Understanding the Colour combination and theories

CO4: Understanding the Dimension and point of view of the Consumers

Course Code & Title: 18 AVC 203 - Graphic Design

CO1: Understanding the elements of design, principles of design and Aesthetics of design.

CO2: Understand the process of developing ideas in combination, thematic, thinking and Presentation.

CO3: Understanding the different types of fonts and effective use of Typography.

CO4: Understand the dynamics of composition and colour and the technical issues surrounding print and web distribution.

CO5: Understanding the Responsibilities and Qualifications of Graphic Designer.

Course Code & Title: 18 AVCP 204 - Graphic Design- Practical

CO1: Ability to apply the knowledge of the elements and principles of design to solve real world design issues and concepts.

CO2: Understanding of symbols and illustration context of the product and branding.

CO3: Ability to design creative printing collaterals like Brochure, Magazine, Invitation, greeting card, Online Banners, etc.

CO4: Understand the concept of converting a Black and white image to Colour image.

Course Code & Title: 18 VC 305 - Photography

CO1: Understanding the essential features of Camera.

CO2: Gain the knowledge about types of Cameras, Lenses and Filters.

CO3: To study about the storage devices and various file formats.

CO4: Understanding the process and equipment's of exposing and lighting techniques.

CO5: Learn about the various branches of photography and its scopes.

Course Code & Title: 18 AVC 305 - Writing for Media

CO1: Learning the essentials of good writing skills and writing styles.

CO2: Analyzing the conventional writing techniques in print media.

CO3: Understanding the knowledge on writing for various programmes on TV and radio. Learning and applying correct script form.

CO4: To know how to creatively engage for New Media in various stages of original scriptwriting.

CO5: Understanding the features of cinema, types of scripts and screenplay with well-developed plot, characters and setting.

Course Code & Title:18 SVC 301- E Content Writing

CO1: Learning the basics elements of E Content

CO2: Analyzing the various characteristics of E Content

CO3: Gaining knowledge on different forms of E Content

CO4: Understanding the Essential types in E Content

CO5: To know how to creatively write for New Media.

Course Code & Title:18 VCP 306 - Basic Photography

CO1: The students are trained for basic techniques, usage of a DSLR and its major components.

CO2: The students are trained in essential types of lighting techniques in indoor photography.

CO3: Ability to apply the technical knowledge in special effects photography.

CO4:A final works of all the photos are compiled to form an album.

Course Code & Title:18 AVCP 306 - Script Writing

CO1: The student should have a clear knowledge about how to write for print media.

CO2: Gaining knowledge about writing script for Radio program and Advertisement.

CO3: Providing exposure to write Script for Advertisement, Short film and Documentary films

Course Code & Title:Film Studies

CO1: Student will know about the History of Indian Film Industry and film directors.

CO2: Student will learn about the different trends used by Tamil film directors

CO3: Student will know about the Theories and understanding film relationship to reality.

CO4: Student will gain more Knowledge in Reviewing Narrative and Non-Narrative films and also different film genres.

CO5: Student will Learn to write script for Films on their own, and also, they learn about the Basics of Pre-Production, Production and Post-Production Process

Course Code & Title:Media laws and Ethics

CO1: Understand the fundamentals of the freedom and IPC.

CO2: Gain knowledge about the history of Indian Press and various Acts.

CO3: Have a clear knowledge about press commission and committees.

CO4: Know the codes and ethics related to various media organization.

CO5: Understand the concepts of media ethics and ethical problems.

Course Code & Title:Digital art

CO1: Ability to apply the knowledge to create photo-illustration and editing.

CO2: The student trained to create a vector portrait

CO3: Student will learn how to create typography and digital painting.

DEPARTMENT OF MATHEMATICS

Program Code: PSMAT **Program Name: M.Sc. Mathematics**

Program Specific Outcomes

PSO1: To make use of algebraic concepts in other branches and analyze group theoretical concepts, ring properties and applications of dual spaces.

PSO2: To study the basic concepts in the field of real numbers, properties of Riemann Stieltjes integrals, sequences and series of real numbers and uniform convergence.

PSO3 : To study the motion of bodies in accordance with the general principle.

PSO4: To study the concepts and applications of ODE and PDE in Physics and Numerical methods.

PSO5: To study the concept of fuzzy set theory, fuzzy numbers and its operations, fuzzy relations and difference between crisp sets and fuzzy sets.

PSO6: To develop the critical knowledge in the inner product spaces and modules. Analyze applications of linear transformations.

PSO7: To study the concept of Analyticity, Complex Integration and Infiniteproduct in depth.

PSO8: To provide the knowledge on topological spaces and their importance.

PSO9: To study the applications of distributions and finding their mean and variance.

PSO10: To develop the critical knowledge in the applications of statistics and measures statistical data using measures of central tendency, dispersion, correlation and regression analysis.

Course Outcomes

Course Code & Title: 18PMA101- Abstract Algebra

On completion of the course, Students will be able to

CO1: Define permutation groups; normalize of an element of a group, state applications of class equation.

CO2: State first part, second part and third part of Sylow's theorem, find direct products.

CO3: Find ideals and quotient rings.

CO4: State Division Algorithm, Einstein's criterion and find primitive polynomials.

CO5: Manipulate operations on Hom(V,W) , find dimension of Hom (V, W) and define annihilator of subspace.

Course Code & Title: 18PMA102- Real Analysis

On completion of the course, Students will be able to

CO1: Describe fundamental properties of the real numbers that lead to the formal development of Real Analysis.

CO2: Understand the concept of sequences and series and establish whether a given series/sequences is convergent/divergent.

CO3: Explain the definitions, fundamental theorems on the existence and properties of Riemann-Stieltjes Integral

CO4: Demonstrate an understanding of Limits and its uses in convergent sequences, differentiation and integration.

CO5: Describe the linear transformations and Contraction Principle.

Course Code & Title: 15PMA103-- Mechanics

On completion of the course, Students will be able to

CO1: Understand D'Alembert's Principle and simple applications of the Lagrangianformulation.

CO2: Analyze the derivation of Lagrangian equations from Hamilton's Principle and extension of Hamilton's Principle to non-holonomic systems.

CO3: Study the concept of the equations of motion and the equivalent one dimensional problem, Kepler's problem and inverse-square law of force.

CO4: Distinguish the concept of the Hamilton's equations of motion and the Principle of Least action.

CO5: Understand the Canonical transformations, using to solve the problem also to study the Poisson brackets.

Course Code& Title:15PMA104- Differential Equations

On Completion of this course, Students will be able to:

CO1: Solve the second order homogeneous equations.

CO2: Obtain the solutions of initial value problem for the homogeneous equations.

CO3: Derive theLipschitz condition and analyze the convergence of the successive approximations.

CO4: Solve the first-order linear PDE's by using Lagrange's and Charpit's methods.

CO5: Determine the solutions of linear PDE's of second order with constant coefficients, variable coefficients.

Course Code & Title: 15PMAE101- Fuzzy Sets and its Applications

On completion of the course, Students will be able to

CO1: Comprehend the concept of fuzzy set theory and properties.

CO2: Learn crisp and fuzzy set theory and decide the difference between crisp sets and fuzzy sets.

CO3: Be familiar with the concepts of fuzzy operations and t-norms.

CO4: Understand the concept of fuzzy numbers and its arithmetic operations.

CO5: Be able to distinguish between the crisp and fuzzy relations and understand the concept of binary fuzzy relations.

Course Code & Title: 18PMA205- Advanced Algebra

On completion of the course, Learners will be able to

CO1: State inner product spaces, find orthogonal complement and state fundamental theorem for finitely generated modules over Euclidean rings.

CO2: Compute roots of polynomials and state remainder theorem.

CO3: Find range and rank of a transformation and characteristic roots.

CO4: State similar transformations and invariant subspace.

CO5: Define Hermitian, Unitary and Normal transformation.

Course Code & Title: 18PMA206- Complex Analysis

On completion of the course, Learners will be able to

CO1: Get the knowledge about the field of complex numbers and analytic functions.

CO2: Evaluate integrals using Cauchy's theorem and Cauchy's Integral formula

CO3: Classify singularities, Evaluate integrals using residues.

CO4: Express the basic concepts and properties of Harmonic functions

CO5: Study the general properties of Elliptic functions

Course Code & Title: 15PMA207- Topology

On completion of the course, Learners will be able to

CO1: Define topological spaces and the properties.

.CO2: Express the concepts of continuous functions, product topology and metric topology.

CO3: explain connected and compact spaces and results related to compact spaces

CO4: list out equivalent conditions of limit point compactness and discuss countability and separation axioms.

CO5: Derive Urysohn lemma and Tychnoff theorem.

Course Code: 18PMA208-- Probability and Statistics

On Completion of the Course, Students will be able to

CO1: Define discrete random variables and distributions.

CO2: Explain Continuous random variables and distributions.

CO3: Describe jointly distributed random variables and joint probability distribution of function of random variables.

CO4: State the properties of expectation and distribution functions.

CO5: Describe the Conditional expectation and Moment generating function.

Course Code :18EDMA201- Computational Statistics -I

On Completion of the Course, Students will be able to

CO1: Understand the concepts, usage and application of statistics in various fields.

CO2: Know the concepts of different types of measures of central tendency and its usage in different fields.

CO3: Understand the application of measures of dispersion in various fields.

CO4: Correlate different kinds of data using various measures and types of correlation.

CO5: Understand the difference between correlation and regression and applications of regression analysis.

Course Code & Title: 18PMA309-Measure and Integration

On Completion of this course, Students will be able to:

CO1: Know about the fundamentals of measure theory and theory of integration.

CO2: Describe the measurable function and Borel measurability.

CO3: Understand the Riemann and Lebesgue integrals.

CO4: Discuss abstract measure spaces and uniqueness of extension.

CO5: Study about product measure and Fubini's theorem.

Course Code : 18PMA310- Functional Analysis

On completion of the course, Students will be able to

CO1: Study Continuous linear transformations and the Hahn-Banach theorem.

CO2: Understand the Open Mapping Theorem and its applications.

CO3: Obtain Orthogonal complements, Orthonormal sets and conjugate space.

CO4: Understand the relevance of Operator Theory.

CO5: Discuss projections and its applications

Course Code & Title: 18PMA311-- Programming in C++

On Completion of this course, Students will be able to:

CO 1 : Understand the basics of C++ programming .

CO 2 : Explain the concept of functions and program structure.

CO 3 : Learn arrays and pointers.

CO 4 : Learn the concept of classes and objects.

CO 5 : Apply the object oriented concepts to write the program.

Course Code & Title: 18PMAP312- Practical Programming in C++

On completion of the course, Learners will be able to

CO1: Provides hands-on for C++ language and implement various concepts related to C++ language.

CO2: Apply the concept of function in language to determine whether the number is prime or not, factorial of a number.

CO3: Implement the C++ language to check whether the string is palindrome or not, find the number of odd and even numbers in an array, matrix operations like addition, subtractions and transpose.

CO4: Apply the concept of OOP technique to solve the quadratic equations.

CO5: Write a programme to find the largest among the numbers, to short out the given array of elements in ascending order.

Course Code:18PMAE302-- Graph Theory

On completion of the course, Learners will be able to

CO1: Study the basics of graph theory and acquire knowledge about its applications.

CO2: Explain the planar graphs and geometric dual and combinatorial dual of graph.

CO3: Explain the concepts of vector spaces of graphs using Cut-sets and graph circuits.

CO4: Determine the coloring and chromatic number and matching of a graph.

CO5: Make use of Digraphs in Fundamental circuits and fundamental cut-sets in graphs.

Course Code: 18EDMA302- Computational Statistics -II

On Completion of the Course, Students will be able to

CO 1: Understand the concepts of testing of hypothesis using various methods of test.

CO 2: Apply the concepts of large samples and understand its applications in various fields,

CO 3: Know the concepts of non-parametric tests and the application of Chi-square tests.

CO 4: Understand the one way and two way classifications using F-Test and its applications.

CO 5: Know the concept of time series analysis, it components and its applications in different various fields.

Course Code: 18PMA413- Differential Geometry

On completion of the course, Students will be able to

CO1: Express the notion of Frenet-Serret formula for space curves and understand the fundamental theorem of space curves.

CO2: Compute the Curvature and Torsion of space curves Osculating surface and Osculating curve at any point of a given curve.

CO3: Compute the developable surface of the ruling, cylinder and cone etc.

CO4: Calculate the First and Second Fundamental forms of a surface.

CO5: Understand the Gaussian Curvature, Mean Curvature and Line Curvature.

Course Code: 18PMA414- Stochastic Processes

On completion of the course, Students will be able to

CO1: Understand the concept of random processes determine covariance and spectral density of stationary random processes.

CO2: Understand Classification of states and chains, Determination of higher transition probabilities.

CO3: Understand Poisson process and related distributions, Generalizations of Poisson process, Birth and Death processes

CO4: Understand renewal processes and their applications.

CO5: Understand queuing processes and know methods of deriving the programme measures of queuing models

Course Code: 18PMA415- Integral Equations

On Completion of the Course, Students will be able to

CO1: Describe the special kinds of kernels.

CO2: Solve Integral Equations by using Fredholm theorem, Fredholm Alternative theorem.

CO3: Solve Integral Equations by using Method of Successive Approximation.

CO4: Understand the Classical Fredholm theory.

CO5: Solve the Integral equations by using Classical Fredholm theory.

Course Code & Title: 18 PMAE 403 -- Operations Research

On completion of the course, Learners will be able to

CO1: Understand the meaning of slack, surplus and artificial variables, build a simplex table

CO2: Know the concept of duality in linear programming problem.

CO3: Solve the deterministic inventory problems with and without shortages.

CO4: Realize the characteristic of dynamic programming problem and solve it.

CO5: Formulate the pay-off matrix for a game between two players and solve it.

Course Code: 18PEC104- Statistical Methods I

On Completion of the Course, Students will be able to

CO1: Get the knowledge about the Functions, limitations and Applications of Statistics.

CO2: Understand about the Diagrammatic representation of data, its types.

CO3: Learn the about the measures of central tendency like mean, median and mode.

CO4: Acquire the knowledge about the measures of dispersion like mean deviation, quartile deviation and standard deviation.

CO5: Understand the uses of co-efficient of variation and skewness.

Course Code: 18PEC105- Statistical Methods II

On Completion of the Course, Students will be able to

CO1: Find the Correlation coefficient and rank Correlation coefficient.

CO2: Study the concepts about Regression analysis and regression equations.

CO3: Learn the types of index numbers and the Methodology on finding the Index numbers.

CO4: Understand about the tests of adequacy of index numbers and its calculation.

CO5: Acquire knowledge about the components and benefits of using times series analysis.

Course Code & Title: 18PEC208- Statistical Methods – III

On completion of the course, Students will be able to

CO1: Classify matrices, manipulate matrix operations and solve system of linear equations.

CO2: Compute inverse of a matrix, solve system of linear equations by inverse method.

CO3: Find difference between the means of two samples of large samples using tests of significance.

CO4: Differentiate independent and dependent samples and test the significance of an observed Correlation co-efficient.

CO5: Define Chi Square distribution, state uses of Chi Square Test and additive property of Chi- Square test

Course Code & Title:18PEC209 --Quantitative Techniques

On completion of the course, Learners will be able to

CO1: Understand the concept of Mathematical model, classification of models and characterization of models.

CO2: Solve the problem of transporting the products from origins to destinations with least transportation cost.

CO3: Convert and solve **t**he practical situations into assignment problem.

CO4: Identify strategic situations and represent them as games and solve simple games using various techniques

CO5: Knowledge of solve the game by Matrix Oddment method and Graphical Method with different order.

Course Code& Title:18PPH102 -- Mathematical Physics

On Completion of the Course, Students will be able to

CO1. Learn about Gradient, Divergence and Curl in orthogonal curvilinear and their typical applications in physics.

CO2. Learn about type of complex variables, conformal mapping, residues using definite integrals.

CO3. Learn different ways of solving second order differential equations and familiarized with singular points and Frobenius method.

