#### **SEMESTER-II**

<u>முதன்மைத் **தான்-** 3.</u> அற இலக்கியம்

PAPER CODE: 23TACT03

#### **COURSE OUTCOME**

CO1 தனி மனித ஒழுக்கத்தில் மேம்பாடு அடைதல்

CO2 அற இலக்கியங்கள் தோன்றுவதற்கான சூழலை அறிதல்

CO3 சமூக ஒழுக்கமைப்பிற்கு அற இலக்கியங்களின் தேவையை உணர்தல்

CO4 தமிழர்களின் வாழ்வியல் இலக்கணத்தை அறிந்து கொள்ளுதல்

CO5 அறக்கோட்பாடுகளை அறிந்து கொள்ளுதல்

முதன்மைத் **தாள்- 4 தமிழ் இலக்கிய வரலாறு** 

PAPER CODE: 23UTACT04

#### **COURSE OUTCOME**

CO1 சங்க இலக்கியங்கள் பற்றி அறிந்து கொள்வர்

CO2 அற இலக்கியங்கள் பற்றி அறிந்து கொள்வர்

CO3 காப்பியங்கள் சிற்றிலக்கியங்கள் குறித்து தெரிந்து கொள்வர்

CO4 பக்தி இலக்கியங்கள் பற்றி தெளிவு பெறுவர்

cos ஆங்கிலேயரின் வருகைக்கு பின்னர் வளர்ந்த இலக்கியங்கள் நாடக வளர்ச்சி ஆகியன பற்றி தெரிந்து கொள்வர்

விருப்ப பாடம் தாள் -2

PAPER CODE: 23UTAME02

#### **COURSE OUTCOME**

CO1 வாய்மொழி வழக்கார்கள் குறித்து அறிந்து கொள்ளல்

CO2 நாட்டார்வழக்காற்றியில் முறைகளை புரிந்து கொள்ளல்

CO3 வாய்மொழி வழக்காறுகளை பகுத்தறிதல்

CO4 நாட்டார் நிகழ்ச்சிகளை மதிப்பீடு செய்தல்

CO5 நாட்டார் பண்பாடுகளை வாழ்வியலில் சமர்ப்பித்தல்

#### Skill enrollment course -இதழியல்

PAPER CODE: 23UTASO01

#### **COURSE OUTCOME**

- CO1 இதழியலின் தோற்றம் வளர்ச்சி அடைதல்
- CO2 இதழ்களின் வகைகளையும் படிநிலைகளையும் அறிதல்
- CO3 செய்திகளின் தன்மையை ஆராய்தல்
- CO4 இதழ்களின் முக்கிய அம்சங்களை புலப்படுத்துதல்
- CO5 இதழ்கள் மாணவர்களுக்கு ஏற்படுத்தி கொடுக்கும் வாய்ப்புகள் குறித்து அறிதல்

#### **SEMESTER-IV**

முதன்மை **தாள் -6** 

புறப்பொருள் **வெண்பாமாலை** 

PAPER CODE: 21UTA05

#### **COURSE OUTCOME**

- CO1 புறப்பொருள் இலக்கணங்களை அறிதல்
- CO2 புறப்பொருள் இலக்கணங்கள் வாயிலாக புறநூல்களை கற்றல்
- CO3 போட்டித் தேர்வுகளில் பங்கேற்றல்

முதன்மை **பாடம் தாள்** -7

**PAPER CODE: 21UTA07** 

#### **COURSE OUTCOME**

CO1 தமிழில் உள்ள 96 வகை சிற்றிலக்கியங்கள் செல்வாக்கு பெற்ற வகைகளின் மாதிரிகளை கற்பித்தல்

CO2 சிற்றிலக்கியங்கள் குறித்து அறிதல்

CO3 நீதி இலக்கியங்கள் குறித்து அறிதல்

#### முதன்மை பாடம் தாள் -7

PAPER CODE: 21UTA06

#### **COURSE OUTCOME**

CO1 தமிழகத்தின் இயற்கை அமைப்பு குறித்து அறிதல்

CO2 தமிழர்களின் வாழ்க்கை முறையை அறிதல்

CO3 பண்டைய அரசியல் சமூக நிலை உணர்தல்

#### **SEMESTER-VI**

முதன்மை பாடம் தாள் 12

**PAPER CODE: 21UTA11** 

#### **COURSE OUTCOME**

CO1 சங்க இலக்கியங்கள் குறித்து அறிந்து கொள்ளுதல்

CO2 சங்க கால மக்களின் வாழ்வியல் முறை உணர்தல்

CO3 அகம் புறம் பற்றி அறிதல்

CO4 சங்க கால இலக்கிய சொல்லாட்சிகளை அறிதல்

தன்மைத்தாள் -11

**PAPER CODE: 21UTA10** 

#### **COURSE OUTCOME**

CO1 அணி இலக்கணம் தெரிந்து கொள்ள

CO2 அணி இலக்கணங்களின் வகைகளை அறிந்து கொள்ளுதல்

CO3 செய்யுள் இன்பம் அனுபவித்தல்

CO4 போட்டித் தேர்வுகளில் கலந்து கொள்ளும் விழிப்புணர்வு பெறுதல்

முதன்மை **பாடம் தாள் 1**3

**PAPER CODE: 21UTA13** 

#### **COURSE OUTCOME**

CO1 இலக்கியத் திறனாய்வு குறித்து அறிந்துதல்

CO2 திறனாய்வு வகைகள் அணுகுமுறைகள் குறித்து அறிதல்

CO3 திறனாய்வாளன் கு**றித்து அறிதல்** 

CO4 இலக்கியக் **கூறுகள் பற்றி தெரிந்தது** 

CO5 ஒரு **நூலை திறனாய்வு செய்யும் தகுதி அ**டைதல்

#### சார்பு பாடம் தாள் 6 நாட்டுப்புறவியல் PAPER CODE :21UTAA06

#### **COURSE OUTCOME**

- CO1 நாட்டுப்புறவியலின் வரலாறு உணர்தல்
- CO2 நாட்டுப்புற கலைகளை தெரிந்து கொள்ளுதல்
- CO3 நாட்டுப்புற கலைகளை அறிந்து கொள்ளுதல்

CO4 நாட்டுப்புற மக்களின் நம்பிக்கைகள் சடங்குகள் பழக்கவழக்கங்கள் அறிதல்

விருப்ப பாடம் தாள் 3

**PAPER CODE: 21UTAE03** 

#### **COURSE OUTCOME**

CO1 ஒப்பிலக்கியம் பற்றி அறிந்து கொள்ளுதல்

CO2 இலக்கியத்தோடு பிற மொழி இலக்கிய கொள்கைகளை ஒப்பிட்டு அறிதல்

CO3 கவிஞர்களை ஒப்பிட்டு **நோக்குதல்** 

### **DEPARTMENT OF ENGLISH**

### I – B.A ENGLISH (SEMESTER –II)

#### Core III- British Literature-I

Paper Code: 23UEN03

**CO1:** Demonstrate knowledge of the major social, political, philosophical, and scientific events forming the backdrop for the development of early British Literature.

**CO2:** Synthesize, integrate, and connect information by writing essays using techniques of criticism and evaluation.

**CO3:** Read and discuss the themes, approaches, styles, and contributions to the development of British literature from the Medieval Period to the end of the eighteenth-century.

**CO4:** Distinguish between the characteristics of British literary movements in discussing and writing about British literature.

**CO5:** Write about literature using standard literary terminology and other literary conventions.

#### Core IV - American Literature-I

### Paper Code- 23UEN04

**CO1:** Analyze and discuss works of American literature from a range of genres (e.g. poetry, nonfiction, slave narrative, captivity narrative, literary fiction, genre fiction, sermon, public proclamations, letters, etc.).

**CO2:** Identify relationships between moments in American history, colonialism, and culture and their representation in works of American literature.

**CO3:** Articulate ways that American literature reflects complex historical and cultural experiences.

**CO4:** Produce a mix of critical, creative, and/or reflective works about American literature to 1865.



**CO5:** Analyze and describe about American literature using standard literary terminology and other literary conventions

### **ME 2- II History of English Literature**

#### Paper Code-23UENA02

**CO1:** To enrich the students with the wide knowledge of the Gain knowledge of the History of Literature and great authors of English.

**CO2:** Interconnect the history, biography of the author and the works.

**CO3:** Analyse the growth of literary genres of specific periods.

**CO4**: Evaluate the role of literary movements and their impact on the literary works

### **ENGLISH FOR COMMUNICATION (SEC -I)**

**CO1:** Identify the basic principles of communication

**CO2:** Analyze the various types of communication

**CO3:** Make use of the essential principles of communication

**CO4:** Identify the prominent methods and models of Communication.

CO5: Learn about the four skills of language and get familiarized with them

### II – B.A ENGLISH (SEMESTER –IV)

#### **CORE- VI AMERICAN LITERATURE**

Paper Code: 21UEN06

**CO1:** The study of American literature provides the learners the most available knowledge about its people, belief, perceptions and philosophy.

**CO2:** Readers could explore their culture, religion and history.

**CO3:** In general, it enhances the vocabulary and understanding of the language of that country.

#### **ALLIED - IV - HISTORY OF ENGLISH LANGUAGE**

Paper Code: 21UENA04

**CO1:** Learners acquire knowledge of the origin and evolution of English Language.

**CO2:** Learners would be able to recognize the root word and the words derived from it.

**CO3:** Students would be familiar with the contributions of great writers.

#### SKILL BASED ELECTIVE COURSE -IV

#### CAREER SKILLS AND E-LEARNING

Paper Code: 21UENS04

**CO 1:** Learners move towards hi-tech world.

**CO2:** Learners also become tech savvy in their careers.

III – B.A ENGLISH (SEMESTER –VI)

#### **CORE – XI- COMMONWEALTH LITERATURE**

Paper Code: 21UEN11

CO1: Learners could explore the literary elements of such literature

**CO2:** It develops the analytical skills of the learners to take up further studies in such literature

#### **CORE – XII- ENGLISH LANGUAGE TEACHING**

Paper Code: 21UEN12

**CO1:** It enhances learners' linguistic skills, besides vocabulary and grammar.

**CO2:** It inspires the learners to go in search of world literature, which is available only in English.

#### **CORE – XIII – TRANSLATION STUDIES**

Paper Code: 21UEN13

**CO1:** Students would understand and respect other cultures portrayed in the literary texts

**CO2:** Students would become acquainted with few of the world classics available through translation

### **ELECTIVE – II English Literature for Competitive Examinations**

Paper Code: 21UENE02

**CO1:** It enhances opportunities for employment as English teachers

#### **ELECTIVE-III COMMUNICATION SKILLS – PRACTICAL**

Paper Code: 21UENE03

CO1: Develops the language skills of the learners

CO2: Provides plenty of job opportunities



#### **DEPARTMENT OF MATHEMATICS(UG)**

#### **SEMESTER-II** CORE III- ANALYTICAL GEOMETRY (Two & Three Dimensions) PAPER CODE- 23UMACT03

**CO1:** Find pole, polar for conics, diameters, conjugate diameters for ellipse and hyperbola

**CO2:** Find the polar equations of straight line and circle, equations of chord, tangent and normal and to find the asymptotes of hyperbola

**CO3:** Explain in detail the system of Planes

**CO4:** Explain in detail the system of Straight lines

**CO5:** Explain in detail the system of Spheres

#### **CORE IV- INTEGRAL CALCULUS** PAPER CODE- 23UMACT04

**CO1:** Determine the integrals of algebraic, trigonometric and logarithmic functions and to find the reduction formulae

CO2: Evaluate double and triple integrals and problems using change of order of integration

CO3: Solve multiple integrals and to find the areas of curved surfaces and volumes of solids of revolution

CO4: Explain beta and gamma functions and to use them in solving problems of integration

**CO5:** Explain Geometric and Physical applications of integral calculus

#### SEC-II:MATHEMATICS FOR COMPETITIVE EXAMINATION - II PAPER CODE- 23UMASE02

**CO1:** Explain in detail about Profit & Loss and Ratio & Proportion.

**CO2:** Explain Partnership and Chain Rule.

CO3: Explain Time & Work and Pipes & Cistern.

**CO4:** Explain Time & Distance and Problems on Trains.

**CO5:** Explain Boats & Streams and Alligation or Mixture

#### SEC-III: COMPUTATIONAL MATHEMATICS PAPER CODE- 23UMASE03

CO1: Describe the roots of algebraic equations using different methods like, Newton-Raphson method, Secant Method etc.

**CO2**: Solve system of algebraic equations using direct and iterative methods.

**CO3**: To write C++ Program to compute roots of algebraic equations using Bisection method, Newton-Raphson method etc.

**CO4**: To write C++ Program to compute roots of algebraic equations using Secant method, Gauss Jordan method etc.

CO5: To write C++ Program to solve the system of algebraic equations using the Jacobian method, Gauss Seidal method.



#### SEMESTER-IV

## CORE - VII - INDUSTRIAL STATISTICS PAPER CODE- 23UMACT07

**CO1:** Define Combination Methods and few examples **CO2:** Define Sample spaces and The Probability of event

CO3: Describe Independent Events and problems

**CO4:** Define Probability Distributions, Continuous Random variables **CO5:** Describe Conditional Distributions and Mathematical Expectations

## CORE - VIII -ELEMENTS OF MATHEMATICAL ANALYSIS PAPER CODE- 23UMACT08

**CO1:** Explain in detail about sets and functions, equivalence and countability and the LUB axiom

**CO2:** Explain Sequence and Subsequence of real numbers and to find the limit of sequence to test for convergent, divergent, bounded and monotone sequences

**CO3:** Explain the operations on convergent and divergent sequences and to Explain the concepts of limit superior and limit inferior and the notion of Cauchy sequences

**CO4:** Classify the series of real numbers and the alternating series and their convergence and divergence, the conditional convergence and absolute convergence and solve problems on convergence of the sequences

**CO5:** Explain about the metric spaces and functions continuous on a Metric space

## SEC VI- MATHEMATICS FOR COMPETITIVE EXAMINATION – IV PAPER CODE- 23UMASE06

**CO1**: Explain in detail about Permutation and Combinations.

CO2: Explain Probability and True Discount.

CO3: Explain Banker's Discount and Heights & Distances.

**CO4**: Explain Odd Man Out and Series.

CO5: Explain Tabulation and Bar Graphs.

## SEC PRACTICAL - LaTeX-PRACTICAL PAPER CODE- 23UMASE07

**CO1**: Make different Alignments in a document and an Application for a job

CO2: Generate Bio-Data and Table Structures.

**CO3**: Create Mathematical Statements using LaTeX.

**CO4**: Prepare Articles and Inserting Pictures.

**CO5**: Prepare Question paper and PowerPoint presentation in LaTeX format.



(Recognized under section 2(f) & 12(B) of UGC Act 1956) ( Affiliated to Periyar University, Salem)

#### SEMESTER-VI CORE – XIII -LINEAR ALGEBRA PAPER CODE- 23UMACT13

**CO1:** Acquire a detailed knowledge about vector spaces and subspaces

**CO2**: Explain the concepts of Linear Dependence, Linear Independence, Bases and Dimension of basis

**CO3:** Explain the concept of Linear Transformations, their Matrix representation and the notion of dual spaces

**CO4:** Find the Eigen values and Eigen vectors, to apply the concepts for diagonalisation

**CO5:** Explain about Inner product and norms and to apply Gram Schmidt Orthogonalization Process to problems on inner product spaces

## CORE - XIV - COMPLEX ANALYSIS PAPER CODE- 23UMACT14

**CO1:** Explain about analytic functions, their differentiation and continuity and to verify the Harmonic functions using analyticity conditions

**CO2:** Explain the concept of Conformal mappings and mappings by linear transformations and linear fractional transformations

**CO3:** Explain about the integrations of functions over simply and multiply connected domains and to derive the Cauchy integral formula, Liouvlle's theorem, Fundamental theorem of Algebra and Maximum Module Principle

**CO4:** Find the convergence the sequences and series, to derive Taylor's and Laurent's series

**CO5:** Find the nature of singularities, to find the residue of a given function at a given singular point, to Explain about zeros and poles and to evaluate real improper integrals (Excluding poles on the real axis).

## CORE - XV - MECHANICS PAPER CODE- 23UMACT15

**CO1:** Define Resultant, Component of a Force, Coplanar forces, like and unlike parallel forces, Equilibrium of a Particle, Limiting equilibrium of a particle on an inclined plane.

**CO2:** Define Moment of a force and Couple with examples. Define Parallel Forces and Forces acting along a Triangle, Solve problems on frictional forces

**CO3:** Define work, energy, power, rectilinear motions under varying forces. Define Simple Harmonic Motion and find its Geometrical representation.

**CO4:** Define Projectile, impulse, impact and laws of impact. Prove that the path of a projectile is a parabola. Find the direct and oblique impact of smooth elastic spheres

**CO5:** Define central orbits, explain conic as centered orbits and solve problems related to central orbits



(Recognized under section 2(f) & 12(B) of UGC Act 1956) ( Affiliated to Periyar University, Salem)

## ELECTIVE - III - NUMERICAL METHODS WITH APPLICATIONS PAPER CODE- 23UMAME01

**CO1:** Find the roots of a polynomial equation. Find one of the most commonly used techniques for finding the roots of given equations.

**CO2:** Define for solving differential equations by approximating derivatives with finite differences. To solve the problems using forward and backward formulaes.

**CO3:** To determine the functions values even when the parameters are not evenly spaces. In this chapter is used to calculate the values of the independent variable X that corresponds to a given function values.

**CO4:** To find involves the computation of a derivative of a function f from given values of f. To find how to use the Simphson 1/3 and 3/8 formulae for solving the problems.

**CO5:** To find techniques that attempt to find the exact or approximation solutions of non linear systems by applying a finite number of operations, such as matrix factorization, elimination, or inversion.

## ELECTIVE - IV - GRAPH THEORY WITH APPLICATIONS PAPER CODE-23UMAME06

**CO1:** Understand the concepts of Graph, Sub graph, Walks and Paths.

CO2: Discuss about Eulerian graphs, Hamiltonian Paths and Trees.

**CO3:** Give Matrix Representations of Graphs

CO4: Know about Chromatic number and Chromatic Polynomial

**CO5:** Describe about digraph, Euler digraphs.



#### **B.Sc.**, Computer Science

#### **Programme Outcomes (PO)**

PO1: Knowledge

PO2: Problem Analysis

**PO3**: Design / Development of Solutions

**PO4**: Conduct investigations of complex problems

PO5: Modern tool usage

PO6: Applying to society

#### **Programme Specific Outcomes**

**PSO1:** Think in a critical and logical based manner

**PSO2:** Familiarize the students with suitable software tools of computer science and industrial applications to handle issues and solve problems in mathematics or statistics and real time application related sciences.

**PSO3**: Know when there is a need for information, to be able to identify, locate, evaluate, and effectively use that information for the issue or problem at hand.

**PSO4**: Understand, formulate, develop programming model with logical approaches to a Address issues arising in social science, business and other contexts.

**PSO5**: Acquire good knowledge and understanding to solve specific theoretical and applied problems in advanced areas of Computer science and Industrial statistics.

**PSO6:** Provide students/learners sufficient knowledge and skills enabling them to undertake further studies in Computer Science or Applications or Information Technology and its allied areas on multiple disciplines linked with Computer Science.

**PSO7:** Equip with Computer science technical ability, problem solving skills, creative talent and power of communication necessary for various forms of employment.

**PSO8**: Develop a range of generic skills helpful in employment, internships & social activities.

**PSO9:** Get adequate exposure to global and local concerns that provides platform for further exploration into multi-dimensional aspects of computing sciences

#### I B.Sc., Computer Science

#### **COURSE OUTCOME**

#### **SEMESTER-II**

#### Foundation English - II

- CO1: Learn to introduce themselves and talk about everyday activities confidently
- CO2: Be able to write short paragraphs on people, places and events
- CO3: Identify the purpose of using various tenses and effectively employ them in speaking and writing
- CO4 : Gain knowledge to write subjective and objective descriptions
- CO5: Identify and use their skills effectively in formal contexts

#### Foundation Tamil - II

CO 1	பக்தி இலக்கியங்களைக் கற்பதன் மூலம் பக்தி நெறியினையும், சமய நல்லிணக்கத்தையும் தெரிந்து பின்பற்றுவர்
CO 2	சிற்றிலக்கியங்களி <b>ன்</b> வழி இலக்கியச் சுவையினையும் பண்பாட்டுஅறிவினையும்
CO 3	பட்டப் படிப்பினைப் படிக்கும்போதே பெரும்பான்மையான தமிழ் இலக்கியங்கள் குறித்த அறிவினைப் பெறுவர்
CO 4	தமிழ்ச் சமூகப் பண்பாட்டு வரலாற்றினை இலக்கியங்கள் வாயிலாக அறிவர்
CO 5	போட்டித் தேர்வுகளில் வெற்றி பெறுவதற்குத் தமிழ்ப் பாடத்தினைப் பயன்கொள்ளும் வகையில் ஏற்ற பயிற்சி பெறுவர்

#### Allied Mathematics - Graph Theory

- CO 1: Understand the concepts of Graph, Sub graph, Walks and Paths.
- CO 2: Discuss about Euclidian graphs, Hamiltonian Paths and Trees.
- CO 3: Give Matrix Representations of Graphs
- CO 4: Know about Chromatic number and Chromatic Polynomial
- CO 5: Describe about digraph, Euler digraphs.

#### **Data Structure & Algorithm**

- CO1: Understand the concept of Dynamic memory management, data types, algorithms, Big O notation
- CO2: Understand basic data structures such as arrays, linked lists, stacks and queues
- CO3: Describe the hash function and concepts of collision and its resolution methods
- CO4 Solve problem involving graphs, trees and heaps
- CO5 Apply Algorithm for solving problems like sorting, searching, insertion and deletion of data

#### DATA STRUCTURE AND ALGORITHMS LAB

- C01: Understand the concept of Dynamic memory management, data types, algorithms, Big O notation
- CO2: Understand basic data structures such as arrays, linked lists, stacks and queues
- C03: Describe the hash function and concepts of collision and its resolution methods
- C04: Solve problem involving graphs, trees and heaps
- CO5: Apply Algorithm for solving problems like sorting, searching, insertion and deletion of data

#### INTRODUCTION TO HTML

- CO1: Knows the basic concept in HTML. Concept of resources in HTML
- CO2: Knows Design concept. Concept of Meta Data Understand the concept of save the files.
- CO3: Understand the page formatting. Concept of list
- CO4: Creating Links. Know the concept of creating link to email address
- CO5: Concept of adding images Understand the table creation

#### MANAGERIAL SKILL DEVELOPMENT

- CO1: Identify the personal qualities that are needed to sustain in the world of work.
- ${\tt CO2:} Explore \ more \ advanced \ Management \ Skills \ such \ as \ conflict \ resolution,$
- empowerment, working with teams and creating a positive environment for change.
- CO3 :Acquire practical management skills that are of immediate use in management or leadership positions.
- CO4:Employ critical-thinking and analytical skills to investigate complex business problems to propose viable solutions.
- CO5: Make persuasive presentations that reveal strong written and oral Communication skills needed in the workplace.