CO 4 Get introduced to Special functions like Gamma function, Beta function, Delta function, Dirac delta function, Bessel functions and their recurrence relations

CO5. Learn the fundamentals and applications of Fourier series, Fourier and Laplace transforms, their inverse transforms

Program Code: USMAT Program Name: B.Sc. Mathematics

Program Specific Outcomes

On Completion of B.Sc. Mathematics programme, the students would be able to

PSO1: To study summation of series, theory of equations, matrices, trigonometry and its applications.

PSO2: To study the plane, sphere, cone, cylinder and applications of integrals.

PSO3: To study the concept of convergence and divergence of sequence of numbers, apply various test to examine the convergence of series and to find the sum of series upto 'n' terms.

PSO4: To study the fundamental solution of ODE and PDE.

PSO5: To study the basic concepts of measures of central tendency, measures of dispersion, probability, discrete and continuous probability distribution and the principles of least square.

PSO6: To understand the basic concept of quantitative ability and compete in various competitive examinations like CAT, CMAT, UPSC, GPSC, etc. Covering the topics average, problem on numbers and age, percentage and mixture.

PSO7: To study the gradient, directional derivatives, double and triple integral formations, importance Green, Gauss and Stoke's theorems. Sine and Cosine terms in Fourier series.

PSO8: To study the fundamental solution of Laplace transforms, inverse Laplace transforms and also Fourier transforms.

PSO9: Application oriented problems can be solved using Mathematical statistics.

Course Outcomes

Course Code & Title: 18MA101- Algebra, Trigonometry & Differential Calculus

Upon completion of the course the students will be able to

CO1: Evaluate binomial, Exponential and Logarithmic series.

CO2: Evaluate equations of Reciprocal Equations – Descarte's Rule of signs – Horner's method.

CO3: Find the Eigen values and Eigen vectors of a given vertex, expand circular functions of a series

CO4: Evaluate limits of Trigonometric functions.

CO5: Find higher derivatives of given functions.

Course Code & Title: 18MA202 - Analytical Geometry (3D) and Integral Calculus

Upon completion of the course the students will be able to

CO1: Compute the equations of Straight lines satisfying given Conditions.

CO2: Know family of spheres passing through a circle, tangent planes and normal lines to a Sphere.

CO3: Obtain equations of Cone, enveloping cone, cylinder, right circular cylinder, enveloping cylinder and obtain their results.

CO4: Evaluate indefinite integrals and multiple integrals.

CO5: Understand Beta, Gamma functions and their properties.

Course Code & Title: 18MA303 - Sequences and Series

Upon completion of the course the students will able to

CO1: Understand the concept of convergence and divergence of sequence of numbers.

CO2: Determine if an infinite series and geometric series is convergent and divergent or not.

CO3: Apply various tests to examine the convergence of series.

CO4: Decide the given series is converging of an alternating series.

CO5: Find the sum of series up to n terms.

Course Code & Title: 18MA304 - Differential Equations

Upon completion of the course the students will able to

CO1: Understanding the solution of ordinary Differential equations.

CO2: Find the solutions of linear differential equations of constant coefficients.

CO3: Find the solutions of Linear differential equations of variable coefficients.

CO 4: Understand the underlying concept of partial differential equation.

CO5: Understand the different types of standard form of partial differential equation.

Course Code & Title: 18AMS305 - Mathematical Statistics–I

Upon completion of the course the students will able to

CO1: Explain basic statistical concepts such as measures of Central tendency.

CO2: Compute measures of dispersion.

CO3: Explain the concept of probability including conditional probability, understand Baye's rules use it to conditional probabilities.

CO4: Apply discrete and continuous probability distributions to various business problems.

CO5: Employee the principles of Least square.

Course Code & Title: 18SMA301 - Quantitative Aptitude-I

Upon completion of the course the students will be able to

CO1: The student should be able to calculate the mean average of the given data.

CO2: The student should be able to calculate the value of the number asked.

CO3: The Problem on Ages helps to learn shortcuts and tricks that can be used and practiced for Placement Test and competitive exams - etc.

CO4: Work with simple ratios converts between fractions, decimals and percentages. Explain the meaning of ratio, proportion and percentage find percentages of different quantities calculate percentage increases and decreases.

CO5: Learn the shortcuts and tricks to solve Mixture and Allegation questions quickly and with accuracy within a short span of time. Ratio in which two or more ingredients are mixed to produce a mixture of a desired price.

Course Code & Title: 18MA405 - Vector Calculus and Fourier Series

Upon completion of the course the students will able to

CO1: To obtain the gradient of a scalar field, the directional derivative and a unit normal to a surface.

CO2: Know the Inter-relationship amongst the line integral, double and triple integral formations,

CO3: Realize importance of Green, Gauss and Stoke's theorems in other branches of mathematics.

CO4: Write given function in terms of sine and cosine terms in Fourier series and also to get knowledge in Fourier Transforms.

CO5: Know how to derive a Fourier series of a given periodic function by evaluating Fourier co-efficient.

Course Code & Title: 18MA406 - Laplace Transforms and Fourier Transforms

Upon completion of the course the students will able to

CO1: Find the Laplace transforms of a function by definition and by use of simple application.

CO2: Find the Inverse Laplace transforms of a function.

CO3: Solve the differential equation by using Laplace transforms.

CO4: Understanding the underlying concept of representing the function of Infinite Fourier transform.

CO5: Understanding the underlying concept of representing the function of Finite Fourier transform.

Course Code: 18AMS406 - Mathematical Statistics-II

Upon completion of the course the students will able to

CO1: Develop problem solving techniques needed to accurately calculate probabilities.

CO2: Learn non parametric test such as Chi-Square test for independence as well as goodness fit.

CO3: Learn how to conduct a hypothesis test with a small number of observations for quantitative data.

CO4: Look at the mean and standard deviation followed by the mean difference between the two groups preferably with the associated with 95 percentage confidence interval.

CO5: Evaluate and interpret the outcome of Correlation and Regression coefficients.

Course Code & Title: 18AMA101 - Allied Mathematics-I

Upon completion of the course the students will be able to

CO1: Formulate and solve the some important expansion of binomial, exponential and logarithmic series.

CO2: Define Characteristics equation of matrices and illustrate. State Cayley-Hamilton theorem.

CO3: Expand $sin\theta, cos\theta, tan\theta$ in powers of θ .Define hyperbolic and Inverse hyperbolic functions.

CO4: Describe the various forms of equation of a plane, straight line and sphere. Calculate the shortest distance between two skew lines.

CO5: Apply Leibnitz theorems and know the applications of the radius and centre of curvature, maxima and minima of function of single variables.

Course Code & Title: 18AMA202 - Allied Mathematics-II

Upon completion of the course the students will be able to

CO1: Understand the concepts of properties of definite integrals, reduction formulae, double and Triple Integrals.

CO2: Know the gradient, curl, divergence of vectors and able to Evaluate integrals using Green's theorem, Stoke's theorem and Gauss divergence theorem.

CO3: Understand the Laplace and Inverse Laplace transform of a function and its application in linear differential equations with constant coefficients.

CO4: Develop the knowledge in Fourier series, sine series and cosine series expansions.

CO5: Form partial differential equations by elimination of arbitrary constants and arbitrary functions, and find its solutions using standard types.

Course Code & Title: 18AAM101 - Applied Mathematics-I

Upon completion of the course the students will able to

CO1: Apply numerical methods to find solution of algebraic and transcendental equations using different methods.

CO2: Apply various interpolation methods and finite difference concepts.

CO3: Understand numerical differentiation and integration when ever and where ever routine methods are not applicable.

CO4: Concentrate probability distribution and its characteristics.

CO5: Understand the difference between Correlation and Regression analysis.

Course Code & Title: 18AAM202 - Applied Mathematics – II

Upon completion of the course the students will able to

CO1: Formulate Mathematical model (linear programming problem) for a physical situations like production, distribution of goods, economics, etc.

CO2: Solve the Mathematical model **by** simplex method and its extensions to two phase and Big-M algorithms.

CO3: Solve the problem of transporting the products from origins to destinations with least transportation cost.

CO4: Convert and solve **t**he practical situations into Resource Scheduling problem.

CO5: Identify the resources required for a project, generate a plan, and work schedule.

Course Code & Title: 18ABM101 - Business Mathematics & Statistics - I

Upon completion of the course the students will be able to

CO1: Classify the Matrices and manipulate matrix operations, finding the value of determinants and solving linear simultaneous equations.

CO2: Apply the formulae for Simple Interest and Compound Interest.

CO3: Collect, classify and tabulate statistical data and presenting the data through various diagrams.

CO4: Compute arithmetic mean, median, mode, geometric mean and harmonic mean .

CO5: Find range, Quartile deviation, Mean deviation, standard deviation, and coefficient of variations.

Course Code & Title: 18ABM 202 - Business Mathematics and Statistics-II

Upon completion of the course the students will be able to

CO1: Understand the initial basic feasible solutions of a transportation problem using various methods.

CO2: Know the concepts of correlation, rank correlation and tied rank correlations.

CO3: Analyses and estimate using the regression lines and know it's properties.

CO4: Construct and calculate the index numbers using various methods.

CO5: Acquire the knowledge on time series, secular trend and seasonal fluctuations.

Course Code & Title: 18AMS101 - Business Statistics

Upon completion of the course the students will able to

CO1: Recognizes central tendency and various measures of central tendency.

CO2: Recognizes the measures of dispersion - Range, Quartile deviation, Mean deviation and Standard deviation.

CO3: Construct Simple price, Quantity and value Indexes, Weighted price Quantity and value Indexes.

CO4: Evaluate and interpret the outcome of correlation coefficients.

CO5: Understand the concepts of regression models and interpret the effect of regression coefficients.

Course Code & Title: 18AMS202 - Business Mathematics

Upon completion of the course the students will able to

CO1: Perform the matrix operations of addition, multiplication and transposition and solve the simultaneous linear equations with determinants.

CO2: Analyze the solution of system of linear equations by matrix inversion method and its ranks.

CO3: Understand the problems of Simple interest, Compound interest, Annuities and Discounting and can get the solution for the same.

CO4: Find the initial basic feasible solution for any transportation problem.

CO5: Identify the Assignment problem and can obtain the solution of any Assignment problem.

Course Code & Title: 18AES101 - Statistics for Economics-I

Upon completion of the course the students will be able to

CO1: Classify and tabulate the given data.

CO2: Know the uses and limitations of Bar diagram, Pie diagram and Rectangle Histogram and draw frequency curve.

CO3: Compute Mean, Median and Mode for the given data. Also, it states the merits and demerits for the same.

CO4: Compute Range, Quartile deviation, Mean deviation, standard deviation and state its uses.

CO5: Solve linear simultaneous equation in 2 and 3 variables by Cramer's rule Matrix Inversion method.

Course Code: 18AES202 - Economics Statistics - II

Upon completion of the course the students will able to

CO1: Calculate and interpret the correlation between two variables and determine whether the correlation is significant.

CO2: Calculate the simple linear regression equation for a set of data and know the basic assumptions behind regression analysis.

CO3: Understand the concept of Index number and able to construct simple price and quantity indexes.

CO4: Able to check whether the Index number in consistent or not by using various tests.

CO5: Describe and verify mathematical considerations for analyzing time series and apply various techniques of time series models, including the graphic method, moving average models, and method of least squares.

Program Code: PSMIB Program Name: M.Sc., Microbiology

Program Specific Outcomes

Upon completion of M. Sc., programme, the students would be able to understand

PSO-1: Analyze microbial diversity, importance of metabolic pathways, plant and animal virus replication, viraus cultivation method, role of virus in biotechnology and basics of Nano technology

PSO-2: Microbial community in various environments such as in soil, Food, marine and the applications of those microroganisms in the respecctive areas.

PSO-3: Learn, analyze and apply the techniques in Molecular Biology, Immunology (Detection of antigen and antibody, FACS, ELISA,RIA), Medical Microbiology(pathogenesis, clinical diagnosis, prevention and treatment of diseases)

PSO-4: Understand the basic protocol in carrying out a project and to learn the way of writing an article and publishing in journal.

Couse Outcomes

Course Code & Title: 18PMB101 - General Microbiology and Microbial Diversity

Upon completion of the course the students will be able to

CO1: Understand the knowledge about history and various component of bacterial structure

CO2: Illustrate the different types of microscopy study about pureculture and staining technique.

CO3: Analyze the Microbial evolution and classification.

CO4: Discuss the characteristics features of Eubacteria and Archaebacteria.

CO5: Identify the biodiversity ofeukaryotic microorganisms.

Course Code & Title: 18PMB102- Microbial Metabolism

Upon completion of the course the students will be able to

CO1: Learn the nutritional requirement and nutritional classification of bacteria

CO2: Discuss about the Dormant and resistant structures in bacteria

CO3: Determine all the metabolic pathways in bacteria

CO4: Determine the bio synthetic pathway of nucleotides, Bacterial cell wall

CO5: Discuss the mechanism of photosynthesis.

Course Code & Title:18 PMB 103 - Virology

CO1: Understand viral classificationand bacteriophage replications

CO2: Discern the structures and replicative strategies of represented plant viruses.

CO3: Know the methods of replication, pathogenesis and laboratory diagnosis of represented animal viruses

CO4: Discuss about the advance viral infection, viral cultivation and assay

CO5: Know about the role of viruses in biotechnology, viral vaccine and antiviral agents

Course Code & Title:18PMB10 - Clinical biochemistry

Upon completion of the course the students will be able to

CO1- Acquired the knowledge about carbohydrates and its metabolic activities

CO2-Gained the complete knowledge about proteins and lipids

CO3-Understand the concepts and mechanism of enzymes

CO4-Able to familiar with human blood components and its important functions

CO5-Understand the various pathological conditions and its significance in biochemistry

Course Code & Title:18PMB105- Practical I

Upon completion of the course the students will be able to

CO 1: Understand the use of staining technique and biochemical charecteritics of microorganisms.

CO 2: Analysis of virus cultivation .Determine the pathological conditio of blood sample.

Course Code & Title:18PMBE101 -Introduction to Nanotechnology & IPR

Upon completion of the course the students will be able to

CO1- Know the Histroy of nanotechnology and its biological synthesis.

CO2- gain knowledge biomimicry and the role of nanotechnology.

CO3- Learn the Intellectual property rights.

CO4- Know the knowledge of trasgenic animals, plants varity and bitechnological invention and food products.

CO5- gain knowledge of establishment and significance of WIPO, GATT, & WIPO.

Course Code & Title:18PMB206 - Environmental microbiology

Upon completion of the course the students will be able to

CO1-Outline the basic characteristic features of microorganisms in various environmental factors

CO2-Demonstrate the air quality assessment of microorganisms

CO3-Identify life patterns of microorganisms in various aquatic habitats

CO4-Develope Wastewater treatment and solid waste disposal

CO5-Capability to apply the microorganisms in the fields of biodegradation, oil recovery and bioleaching

Course Code & Title:18PMB207 -Soil and Agricultural Microbiology

Upon completion of the course the students will be able to

CO1: Classify the soil microbes

CO2: Anlayse the microbial interaction

CO3: Importance of Bio geochemical cycling

CO4: Isolation, identification and mass multiplication of Bio fertilizers

CO5: Discuss about the plant pathogen and the diseases they cause.

Course Code & Title:18PMB208, Food and industrial Microbiology

Upon completion of the course the students will be able to

CO1- Analyse the microbial growth,Spoilage of food and its preservation.

CO2- Determine the baterial food borne illness.

CO3- Make use of fermented microbial products

CO4- Discuss the types of fermentor

CO5- Illustrate the application of computer in fermentor

Course Code & Title:18 PMB 209- Research Methodology, Biostatistics and Computer application

Upon completion of the course, the students will be able to

CO1: Gained an insight to do research in biological Sciences

CO2-Capability to apply the statistics in research

CO3-Analyse and correlate the research findings of biological experiments

CO4-Aplication Bioinformatics tools in research

CO5-Know basic computer applications and internet uses research

Course Code & Title:18 PMBE202 - Marine Microbiology

Upon completion of the course, the students will be able to

CO1: Acquire the knowledge about marine ecosystem

CO2-Learn the survival of microorganisms in extreme environment

CO3- Understand the concepts of Microbial interactions

CO4-Know about the pathogenesis marine food borne infections

CO5-Importance of marine microbial products

Course Code & Title:18PMBP210 - Practical I

Upon completion of the course the students will be able to

CO1:Develope the practical skill for water, food and air quality analysis

CO2: Enterprenuership based skill developed on biofertilizer production such as A*zospirillum, Azotobacter*, *Rhizobium,*BGA.