#### II B.Sc., Computer Science

#### COURSE OUTCOME

#### Foundation English -IV: 22UFEN04

CO1: The learners acquire the basic linguistic skills, LSRW Comprehensible input promotes easy acquisition.

CO2: Student of any programme becomes interested in the language competence by their consistent.

CO3: Practice and performance in nutshell, the study of Foundation English would make the learners to face the present day.

CO4: Job market confidently and courageous.

**TAMIL-IV** : பண்டைய இலக்கியங்களும் நாடகமும - பண்டைய இலக்கியங்களும் நாடகமும:

C01: சங்ககால மக்களின் போர் மற்றும் வாழ்க்கை முறையை அறிந்துக்கொள்ளுதல்

CO2: வாழ்வில் கடைப்பிடிக்க வேண்டிய அறங்களை அறிந்துக்கொள்ளுதல;

#### NMEC: விளம்பரக்கலை

CO1: மிகப்பெரிய நிறுவனங்கள் விளம்பரத்தையே விளம்பரங்களின் நோக்கங்களையும் அறியச் செய்தல்.

CO2: விளம்பர நோக்கங்களின் வெளிப்படைத் தன்மையை அறியச் செய்தல்.

CO3: விளம்பரங்கள் குறுகிய கால வெற்றி நோக்கங்களை மற்றும் இலக்குகளை அறியச் செய்தல்.

C04: விளம்பர உத்திகள் விற்பனை நோக்கங்களை மையமிட்டதாக அமைந்துள்ளதை விளக்குதல்.

#### **HUMAN RESOURCE MANAGEMENT - 21UCMN02**

- CO1: Integrated perspective on role of HRM in modern business.
- CO2: Ability to plan human resources and implement techniques of job design
- CO3: Competency to recruit, train, and appraise the performance of employees
- CO4: Rational design of compensation and salary administration
- CO5: Ability to handle employee issues and evaluate the new trends in HRM

#### STATISTICAL METHODS AND THEIR APPLICATIONS - II

- CO1: Understand the concept of random variables and expected average.
- CO2: Compute Bernoulli trails and understand the rare case population.
- CO3: Learn the usage of normal curve and curve fitting by using the method of

least Squares.

CO4: Learn about the large samples and theory of attributes.

#### PROGRAMMING IN JAVA:

- CO1: Remember the concepts of OOPS.
- CO2: Understand the basic Terminologies of languages and statements.
- CO3: Demonstrate the use classes and objects.
- CO4: Evaluate the packages and exception handling methods.
- CO5: Analyze the I/O Streams and graphics classes.

#### PRACTICAL IV- JAVA PROGRAMMING-:

- CO1: Study all the Basic Statements in java Programming.
- CO2:Practice the usage of branching and looping statements.
- CO3: Apply Packages and Interfaces.
- CO4: Analysis the use of graphics tools in JAVA.



#### III B.Sc., Computer Science

#### **COURSE OUTCOME**

#### **PROGRAMMING IN PYTHON - 21UCS10**

- CO1: Understand the Basic Programming Logic.
- CO2: Understand the basic Statements.
- CO3: Implement Files and SQL.
- CO4: Evaluate Graphics in python.
- CO5: Analyze Version control system.

#### PRACTICAL-PYTHON PROGRAMMING: 21UCSP07

- CO1: Study all the Basic commands.
- CO2: Practice the usage of control flow statements.
- CO3: Apply various commands in files and directories.
- CO4: Analysis the use of MYSQL to connect database.

#### **QUANTITATIVE APTITUDE- 21UCSS01**

- CO1: Remember the basic mathematical functions.
- CO2: Understand the problems of ages, profits and loss.
- CO3: Demonstrate the relationship of time with work and distance.
- CO4: Implement permutation and combinations problem.
- CO5: Analyze data representation methods.

#### **SOFTWARE TESTING - 21UCSE07**

- CO1:Remember the basic concepts of SDLC
- CO2: Understanding Block box testing
- CO3: Apply system testing
- CO4: Evaluate performance testing
- CO5: Implement test planning

#### WIRELESS NETWORK - 21UCSE05

- CO1:Remember the basic concepts of WLAN technologies.
- CO2: Understanding mobile IP.
- CO3: Apply TCP enhancements.
- CO4: Evaluate UTMS.
- CO5: Implement 4G.



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#### **Bachelor of Computer Applications**

#### **Programme Outcomes (PO)**

PO1: Knowledge

PO2: Problem Analysis

**PO3**: Design / Development of Solutions

PO4: Conduct investigations of complex problems

PO5: Modern tool usage

PO6: Applying to society

#### **Programme Specific Outcomes**

**PSO1:** Think in a critical and logical based manner

**PSO2:** Familiarize the students with suitable software tools of computer science and industrial applications to handle issues and solve problems in mathematics or statistics and real time application related sciences.

**PSO3**: Know when there is a need for information, to be able to identify, locate, evaluate, and effectively use that information for the issue or problem at hand.

**PSO4**: Understand, formulate, develop programming model with logical approaches to a Address issues arising in social science, business and othercontexts.

**PSO5**: Acquire good knowledge and understanding to solve specific theoretical and applied problems in advanced areas of Computer science and Industrial statistics.

**PSO6:** Provide students/learners sufficient knowledge and skills enabling them toundertake further studies in Computer Science or Applications or Information Technology and its allied areas on multiple disciplines linked with Computer Science.

**PSO7:** Equip with Computer science technical ability, problem solving skills, creative talent and power of communication necessary for various forms of employment.

**PSO8**: Develop a range of generic skills helpful in employment, internships & social activities.

**PSO9:** Get adequate exposure to global and local concerns that provides platform for further exploration into multi-dimensional aspects of computing sciences



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# I Bachelor of Computer Applications COURSE OUTCOME

#### SEMESTER -II

#### Foundation Tamil - II

CO 1	பக்தி இலக்கியங்களைக் கற்பதன் மூலம் பக்தி நெறியினையும், சமய நல்லிணக்கத்தையும் தெரிந்து பின்பற்றுவர்
CO 2	சிற்றிலக்கியங்களி <mark>ன்</mark> வழி இலக்கியச் சுவையினையும் பண்பாட்டு அறிவினையும்
CO 3	பட்டப் படிப்பினைப் படிக்கும்போதே பெரும்பான்மையான தமிழ் இலக்கியங்கள் குறித்த அறிவினைப் பெறுவர்
CO 4	தமிழ்ச் சமூகப் பண்பாட்டு வரலாற்றினை இலக்கியங்கள் வாயிலாக அறிவர்
CO 5	போட்டித் தேர்வுகளில் வெற்றி பெறுவதற்குத் தமிழ்ப் பாடத்தினைப் பயன்கொள்ளும் வகையில் ஏற்ற பயிற்சி பெறுவர்

#### Foundation English – II

- CO1: Learn to introduce themselves and talk about everyday activities confidently
- CO2: Be able to write short paragraphs on people, places and events
- CO3: Identify the purpose of using various tenses and effectively employ them inspeaking and writing
- CO4: Gain knowledge to write subjective and objective descriptions
- CO5: Identify and use their skills effectively in formal contexts

#### Allied Mathematics - Graph Theory

- CO 1: Understand the concepts of Graph, Sub graph, Walks and Paths.
- CO 2: Discuss about Euclidian graphs, Hamiltonian Paths and Trees.
- CO 3: Give Matrix Representations of Graphs
- CO 4: Know about Chromatic number and Chromatic PolynomialCO 5:
- CO5:Describe about digraph, Euler digraphs.

#### C++:

- CO 1: Remember the program structure of C with its syntax and semantics.
- CO 2: Understand the programming principles in C
- CO 3: Apply the programming principles learnt in real time problems
- CO 4: Analyze the various methods of solving a problem and choose the best method
- CO 5: Code, debug and test the programs with appropriate test cases



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#### C++ PRACTICAL:

- CO 1: Remember the program structure of C with its syntax and semantics.
- CO 2: Understand the programming principles in C
- CO 3: Apply the programming principles learnt in real time problems
- CO 4: Analyze the various methods of solving a problem and choose the best method
- CO 5: Code, debug and test the programs with appropriate test cases

#### **INTRODUCTION TO HTML:**

- CO1: Knows the basic concept in HTML• Concept of resources in HTML
- CO2: Knows Design concept. Concept of Meta Data Understand the concept of save the files
- CO3: Understand the page formatting. Concept of list
- CO4: Creating Links. Know the concept of creating link to email address CO5: Concept of adding images Understand the table creation

#### **MANAGERIAL SKILL DEVELOPMENT:**

- CO1: Identify the personal qualities that are needed to sustain in the world of work.
- CO2 :Explore more advanced Management Skills such as conflict resolution, empowerment, working with teams and creating a positive environment for change.
- CO3 :Acquire practical management skills that are of immediate use in management or leadership positions.
- CO4:Employ critical-thinking and analytical skills to investigate complex business problems to propose viable solutions.
- CO5: Make persuasive presentations that reveal strong written and oral Communication skills needed in the workplace.



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### II Bachelor of Computer Applications

#### **COURSE OUTCOME**

#### Foundation English -IV:

CO1: The learners acquire the basic linguistic skills, LSRW Comprehensible input promotes easy acquisition.

CO2: Student of any programme becomes interested in the language competence by their consistent.

CO3: Practice and performance in nutshell, the study of Foundation English would make the learners to face the present day.

CO4: Job market confidently and courageous.

**TAMIL-IV** : பண்டைய இலக்கியங்களும் நாடகமும - பண்டைய இலக்கியங்களும் நாடகமும:

CO1: சங்ககால மக்களின் போர் மற்றும் வாழ்க்கை முறையை அறிந்துக்கொள்ளுதல்

CO2: வாழ்வில் கடைப்பிடிக்க வேண்டிய அறங்களை அறிந்துக்கொள்ளுதல;

#### NMEC: விளம்பரக்கலை

CO1: மிகப்பெரிய நிறுவனங்கள் விளம்பரத்தையே விளம்பரங்களின் நோக்கங்களையும் அறியச் செய்தல்.

CO2: விளம்பர நோக்கங்களின் வெளிப்படைத் தன்மையை அநியச் செய்தல்.

CO3: விளம்பரங்கள் குறுகிய கால வெற்றி நோக்கங்களை மற்றும் இலக்குகளை அறியச் செய்தல்.

CO4: விளம்பர உத்திகள் விற்பனை நோக்கங்களை மையமிட்டதாக அமைந்துள்ளதை விளக்குதல்.

#### **HUMAN RESOURCE MANAGEMENT**

CO1: Integrated perspective on role of HRM in modern business.

CO2: Ability to plan human resources and implement techniques of job design

CO3: Competency to recruit, train, and appraise the performance of employees

O4: Rational design of compensation and salary administration

CO5: Ability to handle employee issues and evaluate the new trends in HRM



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#### PROGRAMMING IN JAVA: 21UCA08

CO1: Remember the concepts of OOPS.

CO2: Understand the basic Terminologies of languages and statements.CO3:

Demonstrate the use classes and objects.

CO4: Evaluate the packages and exception handling methods.

CO5: Analyze the I/O Streams and graphics classes.

#### PRACTICAL IV- JAVA PROGRAMMING-: 21UCAP04

CO1: Study all the Basic Statements in java Programming.

CO2:Practice the usage of branching and looping statements.

CO3: Apply Packages and Interfaces.

CO4: Analysis the use of graphics tools in JAVA.

#### **COMPUTER NETWORKS: 21UCA07**

CO1 :Remember the concept of networks and its types

CO 2: Understanding the wireless communications.

CO3: Understand and Apply data link protocols.

CO4: Evaluate the network design issues.

CO5: Analyze the connection issues.

#### COST AND NANAGEMENT ACCOUNTING:

CO1: Define and outline the Meaning, Scope, Concept and Classification

of cost accounting in business.

CO2: Computation of cost sheet by understanding the concepts of cost.

CO3: Calculate the required budget for a business entity.

CO4: Detect the breakeven analysis of any kind of firm.

CO5: Measure the applications of marginal costing.

#### ACCOUNTS PRACTICAL:

CO 1:Preparation on invoice, receipts, vouchers, delivery challan, entry pass

CO2:Making entries in the passbook and filling account opening form

CO3:Loan application forms and deposit challan

CO4:Using bin card and inventories

CO5 :Preparation of an advertisement copy, collection of advertisement in details and journals.



# III Bachelor of Computer Applications COURSE OUTCOME

#### **PROGRAMMING IN PYTHON: 21UCA13**

CO1: Understand the Basic Programming Logic.

CO2: Understand the basic Statements.

CO3: Implement Files and SQL. CO4: Evaluate Graphics in python.

CO5: Analyze Version control system.

#### PRACTICAL-PYTHON PROGRAMMING: 21UCAP07

CO1: Study all the Basic commands.

CO2: Practice the usage of control flow statements.

CO3: Apply various commands in files and directories.

CO4: Analysis the use of MYSQL to connect database.

#### **QUANTITATIVE APTITUDE: 21UCAS01**

CO1: Remember the basic mathematical functions.

CO2: Understand the problems of ages, profits and loss.

CO3: Demonstrate the relationship of time with work and distance.

CO4: Implement permutation and combinations problem.

CO5:Analyze data representation methods.

#### **WIRELESS NETWORK: 21UCAE04**

CO1:Remember the basic concepts of WLAN technologies.

CO2: Understanding mobile IP.

CO3: Apply TCP enhancements.

CO4: Evaluate UTMS.

CO5: Implement 4G.

#### **INTERNET OF THINGS: 21UCAE09**

CO1: Remember IoT and Web technology.

CO2: Understanding M2M to IoT.

CO3:.Apply IoT Architecture.

CO4: Evaluate IoT Applications.

CO5: Implement IoT Privacy, Security and Governance.

#### DEPARTMENT OF PHYSICS

#### **SEMESTER-1V**

# CORE PHYSICS -OPTICS AND SPECTROSCOPY PAPERCODE 21UPH04

CO1: Learn Students will gain thorough knowledge

CO2: Study the geometry of lenses, interference, diffraction and polarization

**CO3:** Learn the perceptions will help to understand the spectroscopic

technique

# CORE PHYSICS PRACTIAL II PAPERCODE: 21UPHP02

**CO1:** Learn the basic principle of physics by doing related experiments

**CO2:** Study the properties of matter, optics, electricity, electromagnetism and basic electronics.

CO3: Determine the molecular weight of electromagnetism methods

**CO4:** Study the definitions and constituents of thermoplastic the spectroscopic techniques

# SBEC NANMUTHALVAN PAPERCODE: 21UPHS02

**CO1:** Understand the Thermodynamically laws, potential and functions. □

**CO2:** Understand the statistical physics.

**CO3:** Understand the Geometry of lenses.

**CO4:** Understand the Phenomena of optics.

#### **SEMESTER-VI**

# CORE PHYSICS -VIII ATOMIC PHYSICS PAPERCODE: 21UPH08

**CO1:** Acquire knowledge of the fundamentals of atomic physics.

**CO2:** Understand the concepts and potential of atomic physics

**CO3:** Analyses the atomic spectra.

**CO4:** Study the classification and structure and examples of atomic physics

**CO5:** Obtain knowledge on magnetic properties

#### **CORE PHYSICS -IX NUCLEAR PHYSICS**

PAPERCODE: 21UPH09

**CO1:** Acquire knowledge and apply it.

**CO2:** Acquire knowledge of the structure of the nucleus.

CO3: Understand the formation of the nucleus and its binding energy

**CO4:** Study the students can analyses the energy released by the nucleus during the fission and fusion process.

# CORE PYSICS-X QUANTUM MECHANICS RELATIVITY PAPERCODE 21UPH10

**CO1:** Study of basics concepts of quantum particles

**CO2:** Gain knowledge on the basic to construct and solve the particle equations in one dimension and three- dimension form.

**CO3:** Learn the knowledge of Relativity theory and its application in day to day life

CO4: Study the applications of concentrations cells, storage cells



# PAPERCODE: 21UPHE03

**CO1:** Study of conventional and non-conventional energy sources To know about solar energy in detail and its applications

**CO2:** Gain knowledge on wind energy

CO3: Learn the properties and applications of nanostructures

**CO4:** Study the biomass energy To understand the various modes of energy storage

# CORE PHYSICS PRACTICLA -III PAPERCODE: 21UPHP03

**CO1:** Learn the basic principle of physics by doing related experiments

**CO2:** Study the properties of matter, optics, electricity, electromagnetism and basic electronics.

**CO3:** Determine the molecular weight of electromagnetism methods

**CO4:** Study the definitions and constituents of thermoplastic the spectroscopic techniques

### CORE PHYSICS PRACTICLA -IV

PAPERCODE: 21UPHP04

**CO1:** Learn the basic role of various components in an electronic circuit

CO2: Study the properties to build the circuits such as amplifiers, oscillators

**CO3:** Determine the digital circuits and to do the simple programs in 8085 microprocessor techniques

# SBEC- VI MICROPROCESSOR AND ITS APPLICATIONS PAPERCODE: 21UPHS06

**CO1:** Overview of The student will be able to describe the general architecture and organization of 8085 microprocessors

**CO2:** Study the functional units and memory modes.

**CO3:** Will understand the instruction sets and simple programming techniques

**CO4:** Gather knowledge on the types and Conductivity Experiment.

**CO5:** Will be able to write simple programming



#### DEPARTMENT OF CHEMISTRY

#### **B.Sc CHEMISTRY**

#### **SEMESTER-II**

#### PROGRAMME OUTCOME (PO)

**PO1: Disciplinary knowledge:** Capable of demonstrating comprehensive knowledge and understanding of one or more disciplines that form a part of an undergraduate programme of study.

**PO2: Communication Skills:** Ability to express thoughts and ideas effectively in writing and orally; Communicate with others using appropriate media; confidently share one's views and express herself/himself; demonstrate the ability to listen carefully, read and write analytically, and present complex information in a clear and concise manner to different groups.

**PO3: Critical thinking**: Capability to apply analytic thought to a body of knowledge; analyse and evaluate evidence, arguments, claims, beliefs on the basis of empirical evidence; identify relevant assumptions or implications; formulate coherent arguments; critically evaluate practices, policies and theories by following scientific approach to knowledge development.

**PO4: Problem solving:** Capacity to extrapolate from what one has learned and applies their competencies to solve different kinds of non-familiar problems, rather than replicate curriculum content knowledge; and apply one's learning to real life situations.

**PO5: Analytical reasoning**: Ability to evaluate the reliability and relevance of evidence; identify logical flaws and holes in the arguments of others; analyze and synthesize data from a variety of sources; draw valid conclusions and support them with evidence and examples, and addressing opposing viewpoints.

**PO6:** Research-related skills: A sense of inquiry and capability for asking relevant/appropriate questions, problem arising, synthesising and articulating; Ability to recognise cause-and-effect relationships, define problems, formulate hypotheses, test hypotheses, analyse, interpret and draw conclusions from data, establish hypotheses, predict cause-and-effect relationships; ability to plan, execute and report the results of an experiment or investigation.

**PO7: Cooperation/Teamwork**: Ability to work effectively and respectfully with diverse teams; facilitate cooperative or coordinated effort on the part of a group, and act together as a group or a team in the interests of a common cause and work efficiently as a member of a team.



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**PO8: Scientific reasoning:** Ability to analyse, interpret and draw conclusions from quantitative/qualitative data; and critically evaluate ideas, evidence and experiences from an open-minded and reasoned perspective.

**PO9: Reflective thinking:** Critical sensibility to lived experiences, with self awareness and reflexivity of both self and society.

**PO10: Information/digital literacy**: Capability to use ICT in a variety of learning situations, demonstrate ability to access, evaluate, and use a variety of relevant information sources; and use appropriate software for analysis of data.

**PO11: Self-directed learning**: Ability to work independently, identify appropriate resources required for a project, and manage a project through to completion.

**PO12: Multicultural competence**: Possess knowledge of the values and beliefs of multiple cultures and a global perspective; and capability to effectively engage in a multicultural society and interact respectfully with diverse groups.

**PO13: Moral and ethical awareness/reasoning:** Ability to embrace moral/ethical values in conducting one's life, formulate a position/argument about an ethical issue from multiple perspectives, and use ethical practices in all work. Capable of demonstrating the ability to identify ethical issues related to one's work, avoid unethical behaviour such as fabrication, falsification or misrepresentation of data or committing plagiarism, not adhering to intellectual property rights; appreciating environmental and sustainability issues; and adopting objective, unbiased and truthful actions in all aspects of work.

**PO14:** Leadership readiness/qualities: Capability for mapping out the tasks of a team or an organization, and setting direction, formulating an inspiring vision, building a team who can help achieve the vision, motivating and inspiring team members to engage with that vision, and using management skills to guide people to the right destination, in a smooth and efficient way.

**PO15: Lifelong learning:** Ability to acquire knowledge and skills, including learning how to learn", that are necessary for participating in learning activities throughout life, through self-paced and self-directed learning aimed at personal development, meeting economic, social and cultural objectives, and adapting to changing trades and demands of work place through knowledge/skill development/reskilling.software for analysis of data.

#### GENERAL CHEMISTRY - II

**CO1:** Explain the concept of acids, bases and ionic equilibria; periodic properties of s and p block elements, preparation and properties of aliphatic and aromatic hydrocarbons.

**CO2:** Discuss the periodic properties of s and p- block elements, reactions of aliphatic and aromatic hydrocarbons and strength of acids.

**CO3:** Classify hydrocarbons, types of reactions, acids and bases, examine the properties of s and p-block elements, reaction mechanisms of aliphatic and aromatic hydrocarbons.

**CO4:** Explain theories of acids, bases and indicators, buffer action and important compounds of s-block elements.

**CO5:** Assess the application of hard and soft acids indicators, buffers, compounds of s and p- block elements and hydrocarbons.