CO 3: Enterprenuership based skill developed in fermentation of dairy products

Course Code & Title:18PMB31- Molecular biology and Microbial genetics

Upon completion of the course the students will be able to

CO1-Identify the genetic material and discuss procaryotic replication

CO2-Discuss the structure and function of RNA

CO3- Analyze the organization of genes in procaryotes.

CO4-Determine the gene transfer mechanism of procaryotes .

CO5- Understand mechanism of sudden changes in genetic matter and its significance.

Course Code & Title:18PMB312- Medical Microbiology

Upon completion of the course the students will be able to

CO1-Introduce the basic principles of disease transmission by microorganism

CO2-Gain the knowledge about important bacterial diseases in all aspect

CO3-Understand the types and nature of fungus based on the disease causing mechanism

CO4-Became familiar with the concepts of disease cycle its control measures

CO5-Developed the skills about handling and processing the hazardous clinical specimens

Course Code & Title:18PMB313 - Immunology and Immunotechnology

Upon completion of the course the students will be able to

CO1- Outlines the basic concept of immunity

CO2- Determine the measurement of antigen antibody reactions.

CO3- Analyze the complement pathways and the mechanism of hypersensitivity

CO4- Discuss the mechanism of transplantation and immunosuppression methods

CO5- Analyze the applications of immune technology

Course Code & Title:18 PMB 314 - Microbial Biotechnology and Genetic Engineering

Upon completion of the course, the students will be able to

CO1: Basic knowledge about the scope of biotechnology and microbes involved the production of commercial products.

CO2: Screening methods and strain improvement for industrially important microbes.

CO3: Know about handling techniques about various tools used for genetic engineering.

CO4: Understand the cloning vectors and their role in biotechnology.

CO5: Well adequate knowledge about transgenic plants, animal and human gene therapy methods.

Course Code & Title:18 PMBE 303 - Biological Techniques

Upon completion of the course, the students will be able to

CO1: Learn about basic principle and methods of microscopes.

CO2: Well known for importance of function and applications of spectrophotometer.

CO3: Know about the sample analsysis by various chromatography techniques.

CO4: Principle and applications of electrophoresis in research aspects.

CO5: Isolation and quantification of nucleic acid and various methods are adopted in DNA sequencing.

Course Code & Title: 18PMBP315 - Practical III (Covering core paper 1-4)

CO 1: Upon completion of the course, the students will be able to

CO 2: Learn and handles the laboratory protocols in Molecular techniques

CO 3: Demonstrate the practical skills in immunological techniques such as antigen-antibody reaction, haemoglobin estimation, blood cell count, serolofgical techniques

CO 4: Handled and analyse the clinical specimens such as blood, urine, sputum, pus sample and antibiotic sensitivity test.

Course Code & Title:18EDMB302 -Microbial diseases and Management

Upon completion of the course the students will be able to

CO1-Outline the basic concepts of infection mechanism

CO2-Discuss the food and water borne sources

CO3-Identify the sources and control of airborne disease causing pathogens

CO4-Determine the disease transmission from soil Borne microorganisms

CO5-Understand the influence of vectors in disease transmission cycle

Course Code & Title:18 EDMB 201 - Microbes in Human Welfare

Upon completion of the course, the students will be able to

CO1: Outline the general characters and biodiversity of microorganisms.

CO2: Basic knowledge about microbes used in food production.

CO3: Importance of microorganisms to enhanchement of agriculture.

CO4: Understand the waste water teratemnt by microbes.

CO5: Known about the importance of microorganisms in industrial production.

Course Code & Title:18PMBPR4 -Project& Viva-voce

CO1-Gain exposure from various research laboratories, Institutions and discussions with Scientists to acquire more knowledge in research.

Program Code: USMIB Program Name: B.Sc., Microbiology

Program Specific Outcomes

Upon completion of B. Sc., programme, the students would be able to understand

PSO-1: The basics of Microbiology such as the history of Microbiology, Taxonomical Classification, Sterilization techniques, pure culture techniques and maintenance of pure cultures

PSO-2: Understand the diversity and classification of Algae, fungi, virus, protozoa and other groups of Microorganisms such as archae, methanogens,Chlamydiaeetc

PSO-3: Comprehend the metabolic activities of microbes ie the growth requirements, transport of nutrients, metabolic and biosynthetic pathways and mechanism of Photosynthesis

PSO-4: Understand and analyses the various components of Immune system such as mechanism of immunity, antigen – antibody reactions, Clinical manifestations of hypersensitivity, Transplantation immunology and immune response to cancer

PSO-5: The basics of Genetics. Adequate knowledge about the gene transfer mechanism, gene regulation, genetic engineering techniques, DNA amplification. Importance of metabolic pathway and biochemical activities

PSO-6: Role of microbial population in various ecosystem such as in soil(their diversity and population in soil, bio geochemical cycling), Food(Principles of food preservation, spoilage of food, fermentation of various food products), medical (pathogenesis, diagnosis, prevention and control of infection)etc.

Course Outcomes

Course Code & Title: 18MB101 - Fundamentals of Microbiology

Upon completion of the course the students will be able to

CO1- Understand the Historical development of microbiology and structural organization of bacteria.

CO2- Various microscopic principles and their applications or draught with different staining techniques.

CO3- Taxonomicalclassifications from the Haeckel's three kingdom concept to the binomial nomenclature aredraught.

CO4- Physical and chemical sterilization methods are being taught.

CO5- Know about the cultivation of microorganism by pure plate technique

Course Code & Title:18AMB101 - General Microbiology

Upon completion of the course the students will be able to

CO1-To make the students understand and identify the prokaryotes and eukaryotes through the application of various microscope

CO2- Discuss the general characters of bacteria, virus, fungi, algae and protozoa and their structural organization.

CO3- Various sterilization methods and maintanance and preservation technique of pure culture.

CO4- To understand the microbial metabolism and the factors affecting their growth.

CO5- To make understand the carbohydrate metabolism and gain knowledge on different types of phototrophic prokaryotes.

Course Code & Title:18 AMBP 102 -Pratical-I

Upon completion of the course the students will be able to

CO 1: To know the medium preparation for cultivation of microbes.

CO 2: Isolation of microorganisms by pure culture techniques.

CO 3: To determine the bacteria present in water and soil.

CO 4: To clearly understand the colony morphological characters of microorganisms.

CO 5: Identification of bacterial structure by staining techniques.

CO 6: To determine the biochemical characterization of microbes.

Course Code & Title:18AMB203- Immunology and Immunotechnology

Upon completion of the course the students will be able to

CO1- Outlines the basic concept of immunity

CO2- Determine the measurement of antigen antibody reactions.

CO3- Analyze the complement pathways and the mechanism of hypersensitivity

CO4- Discuss the mechanism of transplantation and immunosuppression methods

CO5- Analyze the applications of immune technology

Course Code & Title:18MB203 - Microbial Diversity

Upon completion of the course the students will be able to

CO1-List the general characteristics and classification of algae

CO2- List the general characteristics and classification of fungi

CO3- Discuss the general characteristics and classification of virus

CO4- List the general characteristics and classification of algae

CO5- Discuss the general characteristics of important groups of bacteria

Course Code & Title:18MBP 204 -Practical II

Upon completion of the course the students will be able to perform

CO 1: the isolation of algae, fungi, bacteria from various environments.

CO 2: The identification of algae, fungi, bacteria from various environments.

Course Code & Title:18AMBP 204- Practical II

Upon completion of the course the students will be able to perform

CO 1: Able to perform the basic blood grouping and other serological techniques

Course Code & Title:18 MB 305 - Microbial Physiology

Upon completion of the course the students will be able to understand

CO1- The nutritional aspects of microorganisms.

CO2- Growth and Maintanence of microorganisms

CO3- Carbohydrate metabolic pathways

CO4-Biosynthetic pathways of macro molecules

CO5- Mechanism of photosynthesis

Course Code & Title:18MBP306 - Core practical III

Upon completion of the course the students will be able to

CO 1: Analyze the effect of pH on the growth of microbes

CO 2: Analyze the effect of temperature on the growth of microbes

CO 3: Analyze the effect of on the growth of microbes

CO 4: Demonstrate the biochemical reactions in the identification of bacteria

Course Code & Title:18SMB301- Mushroom technology and value added products

Upon completion of the course the students will be able to

CO1-classify the mushroom into edible and poisonous mushroom

CO2-Maintanence of pure culture

CO3- design the infra-structure for mushroom cultivation

CO4-List out the nutrient profile of mushroom

CO5- Analyze the entrepreneurship opportunities in mushroom cultivation.

Course Code & Title:15 MB 407 - Cell

Upon completion of the course, the students will be able to

CO1: outline the cell and history of cell biology.

CO2: learn about the prokaryotic organization.

CO3: know the prokaryotic organization.

CO4: Know the different aspect of chromosome.

CO5: clearly understand for the cell division.

Program Code: USBIT **Program Name: B.Sc. Biotechnology**

Program Specific Outcomes

On successful completion of B.Sc. Biotechnology Programme, the students would have

PSO-1 Decipher the molecular evolution of cell, cell architecture and expertise in conducting experiments in the areas of Cell biology.

PSO-2 Learnt the fundamental aspects of the chemical nature and properties of biomolecules.

PSO-3 identified and analyzed the societal issues and express their novel conclusions with fundamental knowledge attained from Biotechnology.

PSO-4 acquired knowledge in various branches of Biotechnology enabling their applications in Industry

PSO-5 planned and developed a clear resolution for social and environmental problems by applying current biotechnological apparatus by working as a team.

Course Outcomes

Course Code & Title: 18BT101-Cell biology

Upon completion of the course, the students will be able to

CO1: Understand the history and origin of cell

CO2: Understand the ultrastructure and functions of cell organelles

CO3: Apply the knowledge of chromosomes structure on karyotyping

CO4: Analyze the significance of cell division

CO5: Decipher the intracellular communication and methods in cell biology.

Course Code & Title: 18BT203 --Biochemistry

Upon completion of the course the students will be able to

CO1: Understand the structure and functions of biomolecules

CO2: Identify the structure of carbohydrates and the biosynthetic pathways

CO3: Identify the structure of proteins and the biosynthetic pathways

CO4: Explain the structure, classification and biosynthesis of lipids

CO5: Discuss the structure and biosynthesis of nucleic acids.

Course Code & Title: 18BT305-Molecular Biology and Genetics

Upon completion of the course, the students will be able to

CO1: Obtain knowledge on the history and scope of molecular biology and modern concepts of gene and proven DNA and RNA as a genetic material

CO2: Discuss the synthesis and genome organization of prokaryotes and eukaryotes

CO3: Analyze the sequential reactions of prokaryotic and eukaryotic replication and DNA repair mechanism

CO4: Obtain knowledge on prokaryotic and eukaryotic transcription, and inhibitors on transcription

CO5: Discuss about prokaryotic and eukaryotic translation and post translational modification and inhibitors about translation

Course Code & Title: 18BTP204-Major Practical -III

Upon completion of the course, the students will be able to

CO1: Learn the principles of advanced biology

CO2: Demonstrate the DNA isolation methods

CO3: Identify the mutants by replica plating

CO4: Estimate the unknown amount of nucleic acid present in the given sample

CO5: Identify the mutagenic agents and decipher the molecular mechanism of mutation

CO6: Examine the agarose gel electrophoresis

Course Code & Title: 18SBT301-- Bioinstrumentaion

Upon completion of the course, the students will be able to

CO1: Define the principles and theroies of acid, base and buffer. pH Meter and its application

CO2: Examine the principles and procedure and detailed applications of microscopy techinique

CO3: Summarize the components and properties involved in centrifugation and its types

CO4: Examine the principles and procedure and detailed applications of chromatography

CO5: Evaluate the biological applications of radiotracer techniques, scintillation counter and autoradiography

Course Code & Title: 18BT407- Genetic Engineering

Upon completion of the course, the students will be able to

CO1: Learn the concepts of history, scope and recent development in genetic engineerin and to acquire knowledge about enzyme used in genetic engineering.

CO2: Describe the importance and functions about vectors and its uses in gene cloning

CO3: Investigate the advanced molecular cloning methodology and techniques.

CO4: Learn about different methods to analysis gene expression investigate the advanced techniques used in genetic engineering.

CO5: Discuss the synthesis and application of genetic engineering products and its applications in medicine and forensic sciences.

Course Code & Title: 18BTP408- Major Practical -IV

Upon completion of the course, the students will be able to

CO1: Demonstrate the DNA isolation methods

CO2: Examine the agarose gel electrophoresis

CO3: Demonstrate the antigen –PCR

CO4: Identify the mutants by replica plating

CO5: Estimate the levels of macromolecules quantitatively and to evaluate the restriction digestion method

Program Code: PSBIT Program Name: M.Sc. Biotechnology

Program Specific Outcomes

On successful completion of M.Sc. Biotechnology Programme, the students would have

PSO 1- Decipher about the molecular evolution of cell, cell architecture, transport and the central dogma of molecular biology.

PSO2- Know the principles and applications of genetic engineering, immune technology for serving mankind

PSO3- Acquired the basic and technical knowledge in the field of plant biotechnology, animal biotechnology with special emphasis on the development of animals and plants with desired character.

PSO4- Explain the concept of immune response and apply the immunological techniques in the diagnosis of diseases

PSO5-Developed comprehensive skills in tissue culture to produce disease and drought resistant plants and interpreted various biological data through advanced bioinformatics tools

PSO6- Gained the knowledge on general and applied aspects of microbiology.

PSO7- Develop their capability to apply the concepts in microbiology experiments and analyze the findings critically

Course outcomes

Course Code & Title: 18PBT101- Cell and Molecular Biology

Upon Completion of the course, the students will be able to

CO1: Explain the origin of life from molecules and cellular evolution

CO2: Organize the structure and functions of a cell organelle

CO3: Explain the transport of molecules across membrane

CO4: Analyze the mechanism of DNA replication

CO5: Decipher the transcription, translation process and to make use of central dogma in governing life

Course Code & Title: 18PBT102-Biochemistry

Upon completion of the course, the students will be able to

CO1: Explain the principles of thermodynamics and Properties of water, ionic strength and buffer.

CO2: Classify the structure and metabolism of carbohydrates

CO3: Classify lipids; distinguish their properties and its biosynthesis

CO4: Classify the aminoacids, protein and its biosynthesis

CO5: Elucidate the structure of nucleic acids and interpret its types and Vitamins and their deficiency diseases.

Course Code & Title: 18PBT103- Microbiology

Upon Completion of the course, the students will be able to

CO1: Explain the origin of microbial world and summarize the classification of Microorganisms

CO2: Demonstrate the sterilization and analyses the physical parameters for bacterial growth

CO3: Apply the gene transfer methods and nutritional types of microbes.

CO4: Discuss the role of microbes in food preparation and industrial product production

CO5: Appraise the microbial action in environment.

Course Code & Title: 18PBT104- Immunology and Immuno technology

Upon completion of the course, the students will be able to

CO1: Summarize the fundamental concepts and anatomy of immune system

CO2: Classify the immunoglobulin's and its role in immune system

CO3: Discuss antigen-antibody interaction and apply immunological techniques in diagnosis

CO4: Explain the concept of immunization and vaccine production

CO5: Assess the importance of hypersensitivity reaction of immune system and organ transplantation.