#### COSMETICS AND PERSONAL CARE PRODUCTS

**CO1:** Know about the composition of various cosmetic products

**CO2:** Understand chemical aspects and applications of hair care and dental care and skin care products.

**CO3:** Understand chemical aspects and applications of perfumes and skin care products.

**CO4:** To understand the methods of beauty treatments their advantages and disadvantages

**CO5:** Understand the hazards of cosmetic products.

## QUALITATIVE ORGANIC ANALYSIS AND PREPARATION OF ORGANIC COMPOUNDS

**CO1:** Observe the physical state, odour, colour and solubility of the given organic compound.

**CO2:** Identify the presence of special elements and functional group in an unknown organic compound performing a systematic analysis.

**CO3:** Compare mono and dicarboxylic acids, primary, secondary and tertiary amines, mono and diamides, mono and polyhydric phenols, aldehyde and ketone, reducing and non-reducing sugars and explain the reactions behind it.

**CO4:** Exhibit a solid derivative with respect to the identified functional group.



#### SEMESTER-1V

#### GENERAL CHEMISTRY - IV PAPERCODE: 21UCH04

**CO1:** Learn about d-block elements & principles of metallurgy

**CO2:** Study the principle, theories of precipitation in gravimetric analysis

CO3: Learn the preparation and properties of unsaturated acids and hydroxy acids

**CO4:** Gather knowledge on reaction and mechanism of Kolbe's and Reimer - Tiemann

reaction etc.,

**CO5:** Study the basic concepts of second law of thermodynamics – II

#### SBEC-II POLYMER CHEMISTRY PAPERCODE: 21UCHS02

**CO1:** Learn the basic concepts and classification of polymers

**CO2:** Study the structure and properties of polymers

**CO3:** Determine the molecular weight of polymers by viscosity and osmometry methods

**CO4:** Gather knowledge on preparation, properties and uses of poly olefins

**CO5:** Study the definitions and constituents of thermoplastic and thermo setting

resins

## CORE PRACTICAL-I- VOLUMETRIC ESTIMATIONS AND ORGANIC PREPARATION PAPERCODE: 21UCHP01

**CO1:** Overview of acidimetry-alkalimetry titration.

**CO2:** Study the types of Permanganometry titration.

**CO3:** Learn the types and methods of Iodometry and iodimetry.

**CO4:** Gather knowledge on ComplexometricTitrations

**CO5:** Study the method of organic preparations.

#### **SEMESTER-VI**

## CORE CHEMISTRY-PAPER-VIII INORGANIC CHEMISTRY PAPERCODE:21UCH08

CO1: Study of organometallic compounds

CO2: Gain knowledge on metallic carbonyls.

**CO3:** Learn the essential and trace elements in biological processes **CO4:** Study the classification and structure and examples of silicates



**CO5:** Obtain knowledge on magnetic properties of transition metal complexes

## CORE CHEMISTRY-PAPER-IX ORGANIC CHEMISTRY PAPERCODE:21UCH09

**CO1:** Study and classification, constitution of glucose and fructose **CO2:** Gain knowledge on essential and non essential amino acids

CO3: Learn the principles of photochemistry

CO4: Study the classification and structure of steroids and vitamins

**CO5:** Obtain knowledge on heterocyclic compounds

## CORE CHEMISTRY-PAPER-X PHYSICAL CHEMISTRY PAPERCODE:21UCH10

CO1: Study of solutions of gases in liquids

**CO2:** Gain knowledge on phase rule-one and two component systems.

**CO3:** Learn the types of reversible single electrodes

**CO4:** Study the applications of concentrations cells, storage cells

**CO5:** Obtain knowledge on photochemistry

## ELECTIVE PAPER -II - NANO & GREEN CHEMISTRY PAPERCODE:21UCHE02

**CO1:** Study of introduction to nanoscale materials **CO2:** Gain knowledge on method of nanomaterials

**CO3:** Learn the properties and applications of nanostructures

**CO4:** Study the principles of green chemistry

**CO5:** Obtain knowledge on phase transfer catalyst.

## ELECTIVE PAPER-III INDUSTRIAL CHEMISTRY PAPERCODE:21UCHE03

**CO1:** Study of Classification of fuels

**CO2:** Gain knowledge on Introduction Sources of water

CO3: Learn the Manufacture of sugar from molasses and beetroot from sugar

industries



(Recognized under section 2(f) & 12(B) of UGC Act 1956) ( Affiliated to Periyar University, Salem)

**CO4:** Study the Renewable and non renewable sources of energy

CO5: Obtain knowledge on Industrial Wastes and Treatment Processes

#### SBEC-V PHARMACEUTICAL CHEMISTRY PAPER CODE:21UCHS05

CO1: Study of pharmacophore, pharmacodynamics

**CO2:** Gain knowledge on Antibiotics **CO3:** Learn the action of Analgesics **CO4:** Study the uses of Anaesthetics

CO5: Obtain knowledge on Diabetics causes, prevention and control

## CORE PRACTICAL-III- PHYSICAL CHEMISTRY PRACTICALS PAPERCODE: 21UCHP03

**CO1:** Overview of Kinetics.

**CO2:** Study the method of Molecular weight determination.

**CO3:** Learn the types and methods of Heterogenous Equillibrium and Phase rule.

**CO4:** Gather knowledge on the types and Conductivity Experiment.

**CO5:** Study the method of Potentiometry.

## CORE PRACTICAL-IV- GRAVIMETRIC ESTIMATIONS AND ORGANIC PRACTICALS PAPERCODE: 21UCHP04

**CO1:** Overview of gravimetric estimations.

**CO2:** Study the method and types of gravimetric estimations.

**CO3:** Learn the types and methods of organic qualitative analysis



#### **DEPARTMENT OF MICROBIOLOGY (UG)**

#### SEMESTER-II

## CORE II- MICROBIAL PHYSIOLOGY AND METABOLISM PAPER CODE- 23UMB02

**CO1:** Describe microorganisms based on nutrition.

**CO2:** Know the concept of microbial growth and identify the factors affecting bacterial growth.

**CO3:** Explain the methods of nutrient uptake.

**CO4:** Describe anaerobic and aerobic energy production.

**CO5:** Elaborate on the process of bacterial photosynthesis and reproduction.

## ELECTIVE-II- BIOINSTRUMENTATION PAPER CODE- 23UMBE02

**CO1:** Gain knowledge about the basics of instrumentation.

**CO2:** Exemplify the structure of atoms and molecules by using the principles of spectroscopy.

**CO3:** Evaluate by separating and purifying the components.

**CO4:** Understand the need and applications of imaging techniques.

**CO5:** Categorize the working principle and applications of fluorescence and radiation.

## SBEC- SERICULTURE PAPER CODE- 23UBSE03

**CO1:** Discuss the overall aspects of Sericulture and the biology and varieties of mulberry plant. Creates awareness among students about the economic importance and suitability of Sericulture in Indian conditions.

**CO2:** Familiarize with the lifecycle of silk worm.

**CO3:** Explain common diseases of silkworm encountered during rearing, sources of infection, disease symptoms, pre-disposing factors and their management practices.

**CO4:** Attain thorough knowledge about the cultivation of mulberry, maintenance of the farm, seed technology, silkworm rearing, post cocoon techniques like stifling, reeling, and utilization of by-products.



**CO5:** Plan the facilities required for establishment of insectary. Competent to transfer the knowledge and technical skills to the Seri-farmers. Analyze the importance of sericulture in entrepreneurship development and emerge as potential entrepreneur.

#### NMEC-HEALTH AND NUTRITION PAPER CODE- 23UBCN01

- **CO1:** Understand about the importance of health and diet.
- **CO2:** Discuss about the classification properties and deficiencies of vitamins.
- CO3: Understand about sources and functions of fats and lipids on health.
- **CO4:** Detail about the different typed of minerals and its role in health.
- **CO5:** Relate the role of proteins and carbohydrates on health.

# CORE PRACTICAL II- MICROBIAL PHYSIOLOGY AND METABOLISM PAPER CODE: 23UMBCP02

- **CO1:** Describe hanging drop, wet mount preparation, semi-solid agar, Craigie's tube method.
- **CO2:** Demonstrate Smear preparation, permanent specimen preparation, Capsular, and Acid-fast staining.
- **CO3:** Explain antibiotic sensitivity testing: Disc diffusion test- quality control with standard strains.
- **CO4:** Describe demonstration of the size of yeast, fungal filaments and protozoa.
- **CO5:** Elaborate on the bacterial identification- morphological, physiological, and biochemical methods.

### **SEMESTER-IV**

# CORE - IV - IMMUNOLOGY AND IMMUNOTECHNOLOGY PAPER CODE- 21UMB04

**CO1:** The students will get overall understanding of history and evolution of immunology and immune response developed by human system.

**CO2:** To understand the concepts of antigen antibody interactions and influence on human immune system via hypersensitivity reactions, autoimmune diseases etc.

**CO3:** Detailed understanding of Immunoheamatology, Transplanatation Immunology and Vaccines which will make the minds aware of infection, prevention and control.

**CO4:** Help the students to learn techniques involved in immunological concepts and its role in diagnostic immunology.

## NMEC II-BIOCHEMISTRY IN DIAGNOSIS PAPER CODE- 21UBCN04

**CO1:** On completion of the course, students will be able to understand Biophysical techniques for carrying out research in life sciences.

**CO2:** Planning of experiment based on biophysical tools.

# PRACTICAL - IV - IMMUNOLOGY AND IMMUNOTECHNOLOGY PAPER CODE- 21UMBP04

**CO1:** To understand the concepts of antigen, antibody interactions and influence on human immune system via hypersensitivity reactions, autoimmune diseases etc.

**CO2:** Detailed understanding of Immunoheamatology, Transplanatation Immunology and Vaccines which will make the minds aware of infection, prevention and control.

**CO3:** Help the students to learn techniques involved in immunological concepts and its role in diagnostic immunology.



# ALLIED- COMPUTER APPLICATIONS IN OFFICE PAPER CODE- 21UCSA05

**CO1:** Remember the basics of MS word.

CO2: Understand MS word.

**CO3:** Demonstrate the functions of MS excel.

**CO4:** Study the basics of MS excel workbooks.

**CO5:** Analyze of data processing with MS power point.

# ALLIED PRACTICAL - OFFICE AUTOMATION LAB PAPER CODE- 21UCSAP01

**CO1:** To enable the students to design and develop the Office applications.

**CO2:** To qualify the students working in editor, spread sheet and slide preparation.

**CO3:** To improve creative thinking in presentation software.



### **SEMESTER-VI**

# CORE – VIII -SOIL AND AGRICULTURAL MICROBIOLOGY PAPER CODE- 21UMB08

**CO1:** Able to understand the distribution of microbes in soil.

**CO2:** Capable to get information about biogeochemical cycle.

**CO3:** Able to get the knowledge about microbial interaction.

**CO4:** Capable to get idea about plant disease.

# CORE - IX - ENVIRONMENTAL MICROBIOLOGY PAPER CODE- 21UMB09

**CO1:** Able to understand about the microbial diversity in environmental.

**CO2:** Capable to get information about the ecosystem.

**CO3:** Able to get overall understand the pollution.

**CO4:** Capable to understand basic knowledge about bioremediation.

# CORE - X - INDUSTRIAL MICROBIOLOGY PAPER CODE- 21UMB10

**CO1:** Able to select and design a fermentation process for a specific product.

**CO2:** Capable of identifying industrially important microbes and its potential applications.

**CO3:** Able to device means to improve the production rate of existing fermentation processes.

**CO4:** Capable of designing processes for higher production yield at economically cheaper rate.



# PAPER CODE- 21UMBE02

**CO1:** Basic understanding of fungi, their morphology and culture methods of fungi.

**CO2:** Obtain knowledge on pathogenicity and laboratory diagnosis of medically important fungi.

**CO3:** Grasp knowledge on mycotoxins and their importance.

**CO4:** Gain knowledge on antifungal agents and their testing methods.

# SBEC IV - ENTREPRENEURIAL MICROBIOLOGY PAPER CODE- 21UMBS04

**CO1:** To make Knowledge about the role of microbes in Industries.

**CO2:** Gained knowledge about fermented products.

**CO3:** To understand the significance of patenting.

**CO4:** Able to make the studentsideally skilled forself-employment.

# PRACTICAL- VI – AGRICULTURAL, ENVIRONMENTAL AND INDUSTRIAL MICROBIOLOGY PAPER CODE- 21UMBP06

**CO1:** Isolation and identification of diseases producing bacteria from soil samples.

CO2: Micro organism present as Bio fertilizers.