Course Code & Title: 18PBTP104- Major Practical –V

Upon completion of the course, the students will be able to

CO1: Discuss the effect of temperature, pH on salivary amylase activity and toelaborate the microbial staining methods and the separation of amino acids using chromatography

CO2: Identify the various events of mitosis and experiment with qualitative analysisof macromolecules and microbial biochemical test

CO3: Analyze the bacterial strains and antimicrobial sensitivity test

CO4: Estimate the quantitative analysis of macromolecules and to assess the separation of DNA using AGE

CO4: Evaluate antigen antibody interaction by immunological techniques

CO5: Develop skills on recent immunology tools and to maintain cell lines necessary for health and diagnostic practices

Course Code & Title: 18PBT206- Recombinant DNA technology

Upon completion of the course, the students will be able to

CO1: Understand and familiar with the tools and techniques of genetic engineering- DNA manipulation enzymes and manipulation tools.

CO2: Study gene cloning vectors- plasmid, bacteriophages, Phagemids and cosmids, animal virus derived vectors and plant based vectors.

CO3: Learn in-vitro construction of r-DNA and different cloning strategies.

CO4: Understand the applications of r-DNA technology and the advances made in them.

CO5: Understand the methods in molecular cloning and the different DNA delivery systems.

Course Code & Title: 18PBT207- Medical Biotechnology

Upon completion of the course, the students will be able to

CO1: Understand the fundamental principles of genetics and their application in medical practice.

CO2: Understand different types of syndromes, disorders and infections.

CO3: Learn different biochemical, neurological, immune and genetic disorders and also explain how high-throughput molecular screening methods are used to diagnose diseases.

CO4: Understand different types of disease diagnosing methods based on protein.

CO5: Learn the therapeutically advances available for different diseases and the gene silencing technology.

Course Code & Title: 18PBT208- Plant Biotechnology

Upon completion of the course, the students will be able to

CO1: Understand the aseptic techniques, the media used in plant tissue culture and also about protoplast isolation and its fusion, somatic hybridization and cybridization.

CO2: Understand the technique of micropropagation, organogenesis and somatic embryogenesis

CO3: Study the gene transfer methods in plants and understand agrobacterium mediated gene transfer and also gene silencing technology.

CO4: Learn the genetic engineering techniques for quality improvement in plants and also the production of vaccines from plants.

CO5: Study the role of plant molecular markers in molecular breeding and genomics and construction of molecular maps.

Course Code & Title: 18PBT209- Animal Biotechnology

Upon completion of the course, the students will be able to

CO1: Study the different types of culture media and conditions for growth of animal cells, organ and tissue.

CO2: Study the transformation process in animal cells and the method of producing transgenic animals and transgenic breeding strategies.

CO3: Study the biotechnological approaches of pest and animal management and production method of live feed.

CO4: Learn the genetic engineering approaches for the correction of genetic disorders and the ethical limits of animal use –Human rights and responsibilities.

CO5: Understand the applications of animal tissue culture and production of vaccines in animal cells and DNA Barcoding.

Course Code & Title: 18PBTP210 -- Major Practical -X

Upon completion of the course, the students will be able to

CO1: Practically know the isolation & quantification of Genomic, plasmid DNA from microorganism, ligation and use of restriction enzymes.

CO2: Develop biomedical techniques, devices, and systems that require substantive expertise in biology

CO3: Practically can know the molecular diagnostic procedures like ELISA, Blotting techniques and PCR which helps to understand the modern biotechnology.

CO4: Learn different plant tissue culture media, plant growth regulators and understand in detail the principles, process & applications of plant tissue culture.

CO5: Get the information about history of animal tissue culture, media preparation, sterilization, culture techniques, and establishment of cell lines.

Course Code & Title: 18PBTE202- Molecular Breeding and Genetics

Upon completion of the course, the students will be able to

CO1: Learn the Principles of plant and animal breeding and the significance of conserving germplasm.

CO2: Completely understand structure and organization of genome in plants and animals and also learn about the molecular markers.

CO3: Understand the gene flow in plants and animals and different gene mapping strategies

CO4: Students will understand different molecular breeding strategies and acquire knowledge in settling IPR issues in molecular breeding.

CO5: Aware of the structural and functional genomics, epigenomics, nutrigenomics, metagenomics and how their study can be utilized in the field of agriculture, human health.

Course Code & Title: 18PBT311- Bioprocess technology

Upon completion of the course, the students will be able to

CO1: Illustrate the structural components and types of fermentor

CO2: Apply the microbial production techniques in various industries

CO3: Analyze the role of IPR and patency of microbial products

CO4: Determine the recovery and purification of microbial products

CO5: Formulate the medium for fermentation

Course Code & Title: 18PBT312- Bioinstrumentation

Upon completion of the course, the students will be able to

CO1: Define the principles and theroies of acid, base and buffer and components and properties involved in pH

CO2: Examine the principles and procedure and detailed applications of microscopy technique

CO3: Summarize the components and properties involved in centrifugation, electrophoresis and its types and applications

CO4: Examine the principles and procedure and detailed applications of chromatography

CO5: Evaluate the biological applications of radiotracer techniques, scintillation counter and autoradiography.

Course Code & Title: 18PBT313- Bioinformatics

Upon completion of the course, the students will be able to

CO1: Get a sound knowledge about the genome organization of living organisms and its carrier applications in Pharmaceutical and IT Industries.

CO2: Get the knowledge and aware of the structure-function relationship of proteins and their characterization

CO3: Learn to analyze, interpret and study biological data (sequence, structure, etc) stored in various databases available on internet.

CO4: Explain principle, algorithm and different methods of sequence alignments as well as execute alignments to address research problems.

CO5: Aware of the structural and functional genomics and also familiar with a wide variety of bioinformatics tools and software and apply these to conduct basic bioinformatics research like drug designing and thus develop platform for phylogenetic analysis.

Course Code & Title: 18PBT314- Research Methodology

Upon Completion of the course the students will be able to

CO1: Interpret the concepts of research methodology

CO2: Identify the various steps involved in research

CO3: Analyze the collection of data and sampling design

CO4: Evaluate the format of classification, tabulation and report writing

CO5: Discuss the research areas in commerce with computer applications.

Course Code & Title: 18PBTP315- Major Practical -XV

Upon completion of the course, the students will be able to

CO1: Identify the control, monitoring of fermentation process and bioreactor methods

CO2: Analyze the aerobic and anaerobic fermentable products and to inspect the downstream processing

CO3: Evaluate the production of single cell proteins and antibiotics

CO4: Analyze biological sequences using bioinformatics tools

CO5: Assess the sequence retrieval and sequence similarity

CO6: Discuss how to maintain cell lines and to compile the significance of sequence alignment

Course Code & Title: 18PBTE303- Aquaculture Biotechnology

Upon completion of the course, the students will be able to

CO1: Analyse various methods of rearing aquatic organism

CO2: Develop skills on sericulture and aquaculture

CO3: Analyze the production of transgenic fish and its uses

CO4: Distinguish the indigenous and exotic dairy breeds

CO5: Elaborate the prawn and pearl culture technology.

Program Code: USCHE **Program Name: B.Sc. Chemistry**

Program Specific Outcomes

On successful completion of B.Sc. Chemistry programme, the students gain

PSO 1: Fundamental knowledge in organic, inorganic and physical chemistry

PSO 2: The qualitative and the quantitative analytical knowledge in chemistry

PSO 3: The capacity to execute the experiments and record the results.

PSO 4: Adequate knowledge in agricultural and industrial chemistry

PSO 5: Knowledge in environment, health and hygiene

PSO 6: Competency for competitive examinations

Course Outcomes

Course Code & Title: 18CH 101 - Inorganic, Organic and Physical Chemistry-I

Upon completion of the course the students will be able to

CO1: Outline the principles/models of the structure of atom and concepts on the nature of electron.

CO2: Chemical bonding, theories of molecule's shapes, field effects in the molecule, cleavage of bonds and reaction intermediates

CO3: IUPAC nomenclature, reactions of aliphatic hydrocarbons and the mechanism governing them.

CO4: Gaseous state and its theories, calculation of molecular velocities, liquefaction of gases.

CO5: Liquid state, Solid state, and their nature, differences, crystal systems, applications

Course Code & Title: 18CHP 102 - Volumetric analysis-I

Upon completion of the course the students will be able to

CO1: Explain basic principles of volumetric titrations

CO2: Prepare the desired standard solutions

CO3: Apply the principles to carry out experiments

CO4: Estimate the unknown amount of sample present in the given solution

CO5: Adopt the chemistry practical skills to meet out the QC/R&D needs.

Course Code & Title: 18CH 203 - Inorganic, Organic and Physical Chemistry-II

Upon completion of the course the students will be able to

CO1: Explain the principles relating to qualitative analysis and have knowledge of halogens and pseudohalogens.

CO2: Explain the concepts of oxidations and reductions, understand the chemistry of O_3& H_2O_2

CO3: Explain chemistry of dienes, cycloalkanes, aromatic hydrocarbons and Grignard reagents.

CO4: Explain the aromatic electrophilic and nucleophilic substitution and elimination reactions.

CO5: Explain the chemistry of colloids and macromolecules, concept of themodynamics.

Course Code & Title: 18CHP 204 - Volumetric Analysis - II

Upon completion of the course the students will be able to

CO1: To explain the complexometric and iodometric titrations and indicators used.

CO2: Prepare/maintain pH to the analytes.

CO3: Perform quantitative applied chemistry experiments

CO4: Estimate the unknown amount of sample present in the given solution

CO5: Adopt the chemistry practical skills to meet out the QC/R&D needs.

Course Code & Title: 18CH 305- Inorganic, Organic and Physical Chemistry-III

Upon completion of the course the students will be able to

CO1: Explain the chemistry of transition metals and their compounds, understand the chemistry of chemistry of boron and zero group elements.

CO2: Explain the chemistry carbon family; understand chemistry of alcohols and polyhydric alcohols.

CO3: Understand the chemistry of thioalcohols, ethers, thioethers and phenols.

CO4: Understand the concepts of the first and second laws of thermodynamics.

CO5: Understand the underlying principles of entropy and thermochemistry.

Course Code & Title: 18CHP 306 - Inorganic, qualitative analysis -I

Upon completion of the course the students will be able to

CO1: Explain basic principles of inorganic qualitative analysis

CO2: Prepare the double salts and inorganic complexes

CO3: Demonstrate paper chromatographic technique

CO4: Perform elimination of interfering radicals

CO5: Analyze the inorganic salts.

Course Code & Title: 18SCH 301 - Health Chemistry

Upon completion of the course the students will be able to

CO1: Understand the concepts relating to health and hygiene.

CO2: Understand the usages various chemicals as drugs.

CO3: Explain the chemistry of body fluids.

CO4: Understand the role of enzymes and hormones.

CO5: Understand common diseases and their causes.

Course Code & Title: 18ACH 305/18ACPH 303- Allied Chemistry-I

Upon completion of the course the students will be able to

CO1: Explain the concepts of modern periodic table, shapes of molecules and the chemistry of non-metals.

CO2: Understand the chemistry of inorganic compounds and the concepts of metallurgy

CO3: Explain the concepts of industrial chemistry and chemistry of fuels, emulsions and gels.

CO4: Understand the classification of organic compounds and the concepts in stereochemistry.

CO5: Explain the concepts of substitution reaction of aromatics, functional groups, catalysis, acids and bases.

Course Code & Title: 18ABC 305 - Allied Biochemistry-I

Upon completion of the course the students will be able to

CO1: Understand the chemistry of carbohydrates.

CO2: Understand the chemistry of amino acids and proteins.

CO3: Explain the chemistry of lipids and fatty acids

CO4: Understand the chemistry of nucleic acids.

CO5: Explain the chemistry of vitamins and enzymes.

Course Code & Title: 18ACHP 306/18ACHP 304 - Practical-I: Volumetric Analysis

CO1: Explain basic principles of volumetric titrations

CO2: Prepare the desired standard solutions

CO3: Apply the principles to carry out experiments

CO4: Estimate the unknown amount of sample present in the given solution

CO5: Adopt the chemistry practical skills to meet out the QC/R&D needs.

Course Code & Title: 18ABCP 306 - Practicals-I: Volumetric Analysis

CO1: Explain basic principles of volumetric titrations

CO2: Understand the concept of standard solutions

CO3: Apply the principles to carry out experiments

CO4: Estimate the unknown amount of sample present in the given solution

CO5: Adopt the chemistry practical skills in applied aspects.

Course Code & Title: 18CH 407 - Inorganic, Organic and Physical Chemistry-IV

Upon completion of the course the students will be able to

CO1: Explain the chemistry of nitrogen group and the binary metallic compounds.

CO2: Understand the chemistry of inner transition elements.

CO3: explain the chemistry of carboxylic acids, their derivatives and active methylene compounds.

CO4: Explain the chemistry of nitro compounds, amines and the dyes.

CO5: Understand the concepts third law of thermodynamics and the phase rule.

Course Code & Title: 18CHP 408 -Inorganic, qualitative analysis -II

Upon completion of the course the students will be able to

CO1: Explain basic principles of inorganic qualitative mixture analysis

CO2: Identify simple and interfering acid radicals

CO3: Separate the cationic groups

CO4: Identify basic radicals

CO5: Analyze inorganic mixtures by semi micro analysis.

Course Code & Title: 18ACH 407/18ACPH 405 - Allied Chemistry-II

Upon completion of the course the students will be able to

CO1: Understand the concepts environmental chemistry relating to water and sewage.

CO2: Understand the chemistry of carbohydrates, amino acids and proteins.

CO3: Understand the concepts of industrial chemistry relating to polymers, plastics and rubber.

CO4: Understand the concepts of petroleum chemistry

CO5: Understand the chemistry of alcohols and the corrosion phenomenon

Course Code & Title: 18ABC 407- Allied Biochemistry-II

Upon completion of the course the students will be able to

CO1: understand the composition of blood and its parameters.

CO2: understand the concepts to cytochemistry.

CO3: understand about endocrine glands and the chemistry of anaesthetics and organic pharmaceutical aids.

CO4: understand the concepts relating to pigments.

CO5: explain the concepts of phytochromes and plant secondary metabolytes.

Course Code & Title: 18ACHP 407/18ACHP 405- Practicals-II: Organic Analysis

Upon completion of the course the students will be able to

CO1: Explain basic principles of organic qualitative analysis

CO2: Perform the analyses of simple organic substances.

CO3: Confirm the presence functional groups in the organic compounds.

CO4: Prepare suitable derivates of the compounds.

CO5: Have the analytical skills to identify simple organic compounds.

Course Code & Title: 18ABCP 408 - Practicals-II: Qualitative and Quantitative Analyses

Upon completion of the course the students will be able to

CO1: Explain basic principles of organic qualitative analysis

CO2: Perform the analyses of biomoecules.

CO3: Understand the concepts of organic quantitative analysis.

CO4: Perform the organic quantitative analyses.

CO5: Have the practical skills in applied aspects.

Program Code: PSCHE Program Name: M.Sc. Chemistry

Program Specific Outcomes

On successful completion of M.Sc. Chemistry programme, the students gain

PSO 1: Competent knowledge in organic, inorganic and physical chemistry

PSO 2: the preliminary research knowledge in Chemistry

PSO 3: the capacity to execute the experiments and record the results.

PSO 4: adequate knowledge in industrial related areas like petroleum and petro products and polymers

PSO 5: adequate knowledge in innovative inter disciplinary areas like nanochemistry, Green Chemistry.

PSO 6: competency for competitive examinations

Course Outcomes

Course Code & Title: 18PCH 101 - Organic Chemistry-I

Upon completion of the course the students will be able to

CO 1: know the nomenclature of organic compounds, Chemistry of organic compounds.

CO 2: explain the organic reaction intermediates.

CO 3: understand the aromaticity, nonaromaticity and antiaromaticity of organic compounds.

CO 4: explain the electrophilic and nucleophilic molecular rearrangements.

CO 5: understand the organic photo chemistry, photo chemistry of carbonyl compounds.

Course Code & Title: 18PCH 102 - Inorganic Chemistry-I

Upon completion of the course the students will be able to

CO 1: understand the nature of the ionic and hydrogen bonds and their applications.

CO 2: explain the chemistry of covalent bond.

CO3: understand the acid base concepts and chemistry of non aqueous solvents.

CO4: study the inorganic polymers, isopolyanions and electron deficient molecules.

CO5: understand the theory of metallic bond and structure of metallic solids.

Course Code & Title: 18PCH 103 - Physical Chemistry-I

Upon completion of the course the students will be able to

CO1: explain the thermodynamic properties and non equilibrium reactions of real gases.

CO2: apply the fundamental concepts of photochemistry and photochemical reactions.

CO3: study the homogeneous and heterogeneous equilibrium and Phase rule

CO4: understand the concepts of classical and quantum mechanics.

CO5: analyze and apply the group theory using spectral data.

Course Code & Title: 18PCHE 101 - Solid State Chemistry

Upon completion of the course the students will be able to

CO1: learn the types of solid state, properties of solutions and gel.

CO2: study the preparative methods in crystal growth.

CO3: analyze the interaction of organometallic compounds based on their structure.

CO4: understand the magnetic and optical properties of metal, metal oxides and alloys.

CO5: know the molecular packing arrangements of organic solids.

Course Code & Title: 18 PCHP104 - Organic chemistry practical-I

Upon completion of the course the students will be able to

CO1: Analysis of two component and three component mixtures-separations and characteristics of components.

CO2: To analyses Chromatographic methods – Paper Chromatography, Thin Layer Chromatography.

Course Code & Title: **18 PCHP105 - Inorganic chemistry practical-I**

CO1: Analyses the Quantitative, Quantitative separation and estimation of mixtures containing any two of the following, Cu, Fe, Al, Ni and Zn. Analyses the inorganic complex preparations involving the different techniques.

Course Code & Title: 18EDCH 201 - Environmental Chemistry

Upon completion of the course the students will be able to

CO1: the chemistry of environment

CO2: adequate knowledge of air pollution

CO3: posses knowledge regarding water pollution

CO4: explain the aspect of soil pollution

CO5: know the remedial measure various types of pollutions

Course Code & Title: 18PCH 206 - Organic Chemistry-II

Upon completion of the course the students will be able to

CO1: study the basic knowledge of natural products such as cellulose, starch, protein and alkaloids.

CO2: elucidate the structure of terpenes and steroids.

CO3: know the complete knowledge of UV and IR- spectroscopy.

CO4: elucidate the organic compounds using NMR and ESR spectroscopy.

CO5: understand the axial haloketone rule, octane rule and predict the structure of organic compounds by Mass spectra.

Course Code & Title: 18PCH 207 - Inorganic Chemistry-II

Upon completion of the course the students will be able to

CO1: learn the theories and nature of coordination compounds.

CO2: study the chemical reactions in metal transition complexes.

CO3: acquire knowledge about pi-bonding metal complexes and organo metallic reagents.

CO4: know the properties of lanthanides and actinides.

CO5: understand the reactions of nuclear chemistry.

Course Code & Title: 18PCH 208 - Physical Chemistry-II

Upon completion of the course the students will be able to

CO1: understand the concepts of classical statistics and partition function.

CO2: gain knowledge on quantum statistics and heat capacity of solids.

CO3: learn the principles of molecular and microwave spectroscopy.

CO4: analyze the IR and Raman spectra of various molecules.

CO5: study the basic principles of quantum chemistry.

Course Code & Title: 18PCH311 - Organic chemistry-III

Upon completion of the course the students will be able to

CO1: To gain knowledge about reagents and reactions in organic synthesis.

CO2: To study the organic naming reactions and applications.

CO3: Identify the stereo isomers configurarion and stability of organic compounds.

CO4: To understand the concept of pericyclic reactions.

CO5: study the various relative organic transformation and retro synthesis.

Course Code & Title: 18PCH312 - Inorganic chemistry-III

Upon completion of the course the students will be able to

CO1: Recall the basic principles of crystal symmetry.

CO2: Analyse the inorganic complexes using by ESR and Mossbauer spectroscopy.

CO3: Investigate the simple inorganic molecules by IR and Raman.

CO4: Elucidate the structure and functions of bio-Inorganic molecules.

CO5: To know the concept of the photochemical reactions in transition metals.

Course Code & Title: 18PCH313 - Physical chemistry-III

Upon completion of the course the students will be able to

CO1: understand the concept of the electro chemistry.

CO2: Learn the kinetic reactions of electrodes.

CO3: Explain the basic concepts of third laws of thermodynamics.

CO4: Acquire the knowledge about the theories of reaction rate.

CO5: Study the types of catalysis and various methods of fast reactions.

Course Code & Title: 18PCHE302 - Petroleum chemistry

Upon completion of the course the students will be able to

CO1: know the basic concepts of petroleum

CO2: Studies the various methods for the production of petroleum.

CO3: Studies the physical and chemical properties of hydrocarbon oil

CO4: know the production of synthetic hydrocarbon derivatives

CO5: know the basic component of petrochemical products and properties

Course Code & Title: 18EDCH 302 -Applied Chemistry

Upon completion of the course the students will be able to

CO1: Studies the various fuel gases and character.

CO2: know the types of water and purification methodology

CO3: Studies the corrosion analysis and prevent the corrosion.

CO4: Studies the essential fertilizer and pesticides for agriculture and its importance. To know the safety measurements when using pesticides and insecticides.

CO5: To know the first aid methods for accidents. To know the common drugs for common diseases and studies the vitamin deficiency diseases.

Course Code & Title: 18PCHP314 -Physical chemistry practical-I

Upon completion of the course the students will be able to

CO1: Studies the determination of molecular weight, kinetic reactions and phase diagram of chemical components.

Course Code & Title: 18PCH415 - Analytical chemistry

Upon completion of the course the students will be able to

CO1: To know the analytical tools for statistical study. To know the role of indicator, potentiometric and precipitation titrations.

CO2: To study the titrametric analysis and complexation titrations for chemical analysis.

CO3: To know the basic principle and applications of fluorometry, phospometry,turbidometry and nephelometry and its applications. To studies the photometry principles and its applications for metals.

CO4: To study the colorimetric,polorographic methods and thermo analytical methods for identify the chemical and physical properties of compounds.

CO5: To know the voltametry, ampherometry, coulometry for studies the titration reactions.

Course Code & Title: 18PCH416 -Modern chemistry

Upon completion of the course the students will be able to

CO1: Know the metal nano particles character and applications.

CO2: Various experimental techniques used for the identify the nano particles nature.

CO3: Study the green chemistry techniques in chemical reactions.

CO4: Know the supra molecular studies for various molecules.

CO5: Know the drug discovery and design for cancer, anti malarial drugs and anti inflammatory drugs.

Course Code & Title: 18PCHE403 -Polymer chemistry

Upon completion of the course the students will be able to

CO1: Study the natural and synthetic polymers and its applications.

CO2: Study the physical and chemical properties of polymers.

CO3: Know the kinetic reaction involved in the polymerization reaction.

CO4: Studies the natural and synthetic rubbers.

CO5: Studies the plastics and textile fibers, its compositions.

Course Code & Title: 18PCHP417 - Physical chemistry practical-II

Upon completion of the course the students will be able to

Studies the various electrical principle chemistry experiments, conductometric titrations and potentiometric titrations for estimation reaction.

DEPARTMENT OF ZOOLOGY

Program Code: USZOO **Program Name: B.Sc. Zoology**

Program Specific Outcomes

On successful completion of B.Sc. Zoology programme, the students would be able to

PSO1- Analyze complex interactions among the various animals of different phyla, their distribution and their relationship with the environment.

PSO2 - Apply the knowledge of internal structure of cell, its functions in control of various metabolic functions of organisms.

PSO3 - Understands about various concepts of genetics and its importance in human health.

PSO4 – Understand the complex ecological and evolutionary processes and interaction of animals with their environment.

PSO5 – Gain knowledge about the various stages and processes involved in the development of an organism.

PSO6 - Correlates the physiological processes of animals and relationship of organ systems

PSO7 - Gain knowledge of Agro based Small Scale industries like vermicompost preparation, aquaculture, poultry and dairy science and lab techniques related to medical field.

PSO8 - Gains knowledge about research methodologies, effective communication and skills of problem solving methods

PSO9 - Apply ethical principles and commit to professional ethics and responsibilities in delivering his duties

PSO10 – Apply the knowledge and understanding of Zoology to one's own life and work

Course Outcomes:

Course Code & Title: 18ZO 101-Invertebrata

Upon completion of the course, the students will be able to

CO1: Describe general taxonomic rules on animal classification.

CO2: Define the structural organization and classification of invertebrates.

CO3: Learn the life cycles of invertebrates representing major invertebrate phyla.

CO4: Analyze the different larval forms and its significances.

CO5: Identify the parasitic adaptations of invertebrates.

Course Code & Title: 18ZO 102 - Major Practical – I

On completion of the course,

CO1:Students will gain skill about slide preparation, staining and mounting

CO2:Identifications of non-chordate specimens (fresh and preserved) along with larval forms and sections

CO3: Students will able to learn the various systems of animals through dissections.

Course Code & Title: 18AZO 101- Allied Zoology – I

The students will be able to

CO1: To inspire knowledge across diverse fields of Zoology.

CO2: To know the life cycles and mode of reproduction in members of fauna.

CO3: To make the students to understand the various adaptive features of nonchordates and chordates

CO4: To make the students understand the needs of Zoology in shaping our planet

Course Code & Title: 18AZOP 102- Allied Practical – I

The students will be able to

CO1: Learn the skill to identify the various invertebrate and vertebrate specimens.

CO2: Empower with practical skills to comprehend the Physiology and other functions of each and every vital systems.

Course Code & Title: 18ZO 203 -Chordata

The students after completion of the course, will gain

CO1: Knowledge of classification of protochordates and chordates along with studies on various physiological functions and interactions of chordate organisms with examples

CO2: Conceptual knowledge of vertebrate adaptations in relation to their environment

CO3: Knowledge about distribution of fauna in different zoogeographical realms

CO4: Knowledge about the different phenomena exhibited by major groups of animals for their survival in particular habitats.

CO5: Skill to identify between poisonous and non-poisonous snakes.

Course Code & Title: 18ZO 204-Major Practical – II

CO1: First-hand knowledge about identification of non-chordate and chordate specimens (fresh and preserved) along with larval forms

CO2: study of endoskeleton of vertebrates

Course Code & Title: 18AZO 203- Allied Zoology – II

Upon completion of the course, the students would be able to

CO1: Structural and functional aspects of basic unit of life i.e. cell concepts

CO2: Mendelian and non mendelian inheritance, genetic disorder, gene mutations- various causes associated with inborn errors of metabolism

CO3 : Theories of Evolution

CO4 : Understand the concepts behind the developmental biology of an organism.

CO5: Knowledge of eras and evolution of species

Course Code & Title: 18AZOP 204- Allied Practical – II

The students would be able to learn

CO1: practically the interactions between different environmental factors and the animals.

CO2: Skills to understand the different concepts of cell biology, genetics and developmental biology by mounting.

Course Code & Title: 18ZO 305- Cell and Molecular Biology

The students would be able to

CO1: Differentiate between a prokaryotic cell and eukaryotic cell.

CO2: Understand the structure, functions and composition of various cell organelles.

CO3: Elucidate the concept of cell division, carcinogenesis, cell growth and ageing.

CO4: Get knowledge on the structure of Chromosome, DNA and RNA.

CO5: Identify the different types of mutations and the repairing system.

Course Code & Title: 18ZO 306- Major Practical – III

Upon completion of this course, the students would be able to

CO1: Understand the components, working principles and applications of simple and compound microscopes.

CO2: Elucidate on the measurement of cells using micrometry

CO3: Visually observe the different stages of cell division

CO4: Make the temporary mounting to identify the special chromosomes

CO5: Understand the structure of different cell organelles by preparing 2D models.

Course Code & Title: 18SZO 301-Vermiculture

The students would be able to,

CO1: Get knowledge on different soils characteristics features.

CO2: Understand the morphological and anatomical characteristics of earthworms, their predators and parasites.

CO3: Identify different types of earthworms and their economic importance

CO4: Understand the basic techniques of composting

CO5: Acquire the skill of preparing vermicomposting and its applications

Course Code & Title: 18ZO 407- Genetics

Upon successful completion, students will have the knowledge of:

CO1: Explaining the key concepts in genes and its expression,

CO2: Mendelian and non-Mendelian inheritance

CO3: Basis of genetic variation and heritability Evolutionary and quantitative genetics, CO4: Principles of Hardy-Weinberg Equilibrium;

CO5: concept behind genetic disorder, gene mutations, importance of Genetic Counselling

Course Code & Title: 18ZO 408-- Major Practical – IV

Students would learn the practical knowledge about

CO1: phenotypic characters and the mechanism of Inheritance of genes in organisms.

CO2: inheritance patterns of human genetic characters.

CO3: identification of the genetic disorders in man.

CO4: molecular structure of genetic materials.

Program Code: PSZOO Program Name: M.Sc. Zoology

Program Specific Outcomes

On successful completion of M.Sc. Zoology programme, the students would be able to

PSO1: Developing deeper understanding of key concepts of biology at biochemical, molecular and cellular level, physiology and reproduction at organismal level, and ecological impact on animal behavior.

PSO2: Elucidation of animal-animal, animal-plant, animal-microbe interactions and their consequences to animals, humans and the environment.

PSO3: Strengthening of genetics and cytogenetics principle in light of advancements in understanding human genome and genomes of other model organisms.

PSO4: Understanding relationships of variations in phenotypic expression of genomes and their genomewide interaction with other organisms.

PSO5: Development of an understanding of zoological science for its application in entomology, apiculture, aquaculture, agriculture and modern medicine.

PSO6: Development of theoretical and practical knowledge in handling the animals and using them as model organism.

Course Outcomes

Course Code & Title: 18PZO 101 - Functional morphology and Phylogeny of invertebrates and vertebrates

Upon completion of the course, the students will be able to

CO1: Define the structural organization, classification, functional morphology of invertebrates and vertebrates

CO2: Phylogenetic relationships between different major phyla of invertebrates and vertebrates.

CO3: analyze the different larval forms and its phylogenetic significance.

CO4: identify the different fossils and their characteristics features.

CO5: Summarize the specialized characters of jawless and primitive jawed vertebrates and fossil birds

Course Code & Title: 18PZO 102 - Cell and molecular biology

Upon completion of the course, the students will be able to

CO1: Understand the complete description of the structure, functions and compositions of various cell organelles.

CO2: Gain knowledge about fundamental idea of the molecular concepts and how they have been integrated into biological disciplines

CO3: Know about the concepts of DNA replication, transcription and protein transport.

CO4: Decipher the important intracellular communications for RNA synthesis and processing.

CO5: Identify the cancerous cells from normal cells using different characteristics.

Course Code & Title: 18PZO 103 - Animal Physiology

Upon completion of the course, the students will be able to

CO1: Comprehend the general organization of alimentary canal of man and physiological role of nutrients.

CO2: Perceive the concept of Osmoregulation, Kidney functions and diversity, Extra-renal osmoregulatory organs, Patterns of nitrogen excretion..

CO3: Decipher the Concept of respiration and circulation.

CO4: Gain knowledge about the muscle physiology and nervous co-ordination.

CO5: Describe the sensing of environment- photoreception, chemoreception, mechano-reception, endogenous and exogenous biological rhythms, reproductive biology

Course Code & Title: 18PZOP 104 - Major Practical – I

Upon completion of the course, the students will acquire the skills to

CO1: Identify the invertebrate and vertebrate fossils.

CO2: explain the physiological functions of Respiratory and osmoregulation mechanism.

CO3: Prepare and maintain Vermibeds and use the vermicompost devices

Course Code & Title: 18 PZOE 101- Vermitechnology

Upon completion of the course, the students will be able to gain knowledge on

CO1: Biology and ecology of earthworms.

CO2: Economic importance of earthworms.

CO3: Methods of vermiculture and vermicomposting.

CO4: Applications of Vermiproducts in agriculture and horticulture practices.

Course Code & Title: 18PZO 205 - Developmental Biology

Upon completion of the course, the students will be able to learn the

CO1: Historical and basic concepts of developmental biology.

CO2: Elucidation of early embryonic development of vertebrates.

CO3: Concept of organizer, cell differentiation and teratogenesis.