**CO3:** Soil pathogens.

**CO4:** Degradation process in soil.

# DEPARTMENT OF BIOTECHNOLOGY BSC BIOTECHNOLOGY SEMESTER-II

### CORE PAPER III GENETICS

**SUBJECT CODE: 23UBTCT03** 

**CO1**: Obtain acquaintance on historical overview of microbial genetics and genetic Materials

CO2: Comprehend the concept of replication of genetic materials

CO3: Understand about regulation of gene expression and mutation

CO4: Grasp the Basic of genetics and their role

CO5: Gain knowledge on mutation

### CORE PAPER IV : HUMAN PHYSIOLOGY

SUBJECT CODE: 23UBTCT04

**CO1:** To build an in depth knowledge about basic physiological principles of various organs in the human body.

**CO2:** To understand physiology of various systems and its functions.

 $\textbf{CO3:} \ \ \textbf{To get adequate knowledge on cardiovascular system and skeletal system}$ 

CO4: To understand physiology of excretory system

CO5: To get adequate knowledge on sensory organs.

### ELECTIVE II-FUNDAMENTALS OF MICROBIOLOGY

SUBJECT CODE: 23UBTDE02

**CO1:** Remember and recall the historical events which paved the development of different types of microscopes.

**CO2:** Understand and differentiate the different types of microbes

CO3: Analyze the media composition and grow the desired microbe

**CO4:** Apply the knowledge to enumerate the microorganisms from natural environment.

**CO5:** Evaluate the success of understanding the microbial diseases



### CORE PRACTICAL II – GENETICS AND MICROBIOLOGY

SUBJECT CODE: 23UBTCP02

CO1: Examine and evaluate the stages of Mitosis

**CO2:** Analyze the sex chromatin present in different cells

CO3: Be aware of the laboratory rules and regulations

CO4: Learns to visualize the cells by employing different types of microscopes

**CO5:** Bring in the concepts of microbial culturing techniques

### SEC III: VERMICOMPOST TECHNOLOGY

PAPER CODE: 23UBTSE01

- **CO 1:** Find out Vermicomposting is an eco-friendly, economically and socially acceptable technology
- **CO 2:** Illustrate that Vermitechnology is useful for stabilization and recycling of both industrial and domestic organic waste.
- **CO 3:** Utilize Vermitechnology to improve the soil texture, soil aeration, improve the water retention capacity in the soil
- **CO 4:** Improve Vemitechnology to manufacture the vermicompost in small scale industry by which the economy of the farmer is improved. It provides the employment opportunity in rural and urban areas.
- **CO 5:** Justify and prove that the Earthworms are having the capacity to observe heavy metals into their body tissues and converting the soil without heavy metals.

### SEMESTER-IV

## CORE IV: MOLECULAR BIOLOGY PAPER CODE: 23UBTCP02

- **CO 1:** Learning structural levels of nucleic acids- DNA and RNA and genome organization in prokaryotes and eukaryotes Understanding the concept of Gene and the gene architecture.
- **CO 2:** Overview of the central dogma of life and various molecular events Learning molecular events in the DNA replication and role of different enzymes
- **CO 3:** Molecular Events Translation leading to protein synthesis and Post translational modification. Understanding the regulation of gene expression in prokaryotes using operon concept and Eukaryotes.

# CORE PRACTICAL IV: LAB IN MOLECULAR BIOLOGY PAPER CODE: 21UBTP04

- **CO 1:** To acquire knowledge about basic molecular biology tools
- **CO 2:** To develop the skills in isolating and identifying the challenges in molecular biology
- **CO 3:** Related tools To develop the skill for implementing new project plants

### SEMESTER-VI

# CORE VIII: ANIMAL BIOTECHNOLOGY PAPER CODE: 21UBTP08

- **CO 1:** To develop an understanding on basic pattern of animal cell culture and controlling characters
- **CO 2:** Acquire knowledge on handling animal cell culture and their applications
- **CO 3:** Understand the gene transfer technology , transgenic animal and stem cell technology
- **CO 4:** Emphasize techniques on fertilization in animals and its development
- **CO 5:** Highlight the applications of animal biotechnology in various fields

# CORE IX: PROTEOMICS AND GENOMICS PAPER CODE: 21UBTP09

**CO 1:** In this course, students will develop the molecular skills, knowledge about the handling of instruments for different applications.

### CORE X: BIOPROCESS AND ENZYME TECHNOLOGY PAPER CODE: 21UBT10

- **CO 1:** Narrate the scope and economics of Microbial Biotechnology
- **CO 2:** Understand the need of microbial products for the mankind
- **CO 3:** Examine the learned techniques in production of industrially important products
- **CO 4:** Think about the innovativeness in the production of new beneficial metabolites



### PAPER CODE :21UBTE03

- **CO 1:** Narrate the scope and economics of Food Biotechnology
- **CO 2:** Understand the need of edible vaccine products for the mankind
- **CO 3:** Examine the learned techniques in production of Genetically modified food.
- **CO 4:** Think about the innovativeness in the production of new beneficial food flavoring agents.

## SBEC IV: PHARMACUETICAL BIOTECHNOLOGY PAPER CODE: 21UBTS04

**CO 1:** Compare and contrast the specific pharmacology of the major classes of drugs, important distinctions among members of each class

**CO 2:** Understand the medicinal and pharmaceutical importance of drug compounds Analyze the fundamental principles of pharmacokinetics and pharmacodynamics.

### CORE PRACTICAL – VII : LAB IN ANIMAL BIOTECHNOLOGY PAPER CODE: 21UBTP07

- **CO 1:** Understand the practical skills in animal biotechnology
- **CO 2:** Acquires skills in animal tissue culture
- **CO 3:** Examining and analyzing the results involved in animal tissue culture technique

# CORE PRACTICAL – VIII: LAB IN BIOPROCESS TECHNOLOGY AND ENZYMOLOGY PAPER CODE: 21UBTP08

**CO 1:** Acquire an overview about the fundamentals of Bioprocess Technologyand enzymology tools and their application in industry, agriculture and milk production

### **DEPARTMENT OF COMMERCE**

#### **COURSE OUTCOME**

Core Paper III -FINANCIAL	ACCOUNTING II
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- **CO1** To evaluate the Hire purchase accounts and Installment systems
- **CO2** To prepare Branch accounts and Departmental Accounts
- CO3 To understand the accounting treatment for admission and retirement in partnership
- **CO4** To know Settlement of accounts at the time of dissolution of a firm.
- **CO5** To elaborate the role of IFRS.

### **Core Paper IV- BUSINESS LAW**

- **CO1** Explain the Objectives and significance of Mercantile law
- CO2 Understand the clauses and exceptions of Indian Contract Act. 50
- **CO3** Outline the contract of indemnity and guarantee
- **CO4** Familiar with the provision relating to Bailment and Pledge
- CO5 Explain the various provisions of Sale of Goods Act 1930

### **Elective II - BUSINESS ENVIRONMENT**

- CO1 Remember the nexus between environment and business.
- **CO2** Apply the knowledge of Political Environment in which the businesses operate.
- **CO3** Analyze the various aspects of Social and Cultural Environment.
- **CO4** Evaluate the parameters in Economic Environment.
- **CO5** Create a conducive Technological Environment for business to operate globally.

### **SEC 3 - INDUSTRIAL LAW**

- **CO1** Remember and recall the various concepts of Factories act 1948
- CO2 Demonstrate the. Provisions and concepts of Industrial Disputes Act, 1947
- CO3 Analyze the various measures and policies in The Workmen's Compensation Act .
- **CO4** Examine the different aspects of ESI and EPF Act.
- **CO5** Critically evaluate the Case studies relating to Bonus Act..

#### **SEMESTER-4**

### CORE-IX CORPORATE ACCOUNTING -II (21UCM09)

- **CO1** Recognize the basic concepts of corporate accounting in conformity With the provisions of companies act.
- **CO2** Discuss the concepts and basic principles related to issue of equity and preference shares, debentures, valuation of goodwill and liquidation of companies.
- **CO3** Prepare the journal entries related to issue of equity and preference shares and debentures. Compute managerial remuneration and statement of affairs account.
- **CO4** Illustrate the concepts regarding issue of shares at discount, par, premium.
- **CO5** Determine the calculations related to managerial remuneration deficiency account, sinking fund method.

### SEMESTER -IV

### CORE -VIII COMPANY LAW (21UCM08)

- **CO1** pre-incorporation matters (promoters and pre-incorporation contracts); incorporation
- **CO2** Types of companies, corporate personality, piercing the corporate veil, company constitutions, corporate powers and their division
- **CO3** Membership and the general meeting; directors; meetings of directors; duties and liability of directors; corporate governance

**CO4** To provide with knowledge and appreciation of the major core topics in Company Law including the legal nature of the company as a business structure

**CO5** The legal implications of separate corporate personality including limited liability, the validity of contracts made with companies

**CO6** The role of the board of directors and their legal duties as directors and the legal protection of shareholders

#### SEMESTER - IV

### CORE -X PRINCIPALS OF MARKETING (21UCM11)

- **CO1** Describe and define the modern marketing concepts, trends in marketing, E- marketing, Tele marketing.
- **CO2** Explain and extend the various functions of marketing such as buying, selling, transportation, storage activities.
- **CO3** Discover the behaviors of consumer, factors influencing consumer behavior and sketch the segmentations of market.
- **CO4** Categorize and classify market segmentation, market mix, price mix, product mix, place mix.
- **CO5** Justifying the importance and functions of middle men and channel.

### SBEC III PROJECT METHODOLOGY (21UCMS02)

- CO1 Understand project characteristics and various stages of a project
- CO2 Understand the conceptual clarity about project organization and feasibility analyses Market, Technical, Financial and Economic.
- **CO3** Analyze the learning and understand techniques for Project planning, scheduling and Execution Control
- **CO4** Apply the risk management plan and analyze the role of stakeholders, Understand the contract management, Project Procurement, Service level Agreements and productivity
- **CO5** Understand the How Subcontract Administration and Control are practiced in the Industry.