CO4: Changes during metamorphosis and regeneration

CO5: growth- cell proliferation, growth hormones; ageing genes involved in alteration in timing of senescence.

Course Code & Title: 18PZO 206 - Biochemistry

Upon completion of the course, the students will be able to know

CO1: Biological significance of water.

CO2: Importance of pH in biological systems.

CO3: Mechanism of carbohydrate, fat and protein metabolism.

CO4: Basic concepts of enzyme kinetics.

CO5: Basic concepts of regulation of metabolism and bioenergetics.

Course Code & Title: 18PZO 207 - Biostatistics and computer applications

Upon completion of the course, the students will gain knowledge on

CO1: Basic descriptive and advanced statistical tools and their applications in biology.

CO2: Acquire fundamental knowledge on computer applications.

CO3: Develop expertise on statistics and computer applications for enhancing research skill.

CO4: Applications of MS office and office automation

CO5: Applications of SPSS statistical package.

Course Code & Title: 18PZOP 208 - Practical – II

Upon completion of the course, the students will learn the skill to

CO1: Identify the different developmental stages of frog, chick and goat embryo.

CO2: Estimate quantitatively the biochemical constituents in biological sample.

CO3: Test the significance of any biological data.

CO4: Apply MS office.

Course Code & Title: 18EDZO 201 - Medical Zoology

Upon completion of the course, the students will gain knowledge on

CO1: Types, mode of transmission, treatment and preventive measures of viral, bacterial and protozoan diseases.

CO2: Life cycle, mode of transmission and control measures of helminthic parasites.

CO3: Various methods of diagnosing parasitic diseases.

Course Code & Title: 18EDZO 201- Wildlife conservation

Upon completion of the course, the students will learn the

CO1: Basic knowledge of Indian wildlife.

CO2: Realize the significance of wildlife and their conservation.

Course Code & Title: 18PZO 309 - Genetics

By completing this course, students learning Genetics will achieve the following skills and capabilities.

CO1: Comprehensive, detailed understanding of the Genetic basis of heredity

CO2: Comprehensive and detailed understanding of genetic methodology

CO3: How quantification of heritable traits in families and populations provides insight into cellular and molecular mechanisms.

CO4: Developing concept of regulation of gene activity in prokaryotes and eukaryotes at transcriptional and post transcriptional level.

CO5: Describing structural and functional organization of a typical eukaryotic gene, transcription factors, enhancers and silencers, and non-coding genes.

Course Code & Title: 18PZO 310 - Microbiology

By the end of this course, students would be able to

CO1: Assess the quality of microbes in various environments and its importance.

CO2: Gather knowledge on the microbial culture and its importance.

CO3: Gain knowledge on the microbial diseases and their causative agents.

CO4: Know methods of food preservation, and effects of food poisoning.

CO5: Know concepts of Industrial microbiology, fermentation and its applications.

Course Code & Title: 18PZO 311 - Research Methodology, Biophysics and Biotechniques

By completing this course, students would be able to

CO1: Assess critically the methods which are reliable to the research and thesis preparation.

CO2: Know the basic biotechniques and biophysics.

CO3: Recognize the experimental rationale of studies as they are described in peer-reviewed research articles

CO4: Write proposals to federal and other funding agencies.

CO5: Know the principles and working of various instrumentations.

Course Code & Title: 18PZOE 302 - Entomology

By completing this course, students would achieve the following skills and capabilities.

CO1: The ability to recognize the insect fauna and their importance in environment.

CO2: Identify beneficial insect culture and its importance.

CO3: Ability to recognize the diseases which are dangerous to cultivable crops and their control measures.

CO4: Know the life cycles of various insect pests and their effects on non – target species.

Course Code & Title: 18 PZOP 312 - Practical – III

Upon completion of the course, the students will learn the skills of

CO1: Applying genetic principles in the inheritance of characters.

CO2: Preparation of culture media and microbial cultures.

CO3: Working different instruments for quantitative estimation of parameters.

CO4: Identifying different insects using key characters and assess their role.

Course Code & Title: 18EDZO 302 - EDC – II - Health Education

By the end of this course, the students would learn

CO1: Basic knowledge of the importance of nutrition and sanitation.

CO2: The sociological problems and family welfare.

CO3: Understand the human diseases and their control**.**

Course Code & Title: 18EDZO 302 - EDC – II - Biotechnology & Bioinformatics

By the end of this course, the students would be

CO1: Able to recognize the importance of biotechnology in various fields.

CO2: Able to recognize the various databases and their importance.

Course Code & Title: 18 PZO 413 - Ecology, Ethology and Toxicology

By the end of this course, the students would be able to gain knowledge on

CO1: Different types of ecology and their impacts on species level.

CO2: Wildlife conservation strategies and solid waste management and its importance.

CO3: Comprehensive and detailed understanding of selected animal behavior.

CO4: Meaning, scope of environmental education and various environmental acts.

CO5: Pesticides and heavy metal pollution and their influences in the environment.

Course Code & Title: 18PZO 414 - Immunology

By completing this course, students would be able to

CO1: Recognize the immune system of our body and their importance against diseases.

CO2: Use the databases which are related to the immunology.

CO3: Understand the Structural and functional basis of Immunoglobulins.

CO4: Learn the mechanism, mediators, detection and application of antigen-reaction in the immune system.

CO5: Understand the concepts of transplantation, immune tolerance and tumour immunology.

Course Code & Title: 18PZOP 415 - Practical – IV

By completing the course, the students would learn the skills of

CO1: Estimating the effect of environmental parameters on the organisms.

CO2: Observing and analyzing the behavior of animals.

CO3: Assessing the toxic impact of toxicants on the animals.

CO4: Identify the various immunological databases and use for research purposes.

Course Code & Title: 18PZOE 403 - Aquaculture

By completing this course, students would achieve the following skills and capabilities

CO1: Ability to recognize the aquaculture practices in India and various promoting agencies.

CO2: Recognize the diseases which are dangerous to aquaculture practices and their controlling measure.

CO3: To update the recent knowledge and research techniques in aquaculture and for continuing higher studies related to aquaculture.

CO4: To gain knowledge on the role of biotechnology in aquaculture and economics of aquaculture.

Program Code: PSWLB Program Name: M.Sc. Wildlife biology

Program Specific Outcomes

On successful completion of M.Sc. Wildlife Biology programme, the students would be able to

PSO1: Know the principles of wildlife and conservation biology and how they are used to manage wildlife and solve environmental problems.

PSO2: Know the taxonomy, ecology, and natural history of native flora and fauna.

PSO3: Use contemporary tools and techniques for studying wildlife, habitat, and ecosystem processes.

PSO4: Be familiar with a variety of laws and regulations that influence how natural resources are used and protected.

PSO5: Understand the impacts of land use and environmental management decisions on ecosystems and society.

PSO6: Understand essential mathematical and statistical approaches used to analyze wildlife and conservation biology data.

PSO7: Accurately comprehend and draw appropriate inferences from numeric data, statistical analysis, and predictive models

PSO8: Use state-of-the-art software and analytical techniques to solve problems in wildlife and conservation biology.

PSO9: Know appropriate sampling techniques to draw inferences about the dynamics of plant and animal populations and communities.

PSO10: Formulate testable scientific hypotheses, design experiments to test such hypotheses, and interpret the results of such experiments.

Course Outcomes

Course Code & Title: 18PWL 101 - Functional morphology, Paleontology and Phylogeny of invertebrates

Upon completion of the course, the students will be able to

CO1: Understand the functional morphology, phylogeny and paleontology of invertebrates

CO2: Learn the type of organization in earlier invertebrates

CO3: Analyze the evolution of different structures in invertebrates.

CO4: Learn the minor phyla and their affinities with other groups.

CO5: Gain knowledge on the fossils and associated theories of phylogeny and origin of different groups.

Course Code & Title: 18PWL 102 - Ichthylogy and Herpetology

Upon completion of the course, the students will be able to

CO1: Understand the basic principles of origin and evolution of fishes, amphibia and reptiles.

CO2: Gain knowledge about the morphology and physiology of different organ systems.

CO3: Know about the threats and challenges in the conservation of fishes, amphibian and reptiles

CO4: Decipher the economic importance of fishes and reptiles.

Course Code & Title: 18PWL 103 - Ornithology

Upon completion of the course, the students will be able to

CO1: Comprehend the classification, status and distribution of birds.

CO2: Understand the general organization and feeding ecology of birds.

CO3: Decipher the functions and importance of territories, nests, songs and calls.

CO4: Gain knowledge about the reproductive behavior and parental care in birds.

CO5: Describe the flightless birds, migration and population regulation in birds.

Course Code & Title: 18PWL 104 - Mammalogy

By completing the course, the students will be able to

CO1: Describe the features, taxonomy and status of mammals

CO2: Learn the adaptations and general organization of mammals.

CO3: Know the population biology and regulation of mammals.

CO4: Understand the reproductive behavior and factors affecting breeding of mammals.

CO5: Describe the biogeography and adaptive radiation in mammals.

Course Code & Title: 18PWLP 105 - Major Practical – I

Upon completion of the course, the students will acquire the skills to

CO1: Explain the organization of various organ systems of fish.

CO2: Carry out the morphometric analysis of different vertebrates.

CO3: Prepare the mapping and distribution of various vertebrate classes on map.

Course Code & Title: 18 PWLE 101 - Wetland and marine biodiversity conservation

Upon completion of the course, the students will be able to gain knowledge on

CO1: Characters, values and kinds of wetlands.

CO2: Important Indian wetlands and marine habitats.

CO3: Threats and conservation of wetlands and protection acts.

CO4: Anthropogenic pressures on wetlands.

Course Code & Title: 15PWL 206 - Forestry and sylviculture

Upon completion of the course, the students will be able to learn the

CO1: Forest ecology and their biotic and abiotic components.

CO2: Elucidation of forest utilization and forest mensuration.

CO3: Concept of forest management, forest protection and policies and laws.

CO4: Forest soils and their conservation and principles of forest economics.

CO5: Sylvicultural practices and social forestry programmes.

Course Code & Title: 18PWL 207 - Physiology and Health care of wild animals

Upon completion of the course, the students will be able to know

CO1: Physiological processes in different class of animals.

CO2: Basic understanding of various diseases, epidemiology and control measures.

CO3: Mechanism of Bioluminescence and regeneration

CO4: Infectious wildlife diseases, immune response and tumour immunology.

Course Code & Title: 18PWL 208 - Biostatistics and computer applications

Upon completion of the course, the students will gain knowledge on

CO1: Basic descriptive and advanced statistical tools and their applications in biology.

CO2: Acquire fundamental knowledge on computer applications.

CO3: Develop expertise on statistics and computer applications for enhancing research skill.

CO4: Applications of MS office and office automation

CO5: Applications of SPSS statistical package.

Course Code & Title: 18PWL 209 - Forest entomology

Upon completion of the course, the students will learn the

CO1: Biology and systematic of insects.

CO2: Beneficial and harmful role of insects and their role in forest economics.

CO3: Population dynamics of forest insects.

CO4: Assessment of insect damages in forest and their control measures.

Course Code & Title: 18PWLP 210 - Practical - II

Upon completion of the course, the students will learn the skill to

CO1: Study the plant community by using various methods and techniques.

CO2: Measure the trees for different parameters.

CO3: Estimate the various physiological processes of animals.

CO4: Test the significance of any biological data.

Course Code & Title: 18PWLE 202 - Advances in Biological sciences

Upon completion of the course, the students will learn

CO1: Concepts of conservation genetics.

CO2: Evolutionary genetics of natural population and genetic management.

CO3: Concepts of Molecular phylogenetics and molecular forensics.

CO4: Wildlife Crimes and Wildlife forensics.

CO5: Wildlife Toxicology and EIA methods

Course Code & Title: 18PWL 311- Wildlife Management Techniques

By completing this course, students will be able to

CO1: Understand the various techniques being used around the globe for Wildlife management.

CO2: Enhance the understanding on utility of various techniques.

CO3: Advantages and disadvantages in studying and conserving the wildlife populations.

CO4: Bring out contributing standard outputs

Course Code & Title: 18PWL 312 - Management of Zoos, Sanctuaries and National Parks

By the end of this course, students would be able to

CO1: Understand the management and monitoring of zoos and protected areas in India.

CO2: Learn the concept of Conservation biology..

CO3: Gain knowledge on *in-situ* and *ex-situ* conservation strategies.

CO4: Know about the habitat deterioration, restoration and animal conservation, Wildlife administration and legislation.

Course Code & Title: 18PWL 313 - Ethology of Wildlife

By completing this course, students would be able to

CO1: Assess scope of studying animal behaviour.

CO2: Know the basic field and laboratory methods of studying animal behaviour.

CO3: Learn social and foraging behavior of animals

CO4: Know about the reproductive and play behaviour.

CO5: Understand the concept of animal communication, animal architectural ability and navigation

Course Code & Title: 18PWL314 - Research Methodology

By completing this course, students would achieve the following skills and capabilities.

CO1: Basic knowledge of experimental methods both in the field and in laboratory.

CO2: To design a problem, experimental approach and report writing.

CO3: Learn about animal ethics in research in laboratory animals and the rules and regulations.

CO4: Get to know about the audio, visual and activity recording instruments.

CO5: Know about the post mortem and micro-techniques

Course Code & Title: 18 PWLP 315 - Practical – III

Upon completion of the course, the students will learn the skills of

CO1: Studying time activity budget and activity pattern using Scan and focal animal sampling.

CO2: Study on food and feeding of birds and mammals.

CO3: Preparation of index cards, reference collection form databases.

CO4: Perform morphometric analysis of wild animals.

Course Code & Title: 18 PWLE 303 - Climate change and Wildlife Conservation

By the end of this course, the students would learn

CO1: Scientific knowledge on issues related to global warming and biodiversity conservation.

CO2: Causes of climate changes – Greenhouse gases.

CO3: Understand the impact of climate change on Indian wildlife and their behaviour**.**

CO4: Policies and Governance on climate change.

DEPARTMENT OF TAMIL

Program Code: UATAM **Program Name: B.A. Tamil**

Program Specific Outcomes

PO1 : தமிழ் இலக்கியங்களைக் கற்று மொழி ஆளுமையும் மதிப்புச்சார் வாழ்வியல் விழுமியங்களைப் பெற்றிருப்பர்.

PO2 : தமிழ் இலக்கணங்களைக் கற்று மொழிப்புலமையும் இலக்கண அறிவாற்றலையும் பெற்றிருப்பர்

PO3 : மொழிப்பாடத் தாள்களின் மூலம் தமிழ் மொழியறிவு பெறுவதோடு தமிழின உணர்வு பெறுவர்.

PO4 : பண்டைய தமிழக மக்களின் சமூக, அரசியல், பொருளாதார விழுமியச் சிந்தனைகளைப் பெற்று சமூகப் பொறுப்புணர்ந்திருப்பர்

PO5: மொழியின் போராட்ட வரலாற்றையும் பிறமொழியின ஆதிக்கத்தையும் உணர்ந்து தம்மொழி தற்காக்கும் தகைமை பெற்று மொழி உணர்வுடன் வாழ முற்படுவர்.

PO6 : அறிஞர்களின் உரையாற்றல் உத்திகளை உணர்ந்து, தாம் கற்றதை எடுத்துரைக்கும் பேச்சாற்றலுடன் வேலை வாய்ப்பினைப் பெறுவர்.

PO7: ஓலைச்சுவடிகளின் எழுத்து வடிவங்களைக் கற்று வாசிக்கும் திறன் பெற்றுப் பாதுக்காக்கும் முறைமைகளை அறிந்து வேலை வாய்ப்பினைப் பெற்றிருப்பர்.

PO8: தாம் வசிக்கும் வாழ்விடங்களின் அறிவினைப் பெற்று சமூக மக்களுடன் இணக்கமுற வாழும் தகைமை பெற்றிருப்பர்.

PO9: இலக்கண, இலக்கியங்களை வினாவிடை வடிவில் கற்று போட்டித்தேர்வுகளுக்கான தகுதியடைந்து வேலைவாய்ப்பினைப் பெறுவர்.