### **SEMESTER -VI**

### CORE - XV MANAGEMENT ACCOUNTING (21UCM15)

- **CO1** Describe the conceptual framework of management accounting.
- **CO2** Express the concepts of ratio analysis, break even analysis, fund flow management.
- **CO3** Calculate the required budget for a business entity.
- **CO4** Detect the breakeven analysis of any kind of firm.
- **CO5** Measure the applications of marginal costing.
- **CO6** Designing the required budget such as master budget, cash budget, sales budget.

#### **SEMESTER -VI**

### CORE XVII: INCOME TAX LAW AND PRACTTCE - II (21UCM17)

After the successful completion of this course, the students will be able to

**CO1:** Acquire the knowledge about the basic principles and concepts of Income tax.

**CO2:** Evaluate and apply the permissible exemptions and deductions from income under Income tax Act.

**CO3:** Gain practical knowledge in computing tax liability of an individual and the filing of Income tax rectums.

CO4: Explore and apply the permissible exemptions and deductions from income under Income tax Act

**CO5:** Make the students understand the basic concepts, definitions and terms related to direct taxation

#### **SEMESTER -VI**

### CORE -XVI ENTREPRENEURIAL DEVELOPMENT (21UCM16)

- **CO1** Understand the basic development of entrepreneurship as a profession.
- CO2 Basic knowledge of human resource management for small business
- **CO3** Identify and implement systems for collecting and analyzing information to monitor the performance of a new firm

**CO4** Understand the differences between an entrepreneurial venture and an ongoing business operation.

**CO5** Describe and summarize the latest programs of the government authorities in promoting small and medium industries.

#### **SEMESTER-VI**

### **Elective II - FUNDAMENTALS OF INSURANCE (21UCNE04)**

- **CO1** To analyze the sources of risk in Insurance policies.
- **CO2** To apply the management techniques for avoidance of risk.
- **CO3** Forward Contract and Futures Contract to hedge the unsystematic Risk.
- **CO4** Gain insight knowledge on types of insurance to be needed in an hour for an individual.
- **CO5** To evaluate the factors of business risk and contractual provisions

### **SEMESTER-VI**

### **CORE XVIII - COMMERCE PRACTICAL (21UCMP01)**

- CO1 Preparation on invoice, receipts, vouchers, delivery Challan, entry pass
- **CO2** Making entries in the passbook and filling account opening form
- CO3 Loan application forms and deposit Challan
- **CO4** Using bin card and inventories
- **CO5** Preparation of an advertisement copy, collection of advertisement in details and journals.

### DEPARTMENT OF COMMERCE CA

### **COURSE OUTCOME**

### **SEMESTER II**

### Core Paper III -FINANCIAL ACCOUNTING II

- CO1 To evaluate the Hire purchase accounts and Installment systems
- **CO2** To prepare Branch accounts and Departmental Accounts
- **CO3** To understand the accounting treatment for admission and retirement in partnership
- **CO4** To know Settlement of accounts at the time of dissolution of a firm.
- **CO5** To elaborate the role of IFRS.

### Core Paper IV- BUSINESS LAW

- **CO1** Explain the Objectives and significance of Mercantile law
- **CO2** Understand the clauses and exceptions of Indian Contract Act. 50
- **CO3** Outline the contract of indemnity and guarantee
- **CO4** Familiar with the provision relating to Bailment and Pledge
- **CO5** Explain the various provisions of Sale of Goods Act 1930

### SEC 3 - INDUSTRIAL LAW

- **CO1** Remember and recall the various concepts of Factories act 1948
- **CO2** Demonstrate the. Provisions and concepts of Industrial Disputes Act, 1947
- **CO3** Analyze the various measures and policies in The Workmen's Compensation Act.
- **CO4** Examine the different aspects of ESI and EPF Act.
- **CO5** Critically evaluate the Case studies relating to Bonus Act..

#### SEMESTER IV

### CORE VIII E-COMMERCE (21UCC07)

- **CO1** Remember the concept of networks and its types.
- **CO2** Understanding the wireless communications
- **CO3** Understand and Apply data link protocols
- **CO4** Evaluate the network design issues
- **CO5** Analyze the connection issues

### CORE-IX CORPORATE ACCOUNTING -II (21UCC08)

- **CO1** Recognize the basic concepts of corporate accounting in conformity With the provisions of companies act.
- **CO2** Discuss the concepts and basic principles related to issue of equity and preference shares, debentures, valuation of goodwill and liquidation of companies.
- **CO3** Prepare the journal entries related to issue of equity and preference shares and debentures. Compute managerial remuneration and statement of affairs account.
- **CO4** Illustrate the concepts regarding issue of shares at discount, par, premium.
- **CO5** Determine the calculations related to managerial remuneration deficiency account, sinking fund method.

### CORE-X - COMPUTER PRACTICAL-II Tally (21UCCP02)

- **CO1** Express the place and role of cost accounting in the modern economic environment and select the costs according to their impact on business
- **CO2** Differentiate methods of schedule costs per unit of production and differentiate methods of calculating stock consumption.
- **CO3** Calculate the different methods of wage payment according to their efficiency of the labourer.

### SBEC III PROJECT METHODOLOGY (21UCCS04)

- **CO1** Understand project characteristics and various stages of a project
- **CO2** Understand the conceptual clarity about project organization and feasibility analyses Market, Technical, Financial and Economic.
- CO3 Analyze the learning and understand techniques for Project planning,



scheduling and Execution Control

- **CO4** Apply the risk management plan and analyze the role of stakeholders, understand the contract management, Project Procurement, Service level Agreements and productivity
- **CO5** Understand the How Subcontract Administration and Control are practiced in the Industry.

### SBEC-IV HUMAN RESOURCE MANAGEMENT (21UCCS03)

- **CO1** Understand the basic concepts of human resource management
- **CO2** Analyze the needs for human resource planning and job analysis.
- **CO3** Facilitate the knowledge about performance appraisal and different method.
- **CO4** Provide an idea about different compensation policies.

#### SEMESTER -VI

### CORE - XV MANAGEMENT ACCOUNTING (21UCC13)

- **CO1** Describe the conceptual framework of management accounting.
- **CO2** Express the concepts of ratio analysis, break even analysis, fund flow management.
- **CO3** Calculate the required budget for a business entity.
- **CO4** Detect the breakeven analysis of any kind of firm.
- **CO5** Measure the applications of marginal costing.
- **CO6** Designing the required budget such as master budget, cash budget, sales budget.

### CORE X VII: INCOME TAX LAW AND PRACTICE - II (21UCC15)

After the successful completion of this course, the students will be able to

- **CO1:** Acquire the knowledge about the basic principles and concepts of Income tax.
- **CO2:** Evaluate and apply the permissible exemptions and deductions from income under Income taxAct.
- **CO3:** Gain practical knowledge in computing tax liability of an individual and the filing of Income tax rectums.
- **CO4:** Explore and apply the permissible exemptions and deductions from income under Income tax Act



**CO5:** Make the students understand the basic concepts, definitions and terms related to direct taxation

### CORE -XVI ENTREPRENEURIAL DEVELOPMENT (21UCC14)

- **CO1** Understand the basic development of entrepreneurship as a profession.
- **CO2** Basic knowledge of human resource management for small business
- **CO3** Identify and implement systems for collecting and analyzing information to monitor the performance of a new firm
- **CO4** Understand the differences between an entrepreneurial venture and an ongoing business operation.
- **CO5** Describe and summarize the latest programs of the government authorities in promoting small and medium industries.

### **Elective II - FUNDAMENTALS OF INSURANCE (21UCCE04)**

- **CO1** To analyze the sources of risk in Insurance policies.
- **CO2** To apply the management techniques for avoidance of risk.
- **CO3** Forward Contract and Futures Contract to hedge the unsystematic Risk.
- **CO4** Gain insight knowledge on types of insurance to be needed in an hour for an individual.
- **CO5** To evaluate the factors of business risk and contractual provisions

### **CORE XVIII - COMMERCE PRACTICAL (21UCCP03)**

- **CO1** Preparation on invoice, receipts, vouchers, delivery Challan, entry pass
- **CO2** Making entries in the passbook and filling account opening form
- **CO3** Loan application forms and deposit Challan
- **CO4** Using bin card and inventories
- **CO5** Preparation of an advertisement copy, collection of advertisement in details and journals.



(Recognized under section 2(f) & 12(B) of UGC Act 1956) ( Affiliated to Periyar University, Salem)



(Recognized under section 2(f) & 12(B) of UGC Act 1956) ( Affiliated to Periyar University, Salem)

# DEPARTMENT OF BUSINESS ADMINISTRATION SEMESTER: II

CORE PAPER III: MARKETING MANAGEMENT PAPER CODE: 23UBA03

**CO1**: To list and identify the core concepts of Marketing and its mix.

**CO2:** To sketch the market segmentation, nature of product

**CO3**: To analyze the appropriate pricing methods.

**CO4:** To determine the importance of various media

CO5: To assess the sales force and applications of digital marketing

# CORE PAPER IV: Accounting for Managers II CORE PAPER IV: 23UBA04

**CO1:** Interpret cost sheet & write comments.

**CO2:** Compare cost, management & financial accounting

CO3: Analyze the various ratio and compare it with standards to assess

deviations

CO4: Estimate budget and use budgetary control.

**CO5**: Evaluate marginal costing and its components

ELECTIVE II: International Business CORE PAPER: 23UECA02

### Course outcome:

CO1: Discuss the modes of entry to International Business.

CO2: Explain international trade theories.

CO3: Understand Foreign exchange market and FDI.

CO4: Outline the Global Business Environment.

CO5: Identify the relevance of international institutions and trading blocs.

NMEC: Advertising Paper Code: 21UCMN02

### Course outcome:

CO 1 : Define advertising, analyze its objectives, evaluate its scope and benefits, and identify media elements used in advertising

CO2: Differentiate types of advertising agencies, assess criteria for selecting agencies, and demonstrate effective client-agency relationship management.

CO3: Explain the communication process and analyze advertising's role in brand building and managing brand crises.

CO4: Apply effective copy writing techniques, identify copy elements and types, utilize layout principles and execution styles, and conduct per-testing and post-testing of advertisements.



SEMESTER: IV

**CORE - VIII : Production and Materials Management** 

PAPER CODE: 21UBA08

**CO1:** Identify the need for production management

CO 2: Plan the production activity and design the plant layout

**CO3:** Acquire knowledge of material handling

**CORE - IX : MANAGEMENT ACCOUNTING** 

PAPER CODE: 21UBA09

**CO1:** Understand the fundamentals of management accounting

CO2: Classify overheads

CO3: Prepare master budget.

CORE - X : BUSINESS LAW PAPER CODE : 21UBA10

**Co1:** Legal insight will be established in the business practices according to the situation of changing environment.

SBEC - III : ADVERTISING PAPER CODE : 22UBAS03

**CO1:** To prepare the students for measuring advertising

CO2: To make the students to measure media effectiveness.