Course Outcomes

Course Code & Title: **18TA101 - இக்கால இலக்கியம்**

CO 1: மரபுக்கவிதை, புதுக்கவிதைகளின் வடிவம், உத்தி, பொருண்மை வேறுபாடுகளை அறிய இயலும்.

CO 2: சிறுகதைகளின் வழி அறியலாகும் சமூக மதிப்புகளை உணர்ந்து கொள்ள முடியும்.

CO 3: புதினங்களின் கதை மாந்தர்கள் வழி வாழ்வியல் திறன்களை அறிந்து கொள்ளலாம்.

CO 4: நாடகங்களில் வெளிப்படுகளை அறிய முடியும்.

CO 5: கட்டுரைகளின் வழி மொழி உணர்வைப் பெற இயலும்.

Course Code & Title: 15TA102 & யாப்பருங்கலக்காரிகை

CO 1: பாப்புனைவதற்குரிய அடிப்படை இலக்கணக்கூறுகளை அறிய இயலும்.

CO 2: பாப்பாடுவதற்குரிய அடிப்படை இலக்கணங்களின் மேல்அலகுளைப் புரிந்து கொள்ள முடியும்.

CO 3: பாவின் வகைப்பாடுகளில் இரண்டின் இலக்கணப்பாகுபாடுகளை அறிந்து யாப்புனையும் திறன் பெறுதல்.

CO 4: பாவின் வகைப்பாடுகளில் மிகுதி மூன்றின் இலக்கணக் கூறுகளை அறிந்து பாப்பாடும் அறிவினை அறிந்து கொள்ளுதல்.

CO 5: பாட்டு பாடுவதற்குரிய இலக்கணங்களின் விதிவிலக்குகளை அறிந்து பிழையை நீக்கிப் பாடும் திறன் பெறுதல்.

Course Code & Title: 18ATA101 - தமிழக வரலாறும் பண்பாடும்-I

CO 1: தமிழக வரலாற்றை எழுத உதவும் அடிப்படைச் சான்றுகளின் முதன்மையை உணர்ந்து கொள்ள இயலும்.

CO 2: பண்டைக்கால மூவேந்தர்களின் அரசுரிமைகளையும் கடமைகளையும் அரசியலையும் தெரிந்து கொள்ளுதல்.

CO 3: பண்டைத்தமிழரின் பண்பாட்டு நாகரீக மதிப்புகளை அறிந்து ஒப்பிட்டு உணரலாம்.

CO 4: தமிழகத்தில் அயலவரின் ஆட்சிக்காலத்தில் ஏற்பட்ட மொழியின் பண்பாட்டு மாற்றங்களை அறிய முடியும்.

CO 5: அகண்ட தமிழகத்தை உருவாக்கிய சோழர்களின் எழுச்சியையும் வளர்ச்சியையும் அறிந்து தற்கால நிலையுடன் ஒப்பிட்டு விவாதிக்க வழி வகுக்கும்.

Course Code & Title: 18TA203 - சமய இலக்கியம்

CO 1: சமயக்குரவர் நால்வரின் இலக்கியப்பணியின் தொடக்கப் பாக்களையும் அவர்கள் நிகழ்த்திய அற்புதச் செயல்களையும் அறிந்து சமயப் பரப்பலுக்கும் எழுச்சிக்கும் அவர்கள் ஆற்றிய பங்கினை உணர்ந்து கொள்ளுடல்.

CO 2: திருமுறைப்பாடல்களில் வெளிப்படும் இறைப்பெருமைகளை உளமாற உணர்ந்து கொள்ளுதல்

CO 3: ஆழ்வாரின் பாசுரப்பாடல்களில் இடம்பெற்றுள்ள மொழிப்பயன்பாட்டுச் சிந்தனைகளின் வழி இலக்கிய நயத்தை உணர்தல்.

CO 4: பிற்கால அருளாளர்களின் பாடல்களின் வழி இறையருள் தன்மைகளை அறிந்து கொள்ளுதல்.

CO 5: இக்கால அருளாளர்களின் பாக்களில் வெளிப்படும் இறை மேம்பாட்டுச் சிந்தனைகளை புரிந்து கொள்ளுதல்.

Course Code & Title: 15TA204 - நன்னூல் எழுத்ததிகாரம்

CO 1: நூல், பாயிரம், ஆசிரியர், மாணவர், பாடம் சொல்லும் மரபு, பாடம் கேட்கும் மரபு முதலான கல்வியியல் சிந்தனைகளை அறிந்து போற்றுவர்.

CO 2: எழுத்துக்களின் அடிப்படை அலகுகளை அறிந்து கொள்ளுதல்.

CO 3: சொற்கள் புணரும் பொழுது ஏற்படும் மாற்றங்களை உணர்ந்து எழுத்துப்பிழைகளை நீக்கி எழுத முயலுதல்.

CO 4: சொற்களின் புணர்ச்சியால் மொழியில் ஏற்படும் பிழைகளை நீக்கி நல்ல தமிழை எழுதும் திறன் பெறுவர்.

CO 5: சொற்புணர்ச்சியினால் ஏற்படும் பொருள் மாற்றங்களைச் சரி செய்து புரிந்து கொள்ளுவர்.

Course Code & Title: 18ATA202- தமிழகவரலாறும் பண்பாடும்-II

CO 1: பிற்காலப் பாண்டியரின் எழுச்சியையும் வீழ்ச்சியையும் அறிதலோடு அயலவர் நுழைவதற்கான காரணங்களைப் புரிந்து கொள்ளுதல்.

CO 2: விஜயநகர நாயக்கர், மராட்டிய மன்னர்களின் நிலைபேராக்கமும் அவர்கள் காலத்திய சமுதாய நிலையாக்கத்தையும் அறிந்து கொள்ளுதல்

CO 3: ஐரோப்பியர் நுழைவினால் ஏற்பட்ட சமூக மாற்றங்களை அறியலாம்.

CO 4: 19ஆம் நூற்றாண்டைய சமூக மறுமலர்ச்சிக் காரணிகளின் தோற்றப் பின்புலத்தை உணர்ந்து கொள்ளுதல்.

CO 5: 20ஆம் நூற்றாண்டைய சமூக, சமய மறுமலர்ச்சியால் ஏற்பட்ட மாற்றங்களையும் ஏற்றங்களையும் புரிந்து கொள்ளுதல்.

Course Code & Title: 15TA305 - நன்னூல் சொல்லதிகாரம்

CO 1: சொல்லின் வகைகளையும் அவற்றில் பெயர்ச்சொல்லின் வன்மை மென்மைகளை தெரிந்து கொள்ளலாம்.

CO 2: வினைச்சொல்லின் இயல்புகளையும் வகைமைக்கூறுகளையும் அறிந்து கொள்ளுதல்.

CO 3: தொடர்கள், தொகைகள் முதலானவற்றின் வன்மை மென்மைகளைப் புரிந்து கொண்டு பிழையின்றித் தொடர்களை வடிவமைப்பர்.

CO 4: தொடர்களின் பன்முக வடிவங்களைக் கண்டு பயன்படுத்திப் பிழையில்ல மொழியறிவினை அடைவர்.

CO 5: அகராதிப் பதிவுச் சொற்களின் இயல்புகளைத் தெரிந்து கொண்டு சொற்பயன்பாடுகளை உணர்ந்து கொள்ளுதல்.

Course Code & Title: 18ATA303 - தமிழ் மொழிப்போர் வரலாறு.

CO 1: பழந்தமிழ் இலக்கியங்களில் பதிவாகியுள்ள மொழியின உணர்வுகளைப் பெற்றுக் கொள்வர்.

CO 2: இந்தியாவில் மொழிகளின் நிலைப்பாடு குறித்த அறிவு நிலைப்பாட்டினை அறிந்து கொள்வர்.

CO 3: இந்தியாவில் பொதுமொழிச் சிந்தனை தோன்றி தமிழகத்தில் எதிர்ப்புத் தோன்றிய நிலையினைத் தெரிந்து கொள்வர்.

CO 4: இந்தியத் துணைக்கண்டமே எதிர்த்து நின்ற பொழுது அன்னைத் தமிழே உயர்ந்தது என்று உயர்த்திய தமிழர்களின் வரலாற்றை அறிந்து கொள்ளுதல்.

CO 5: இந்தியாவின் ஆட்சி மொழியாக நிலைப்பெற வேண்டிய மொழிகளின் இயல்புகளையும் தனித்தன்மை வாய்ந்த தமிழின் மேன்மையினையும் உணர்ந்து கொள்வர்.

Course Code & Title: 15TAEP301 - மேடைத்தமிழ் – செய்முறை.

CO 1: எழுத்து உச்சரிப்புப் பயிற்சியினைப் பெற்றுத் தெளிவான பேச்சினைப் பேச்சினைப் பேசுவதற்கு முயலுவர்.

CO 2: மேடைப்பேச்சில் ஈடுபடுவோரின் தோற்றப் பொலிவு அறிவினைப் பெற்று அதன்வழி முயற்சிப்பர்.

CO 3: மேடைப்பேச்சின் பல்வேறு வடிவங்களை அறிந்து பயிற்சி மேற்கொள்வர்.

CO 4: ஊடகங்களின் பேச்சு வழி நிகழ்வுகளைத் தெரிந்து கொண்டு அத்திறனைக் கைக்கொள்வர்.

CO 5: தமிழகத்தை மாற்ற விரும்பும் கலாச்சாரமான பேச்சுக்கலையின் பல்வேறு பரிணாமங்களின் திறன்களை அறிந்து அதன்வழி பயிற்சியினைப் பெறுதல்.

Course Code & Title: 18STA301 - சுவடியியல்.

CO 1: எழுது, எழுதுபடுபொருள் குறித்த வளர்ச்சி நிலைகளைத் தெரிந்து கொள்வர்.

CO 2: சுவடியில் எழுதப்படும் எழுத்துகளின் வேறுபட்ட வடிவங்களை படித்தறிந்து கொள்வர்.

CO 3: சுவடிகளின் அழிவு நிலைப்பாடுகளையும் மீட்கும் முயற்சிகளையும் அறிந்து கொள்வர்.

CO 4: சுவடிகள் பாதுகாக்கப்படும் இடங்கள், பாதுகாக்கும் முறைகள் குறித்து தெரிந்து கொள்வர்.

CO 5: சுவடிகளைப் பதிப்பித்தவரின் வரலாறு பதிப்புப் பணியின் பல்வேறு வளர்ச்சி நிலைகலையும் அறிவர்.

Course Code & Title: 18TA406 - தண்டியலங்காரம்

CO1 : செய்யுளின் வகைகளையும் இயல்புகளையும் புரிந்து கொள்வர்.

CO2 : செய்யுள்களில் இடம்பெறும் பொருண்மைகளால் ஏற்படும் செய்யுள் அழகினை உணர்ந்து கொள்வர்.

CO3 : செய்யுள்களில் இடம்பெறும் சொல், இட வேறுபாட்டுச் செயல்களால் ஏற்படும் அழகுகளைத் தெரிந்து கொள்வர்.

CO4 : செய்யுளில் அணிகளின் அழகுகளை உணர்ந்து செய்யுள் எழுதும் திறனைப் பெறுவர்.

CO5 : செய்யுள்களில் இடம்பெறும் சொற்களின் வேறுபாட்டினால் ஏற்படும் செய்யுள் அழகினைத் தெரிந்து கொள்வர்.

Course Code & Title: 18ATA404 - மயிலாடுதுறை படைப்பாளர்களும் பதிவுகளும்

CO1 : மயிலாடுதுறை ஊர் வரலாற்றினையும் அரசியல் ஆளுமைகளையும் தெரிந்து கொள்ளுதல்.

CO2 : இலக்கியப் படைப்பாளர்களைத் தெரிந்து கொள்ளுதல்.

CO3 : இலக்கிய ஆளுமைகளின் படைப்புதிறனை அறிந்து கொள்ளுதல்.

CO4 : சமய ஆளுமைகளைத் தெரிந்து கொள்ளுதல்.

CO5 : திரைத்துறைப் படைப்பாளர்களையும் படைப்புகளையும் அறிந்து கொள்வர்.

Course Code & Title: 18TAE402 - தமிழ் இலக்கிய இலக்கண வரலாறு

CO1 : செவ்வியல் இலக்கிய வரலாற்றைத் தெரிந்து கொள்ளுதல்.

CO2 : காப்பிய இலக்கிய வரலாற்றைப் புரிந்து கொள்ளுதல்.

CO3 : சமய இலக்கிய வரலாற்றைத் தெரிந்து கொள்வர்.

CO4 : இசுலாமிய, கிறித்தவ, சிற்றிலக்கிய வரலாறுகளைத் தெரிந்து கொள்வர்.

CO5 : இலக்கண உரையாசிரியர்களின் வரலாற்றை அறிந்து கொள்வர்.

Program Code: PATAM Program Name: M.A. Tamil

Program Specific Outcomes

PO1 : தமிழிலக்கியங்கள் உணர்த்தும் வாழ்வியல் விழுமியங்களைக் கற்று அந்நேரிய வழியில் வாழும் தகைசார் மானுடராக மிளிர்வர்.

PO2 : தன்னிகரில்லாத் திருவள்ளுவ நூலின் தனி நூற்புலமைப் பெற்று வாழ்வில் உயர்வடைவர்.

PO3 : இலக்கண நூல்கள் நுவலும் அறிவினைப் பெற்று மொழிப்புலமைப் பெற்று மொழி ஆளுமைப்பெற்றுத் திகழ்வர்.

PO4 : தமிழ், தெலுங்கு, கன்னடம், மலையாளம் எனத் திராவிட மொழிகளின் வரலாற்றினை அறிந்து இலக்கிய ஒப்பாய்வு சமூக ஒப்பாய்வு என்னும் திறன்களைப் பெறுவர்.

PO5: இருமொழி அறிவு, பன்மொழி அறிவு பெற்று மொழிபெயர்ப்புச் சிந்தனை கைவரப்பெறும் மொழிகளுக்கு இடையே இணைப்புப் பாலம் உண்டாக்கும் ஆற்றல் கிடைக்கப் பெறுவர்.

PO6 : நாட்டுப்புற மக்களின் வாழ்வியல், விளிம்புநிலை மக்களின் வாழ்வியல் என்பனவற்றைக் கற்றறிந்து சமூக ஒப்புறவு கொள்ளும் அறிவினைப் பெறுவர்.

PO7: அறிவியல் தமிழ், அறிவியல் தமிழாக்கம் என்னும் அறிவுசார் நிலையை நோக்கி தமிழைக் கொண்டு செலுத்தும் ஆற்றல் பெறுவர்.

PO8: பல்கலைக்கழக நிதிநல்கைக்குழு நடத்தும் தேர்வுகள், அரசு நடத்தும் தேர்வு முதலானவற்றை எதிர்கொள்ளும் திறன் பெற்றிருப்பர்.

PO9: படைப்பாக்கத் திறனோடு கூடிய தம் மன உணர்வுகளை வெளிப்படுத்தும் படைப்பாளுமையைப் பெறுவர்.

PO10: தமிழிலக்கியம் இலக்கண நூல்களைப் பயில்வதால் சமூக ஒப்புரவு கொள்ளும் ஆற்றல் பெறுவர்.

Course Outcomes

Course Code & Title: 18PTA101 - இக்கால இலக்கியம்

CO1 : மரபு, புதுக்கவிதை வடிவங்களையும் பொருண்மைகளையும் தெரிந்து கொள்வர்.

CO2 : தமிழிலும் இந்திய மொழிகளிலும் சிறுகதைகளின் படைப்புப் பொருண்மைகளை உணர்ந்து கொள்வர்.

CO3 : சிறுகதைக்கருவை கதை மாந்தர்களின் பண்புநலன்களை மிகுதிப்படுத்திப் புதினமாக உருப்பெருக்கி உருவாக்கும் திறத்தினை அறிவர்.

CO4 : சமூக அவலங்களைக் கற்பனை கலந்து காட்சிப்படுத்தும் நாடகவியல் உத்திகளை உளம் வாங்கிக்கொள்வர்.

CO5 : தமிழர் பண்பாட்டு நாகரீகத் தகைமைகளைக் கட்டுரை இலக்கியங்கள் வழி அறிந்து பெருமை கொள்வர்.

Course Code & Title: 18PTA102 - சிற்றிலக்கியங்கள்

CO1 : சிற்றிலக்கியங்கள் வழி தமிழின் பெருமைகளை உணர்ந்து கொள்வர்.

CO2 : சிற்றிலக்கியங்கள் வழி சிவபெருமானின் பெருமைகளை உணர்ந்து கொள்வர்.

CO3 : சிற்றிலக்கியங்கள் வழி திருமாலின் பெருமைகளை உணர்ந்து கொள்வர்.

CO4 : சிற்றிலக்கியங்கள் வழி மக்கள் மன உளவியலைத் தெரிந்து கொள்வர்.

CO5 : கிறித்துவ, இசுலாமிய சமயச் சார்பான மதிப்புகளைப் பெற்றுக் கொள்வர்.

Course Code & Title: 15PTA103 - தொல்காப்பிய எழுத்ததிகாரமும் மொழியியலும்

CO1 : தமிழின் அடிப்படை எழுத்து இலக்கணச் சிந்தனைகளைத் தெரிந்து கொள்வர்.

CO2 : எழுத்துக்களின் பிறப்பு முயற்சி, சொற்கள் புணரும் விதி முதலான கோட்பாடுகளை உணர்ந்து கொள்வர்.

CO3 : தொகை, தொடராக அமையும் சொற்களின் புணர்ச்சி இலக்கணக் கூறுகளைத் தெரிந்து கொள்வர்.

CO4 : உயிரீறு, மெய்யீறு, குற்றியலுகர ஈற்றுச் சொற்களின் புணர்ச்சிக் கூறுகளின் தன்மைகளை அறிந்து கொள்ளுதல்.

CO5 : தொல்காப்பிய பிறப்பியல் சிந்தனையும் மொழியியலாரின் பிறப்பியல் கோட்பாடுகளையும் ஒன்றிணைத்துப் புரிந்து கொள்ளுதல்.

Course Code & Title: 18PTA104 - நாட்டுப்புறவியலும் கோட்பாடுகளும்

CO1 : தமிழ், இந்திய, உலக நாட்டுப்புறவியல் வரலாற்று அடிப்படைகளை அறிந்து கொள்ளுதல்.

CO2 : நாட்டுப்புற வழக்காறுகளின் வகைமைகளை அறிந்து கொள்ளுதல்.

CO3 : நாட்டுப்புறவியல் வாழ்வியல் முறைமைகளை உணர்ந்து கொள்ளுதல்.

CO4 : நாட்டுப்புறவியலோடு பிற சமூக அறிவியல் துறைகளை இணைத்து ஆய்வு செய்வதைத் தெரிந்து கொள்ளுதல்.

CO5 : நாட்டுப்புறவியலை கோட்பாடுகளில் பொருத்தி ஆய்வு செய்வதற்குரிய அடிப்படைகளை உணர்ந்து கொள்ளுதல்.

Course Code & Title: 18PTAE101 - திருவள்ளுவம்

CO1 : திருக்குறள், திருவள்ளுவர் குறித்த தமிழிலக்கிய புராண வரலாற்றுக் கதைகளை அறிந்து கொள்வர்.

CO2 : வாழ்வியல் அறம்சார் விழுமியச் சிந்தனைகளை அறிந்து கொள்ளுதல்.

CO3 : அரசியல்சார் விழுமியச் சிந்தனைகளை அறிந்து கொள்ளுதல்.

CO4 : குடும்பவியல்சார் உயர் ஒழுக்கக் கோட்பாடுகளைத் தெரிந்து கொள்ளுதல்.

CO5 : வள்ளுவரின் உயரிய சிந்தனைகளை ஆய்வறிஞரின் துணையுடன் அறிந்து போற்றுதல்.

Course Code & Title: 18PTA205 - இறை இலக்கியம்

CO1 : மயிலாடுதுறை வட்டார தேவாரத்தலப் பாடல்களை இறையியல் உணர்வுடன் அறிதல்.

CO2 : வைணவத்தமிழ் செல்வாக்கினைப் பாசுரங்களின் வழி உணர்ந்துப் போற்றுதல்.

CO3 : சிற்றிலக்கியங்களின் வழி இறைப்பெருமைகளை உணர்ந்து கொள்ளல்.

CO4 : சமண, கிறிந்த்துவக் கடவுளரின் மேன்மையினை உணர்ந்து கொள்வர்.

CO5 : இசுலாமிய கடவுளின் உண்மைத்தன்மையினை அறிந்து கொள்வர்.

Course Code & Title: 18PTA206 - திராவிடமொழி இலக்கிய வரலாறு

CO1 : திராவிடம், திராவிடமொழிகள், திராவிட இலக்கியங்கள் என்னும் வரையறைகளைத் தெரிந்து கொள்வர்.

CO2 : திராவிட மொழியின் தொடக்ககால இலக்கிய வரலாற்று அறிவினைப் பெறுவர்.

CO3 : திராவிட மொழியின் காப்பியகால வரலாற்றைத் தெரிந்து கொள்வர்.

CO4 : திராவிட மொழியின் சிற்றிலக்கிய வரலாற்றை அறிந்து கொள்ளுதல்.

CO5 : திராவிட மொழியின் தற்கால வரலாற்றை தெரிந்து கொள்வர்.

Course Code & Title: 15PTA207 - தொல்காப்பிய சொல்லதிகாரமும் மொழியியலும்

CO 1: சொற்கள் உருவாக்கிக் கொள்ளும் முறைமைகளையும் பொதுப்பண்புகளையும் புரிந்து கொள்ளுதல்.

CO 2: தொடரமைப்பில் ஏற்படும் மாற்றங்களைத் தெரிந்து கொள்வர்.

CO 3: பெயர், வினைச்சொற்களின் இயல்புகளை அறிதல்.

CO 4: அகராதியியல் பதிவுச்சொற்களான இடை, உரிச்சொற்களின் பண்புகளையும், பொருண்மைப் பயன்பாடுகளையும் தெரிந்து கொள்வர்.

CO 5: சொல், தொடர்நிலைகள் மொழியியல் அடிப்படையில் அமையும் சிறப்பினை அறிந்து கொள்வர்..

Course Code & Title: 18PTAEP202 - படைப்பிலக்கியம் – செய்முறை

CO 1: பாப்புனையும் இலக்கணக்கூறுகளைத் தெரிந்து பயிற்சி எடுப்பர்.

CO 2: புதுக்கவிதைப் பாடும் இலக்கணக் கூறுகளைத் தெரிந்து பயிற்சி எடுப்பர்.

CO 3: சிறுகதை எழுதுவதற்குரிய அடிப்படை அளகுகளைத் தெரிந்து பயிற்சிக் கொள்வர்.

CO 4: வசனம் எழுதும் ஆற்றல் உடையவராக தம்மைத் தகவமைத்துக் கொள்வர்.

CO 5: திரைப்படங்களைக் கண்டு திறனாய்வு எழுதும் திறன் கொள்வர்.

Course Code & Title: 18EDTA201 - அறிவியல் தமிழ்.

CO 1: தமிழிலக்கியங்களில் பதிவாகியுள்ள அறிவியல் சிந்தனைகளை அறிவர்.

CO 2: தமிழிலக்கியங்களின் அறிவியல் கோட்பாடுகளின் ஆழங்களை உணர்வர்.

CO 3: தமிழில் எழுதப்பட்டுள்ள அறிவியல் நூல்களின் இயல்புகளைத் தெரிந்து கொள்வர்.

CO 4: மொழிபெயர்ப்புக் கோட்பாட்டு அடிப்படையில் பெயர்க்கப்பட்டுள்ள அறிவியல் கட்டுரைகளைத் தெரிந்து கொள்வர்.,

CO 5: தமிழில் பெயர்க்கப்பட்டுள்ள கலைச்சொல்லாக்க முயற்சிகளைப் புரிந்து கொள்வர்.

Course Code & Title: 18PTA308 - காப்பியங்கள்

CO1 : காப்பிய இலக்கியங்கள் வழி அரசியல் வாழ்வியல்களை அறிந்து கொள்ளுதல்.

CO2 : காப்பிய இலக்கியங்கள் வழி அறம்சார் வாழ்வியல் விழுமியங்களை அறிந்து கொள்ளுதல்.

CO3 : காப்பிய இலக்கியங்கள் வழி புராணகால சமயச் செய்திகளை உணர்ந்து கொள்வர்.

CO4 : காப்பிய இலக்கியங்கள் வழி இதிகாசகால சமயச் செய்திகளைத் தெரிந்து கொள்வர்.

CO5 : காப்பிய இலக்கியங்கள் வழி பிறசமயச் செய்திகளைத் தெரிந்து கொள்வர்.

Course Code & Title: 18PTA309 - இலக்கியக்கோட்பாடுகளும் ஆய்வு நெறிமுறைகளும்

CO1 : இலக்கியம், திறனாய்வு கோட்பாடு என்னும் பொருண்மைகளின் பயன்பாட்டுச் செய்திகளை அறிந்து கொள்ளுதல்.

CO2 : தமிழ் இலக்கியக் கோட்பாடுகளின் வன்மை, மென்மைகளைப் புரிந்து கொள்ளுதல்.

CO3 : இலக்கியத் திறனாய்வுக் கோட்பாடுகளின் வழி தமிழ் இலக்கியங்களின் உட்பொருளை உணர்ந்து கொள்வர்

CO4 : இலக்கியத் திறனாய்வுக் கோட்பாடுகளின் வழி தமிழ் இலக்கியங்களின் வெளிப்பாட்டு உத்திகளைத் தெரிந்து கொள்வர்.

CO5 : ஆய்வேடு எழுதும் அடிப்படை இலக்கணக் கூறுகளை அறிந்து கொள்வர்.

Course Code & Title: 18PTA310 - தொல்காப்பியம் பொருளதிகாரம் (முதல் ஐந்து இயல்கள்)

CO1 : பண்டைத்தமிழரின் அகவாழ்வு நெறிகளைத் தெரிந்து கொள்வர்.

CO2 : பண்டைத்தமிழரின் புறவாழ்வு நெறிகளைப் புரிந்து கொள்ளுதல்.

CO3 : பண்டைத்தமிழரின் களவுகால வாழ்வியல் முறைமைகளைப் புரிந்து கொள்ளுதல்.

CO4 : பண்டைத்தமிழரின் கற்புகால வாழ்வியல் முறைமைகளைப் புரிந்து கொள்ளுதல்.

CO5 : தமிழரின் அகவாழ்வியலைப் பதிவு செய்யும் பொழுது பின்பற்ற வேண்டிய கோட்பாட்டுக் கூறுகளைத் தெரிந்து கொள்ளுதல்.

Course Code & Title: 18PTAE303 - உரைத்திறனியல்

CO1 : வரலாற்றுப் பார்வையில் உரைகளின் வளர்ச்சிப் படிநிலைகளை அறிவர்.

CO2 : இலக்கிய உரைகளின் போக்குகளை அறிந்து கொள்வர்.

CO3 : இலக்கண உரைகளின் போக்குகளை உணர்ந்து கொள்வர்

CO4 : சமய இலக்கிய உரைகளின் போக்குகளை தெரிந்து கொள்வர்.

CO5 : தத்துவ உரைகளின் போக்குகளை அறிந்து கொள்வர்.

Course Code & Title: 18EDTA302 - அறிவியல் தமிழாக்கம்.

CO 1: அறிவியல் தமிழ் நூல்களும், இதழ்களும் வெளிப்படுத்தும் அறிவியல் சிந்தனைகளின் வன்மை மென்மைகளைப் புரிந்து கொள்வர்.

CO 2: தமிழில் நிகழ்ந்துள்ள கலைச்சொல்லாக்க வரலாற்றினைத் தெரிந்து கொள்வர்.

CO 3: கலைச்சொல்லாக்கக் கோட்பாடுகளை உணர்ந்து கொண்டு சொல்லாக்கச் சிந்தனையுடன் வெளிவந்துள்ள அறிவியல் நூல்களின் திறனைப் பெறுதல்.

CO 4: அறிவியல் தமிழாக்க முயற்சிகளை உணர்ந்து கொள்வர்.

CO 5: அறிவியல் கலைச்சொற்களை எழுதப் பயிற்சி எடுத்துக் கொள்ளல்.

Course Code & Title: 18PTA411 - சங்க இலக்கியம்

CO1 : சங்க அகப்பாக்களின் வழி மாந்தர்களின் உளம்சார் வாழ்வியல் சிந்தனைகளை அறிந்து கொள்ளுதல்.

CO2 : சங்க அகப்பாக்களின் வழி நிலவியல்சார் வாழ்வியல் ஒழுகலாறுகளை அறிந்து கொள்ளுதல்.

CO3 : சங்க புற இலக்கியங்கள் வழி மன்னர்களின் அரசியல்சார் மதிப்புகளைப் புரிந்து கொள்ளல்.

CO4 : சங்க மக்களின் பயணங்கள் குறித்த வாழ்வியல் மேன்மைகளை உணர்ந்து கொள்ளல்.

CO5 : மதுரைப்பேரூரின் அமைவிடச் சிறப்பினை அறிந்து வியத்தல்

Course Code & Title: 18PTA412 - விளிம்புநிலை மக்கள் இலக்கியம்

CO1 : தமிழ்ச்சமூகத்தில் வேரோடி வாழ்ந்திருக்கும் விளிம்புநிலை மக்களின் வாழ்வியல் சிறப்பியல்புகளை அறிந்து கொள்ளுதல்.

CO2 : விளிம்புநிலை மக்களின் வாழ்வியலைப் பதிவு செய்திருக்கும் கவிதைகளின் வழி படித்து அறிதல்.

CO3 : விளிம்புநிலை மக்களின் வாழ்வியலைப் பதிவு செய்திருக்கும் சிறுகதைகளின் வழி படித்து தெரிந்து கொள்ளல்.

CO4 : சமூக விளிம்பிலுள்ள இரு மக்களின் வாழ்வியல் கோலங்களைப் படித்தறிந்து கொள்ளல்.

CO5 : திரை ஊடகங்களில் பதிவாகிய வாழ்வியல் பிம்பங்களின் உண்மைத் தன்மையை உணர்ந்து கொள்வர்.

Course Code & Title: 18PTA413- தொல்காப்பிய பொருளதிகாரம் (பின் நான்கியல்கள்)

CO1 : பண்டைத் தமிழரின் உணர்வியல்சார் அறிவு மேம்பாட்டினை வெளிப்படுத்தும் உடல் மொழியின் மேன்மையினை உணர்ந்து கொள்வர்.

CO2 : தமிழிலக்கியங்களில் வெளிப்பட்டு நிற்கும் அழகியல்சார் உத்திகளைப் படித்தறிந்து கொள்வர்.

CO3 : செய்யுளீட்டுவதற்குரிய அடிப்படைக் கோட்பாடுகளைத் தெரிந்து கொள்வர்.

CO4 : செய்யுளில் இடம்பெற வேண்டிய பொருண்மைசார் பதிவுகளைத் தெரிந்து கொள்வர்.

CO5 : தமிழரின் மரபு சார் அறிவியல் மேம்பாட்டுச் சிந்தனைகளின் வெளிப்பாட்டுச் சிந்தனைகளை அறிந்து கொள்வர்.

Course Code & Title: 18PTA414 - மொழிபெயர்ப்பியல்

CO1 : மொழிபெயர்ப்பின் வரலாற்றினை அறிந்து கொள்வர்.

CO2 : மொழிபெயர்ப்பின் வகைகளையும் நோக்கத்தினையும் பகுத்தறிந்து கொள்வர்.

CO3 : மொழிபெயர்ப்பின் கொள்கைகளைத் தெரிந்து கொள்வர்.

CO4 : மொழிபெயர்க்கும் பொழுது ஏற்படும் சிக்கல்களை உணர்வர்.

CO5 : மொழிபெயர்ப்புப் பணியின் வன்மை மென்மைகளை செயல்நிலையில் உணருவர்.

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