Allied - IV : TAXATION
PAPER CODE : 22UECA04

**CO1:** To define and understand the basic concepts of tax.

**CO2**: To evaluate the rules of Income Tax and methods of valuation for customs.

### SEMESTER - VI

CORE XVIII: Strategic Management

PAPER CODE: 21UBA18

**CO1:** Demonstrate the concepts of strategic management benefits received by the organization.

**CO2:** Acquire knowledge on guidelines to formulate mission, goals and objectives.

**CO3:** Implement the knowledge gained in strategy selection.

CO4: Analyze the factors and approaches to implement the strategy

**CO5:** Understand the importance and criteria for strategic evaluation and control.



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**CORE XIX: FINANCIAL MARKETS AND SERVICES** 

PAPER CODE: 21UBA17

**CO1:** The field of capital markets has been studied clearly

CO 2: The knowledge about financial market has been understood

CORE XX: Entrepreneurial Development

PAPER CODE: 21UBA19

**CO1:** On the successful completion of the course, students will be able

**CORE XXI: Services Marketing** 

PAPER CODE: 21UBA20

**CO1:** Differentiate between Goods and Service

CO2: Know the dimensions and factors affecting service quality

**CO3:** Understand various service marketing mix elements

**CO4:** Apply service marketing concepts in various service industries.

SBEC - IV: Campus to Corporate

Paper Code: 21UBASTR01

**CO1:** Make their presentation more effective

**CO2:** Be a good team player

**CO3:** Perform better in GD and Interview.

### DEPARTMENT OF COMMERCE(ACCOUNTING & FINANCE)

# SEMESTER - II CORE - III: FINANCIAL ACCOUNTING-II PAPER CODE: 23UAF03

- **CO1** To evaluate the Hire purchase accounts and Instalment systems
- **CO2** To prepare Branch accounts and Departmental Accounts
- **CO3** To understand the accounting treatment for admission and retirement in partnership
- **CO4** To know Settlement of accounts at the time of dissolution of a firm.
- **CO5** To elaborate the role of IFRS

## CORE – IV: BUSINESS LAW PAPER CODE: 23UAF04

- **CO1** Explain the Objectives and significance of Mercantile law
- **CO2** Understand the clauses and exceptions of Indian Contract Act.
- **CO3** Outline the contract of indemnity and guarantee
- **CO4** Familiar with the provision relating to Bailment and Pledge
- **CO5** Explain the various provisions of Sale of Goods Act 1930

### Elective II – HUMAN RESOURCE MANAGEMENT PAPER CODE: 23UAFE05

- **CO1** Examine the role of HRM in the new age organisation and plan man power requirements and implement techniques of job design.
- **CO2** Formulate action plans for employee Recruitment and Selection.
- **CO3** Choose appropriate methods of Trainning
- **CO4** Estimate, defend and handle legal compliance in HRM involving trade union disputes and employee retention.
- **CO5** Formulate strategies for employee welfare

# SEC - 3- INDUSTRIAL LAW PAPER CODE: 23UAFF03

- **CO1** Remember and recall the various concepts of Factories act 1948
- CO2 Demonstrate the. Provisions and concepts of Industrial Disputes Act, 1947
- CO3 Analyse the various measures and policies in The Workmen's Compensation Act.
- **CO4** Examine the different aspects of ESI and EPF Act.
- **CO5** Critically evaluate the Case studies relating to Bonus Act..

### SEMESTER – IV CORE-VIII - COMPANY LAW PAPER CODE: 21UAF08

- **CO1** pre-incorporation matters (promoters and pre-incorporation contracts); incorporation
- **CO2** Membership and the general meeting; directors; meetings of directors
- CO3 Duties and liability of directors; corporate governance
- CO4 Differentiate Investment Vs Speculation, derivatives
- **CO5** The legal implications of separate corporate personality including limited liability, the validity of contracts made with companies

# CORE-IX - CORPORATE ACCOUNTING-II PAPER CODE: 21UAF09

- **CO1** Recognize the basic concepts of corporate accounting in conformity with the provisions of companies act.
- **CO2** Discuss the concepts and basic principles related to issue of equity and preference shares, debentures, valuation of goodwill and liquidation of companies.
- **CO3** Prepare the journal entries related to issue of equity and preference shares and debentures. Compute managerial remuneration and statement of affairs account.
- **CO4** Illustrate the concepts regarding issue of shares at discount, par, premium.
- **CO5** Determine the calculations related to managerial remuneration, deficiency account, sinking fund method.

# ALLIED IV - BUSINESS STATISTICAL DECISION TECHNIQUES PAPER CODE: 21USTA022

- **CO1** To apply the concept of matrices and cramer rule on problems of linear equations.
- **CO2** -To impact the knowledge of sequences and summation of series.
- **CO3** -Use discrete and continuous probability distribution.
- **CO4** Know the various techniques of OR. Translate a real-world problem, given in words into a mathematical formulation.
- **CO5** Analyze the results and propose recommendations to the decision making process.

### SBEC - III - PROJECT METHODOLOGY PAPER CODE: 21UAFS03

- **CO1** To Understand basic knowledge about the Project
- CO2 To know how to identify the Project Problems
- **CO3** To know how to Write the Review of Literature
- **CO4** To know how to Write the interpretation and justification.
- CO5 Project Report Writing

# SBEC - IV - FUND MANAGEMENT PAPER CODE: 21UAFS04

- **CO1** To estimate Working Capital Requirement
- **CO2** To evaluate the Working Capital
- **CO3** To find out the Cash Management
- **CO4** To known the Receivable Management
- **CO5** To evaluate the Inventory Management

# CORE-XV - MANAGEMENT ACCOUNTING PAPER CODE: 21UAF15

- **CO1** Describe the conceptual framework of management accounting.
- **CO2** Express the concepts of ratio analysis, break even analysis, fund flow management.
- **CO3** Calculate the required budget for a business entity.
- **CO4** Detect the breakeven analysis of any kind of firm.
- **CO5** Designing the required budget such as master budget, cash budget, sales budget.

### CORE - XVI - FINANCIAL MANAGEMENT PAPER CODE: 21UAF16

- **CO1** Define the importance of Financial Management in an organization
- **CO2** Demonstrate the concepts related to Risk and return, cost of capital, Leverages, Dividend policies of a firm.
- **CO3** Generalize the various aspects of Financial Management strategy in organization
- **CO4** Illustrate Risk and return, cost of capital , Leverages, Dividend policies of a firm
- **CO5** Determine the aspects and frameworks of Financial Management in an organization.

# CORE-XVI - INCOME TAX LAW AND PRACTICE-II PAPER CODE: 21UAF17

- **CO1** To give knowledge about preparation of Audit report, Submission of Income Tax Return, Advance Tax, and Tax deducted at Source, Tax Collection Authorities under the Income Tax Act, 1961
- **CO2** Define tax complicacies and structure and the concepts of Income Tax
- **CO3** Compute the income from salary and income from house property. State the deductions in income from business or profession.
- **CO4** Differentiate long term capital gain and short term capital gain and income from other source
- **CO5** Set-off and carry forward of losses and Aware about appeal & revision, tax penalties, offences and prosecutions

### **ELECTIVE - FUNDAMENTALS OF INSURANCE**

### PAPER CODE: 21UAF18

- CO1 Understand the concepts and principles of insurance
- CO2 Identify the various types of insurance and insurance business in India.
- CO3 Explain aware of insurance legislation in India
- CO4 Understand the functions of IRDA. State the various steps to claim insurance
- CO5 Understand the contribution of Insurance in Indian economic development



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### **B.SC., TEXTILE AND FASHION DESIGNING**

#### SEMESTER-II

### **CORE-II: WOVEN FABRIC SCIENCE**

PAPER CODE: 23UTFCT02

**CO1:** Clarify the preparatory processes involved in the woven fabric production

**CO2:** Explain the principles of sizing process and its methods

CO3: Infer about the basic mechanism of loom and its structure

CO4: Categorize the woven fabrics and its structure

**CO5:** Differentiate the types of looms and jacquard mechanisms involved in woven

fabric production.

### CORE PRACTICAL-II: FIBER & YARN SCIENCE PRACTICAL PAPER CODE: 23UTFCP02

**CO1:** Remembering of fibre identification **CO2**: Evaluating yarn count and twist

CO3: Analyze the various woven fabric design

**CO4:** Understanding of fabric particulars

CO5: Create fibre to fabric analysis systems

### ELECTIVE-II: APPAREL MANUFACTURING MACHINERIES AND EQUIPMENTS PAPER CODE: 23UTFDE02

**CO1:** Describe the various machineries and process involved in fabric spreading and cutting.

**CO2:** Generalize the types of garment production machineries and its application methods.

**CO3:** Summarize the sewing machines and its special attachments for higher production.

**CO4:** Explain the special machines and its functions in Garment Industry **CO5:** Identify garment finishing machineries and its working principles



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### **SEMESTER-IV**

CORE -IV: TEXTILE TESTING & QUALITY CONTROL

PAPERCODE: 21UTF04

**CO1:** Instruct about various test for yarns, fabrics &garments.

CO2: Describe about various levels of inspection & its procedure in apparel

production.

**CO3:** Describe about various norms & standards followed in testing and inspection.

CORE-V: TEXTILE WET PROCESSING

PAPERCODE: 21UTF05

**CO1:** Dye and Print the fabrics the using suitable dyes and prints.

**CO2**: Prepare on Effluent and its impact.

**CO3**: Prepare the fabric for finishing.

CORE PRACTICAL-VI: WOMEN'S APPAREL PRACTICAL

PAPERCODE: 21UTFP06

**CO1:** Design Garments for women.

**CO2**: Impart Skills in pattern drafting.

**CO3:** Construct garments by sewing.

CORE PRACTICAL-VII: TEXTILE WET PROCESSING PRACTICAL

PAPERCODE: 21UTFP07

**CO1:** To gain a practical on-hand training on preparatory process.

**CO2:** To understand the technical importance of wet processing.

**CO3:** To plan various process requirements for dying.

SBEC-I: EMBROIDERY & ACCESSORIES MAKING PRACTICAL

PAPERCODE: 21UTFSP01

**CO1:** To impart knowledge to the students about the hand and machine embroidery.

**CO2:** To learn the various types of stitches.

**CO3:** To provide opportunity for skill development in designing accessories.

**CO4:** To impart knowledge on fashion accessories & creativity.



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**ALLIED-IV: HOME TEXTILES** 

PAPERCODE: 21UTFA04

**CO1:** Impart knowledge on the various home textile products

CO2: Gain insights on the bed linens, kitchen linens, bathroom linens

**CO3:** Acquire better understanding on the choice of fabrics for the home textile

products

### **SEMESTER-VI**

**CORE -IX: CLOTHING CARE** 

PAPERCODE: 21UTF09

**CO1:** This course facilitates an understanding, care and maintenance of textiles and orients the learners in the field of clothing industry.

**CO2:** The learners are expected to know the laundry soaps, Laundry equipment and dry cleaning in textile industry.

**CO3:** Impart the knowledge of machines and equipment used in washing, storing, and ironing process.

### **CORE -X: APPAREL PRODUCTION MANAGEMENT**

PAPERCODE: 21UTF10

**CO1:** Instruct about various test for yarns, fabrics & garments

**CO2:** Describe about various levels of inspection & its procedure in apparel

production

CO3: Describe about various norms & standards followed in testing and inspection

### **CORE PRACTICAL-X: FASHION DRAPING PRACTICAL**

PAPERCODE: 21UTFP10

**CO1:** To understand the basic draping & manipulation techniques.

**CO2:** To design and develop patterns for different garments based on the body measurements

**CO3:** To interpret and transform their designs on a three-dimensional form using draping method.

### MBEC-II: INTERNATIONAL TRADE AND DOCUMENTATION

PAPERCODE: 21UTFM02

**CO1:** To study the Trade procedures and documentation formalities are a critical part of International Business Management.

**CO2:** This subject aims at imparting knowledge of trade procedures and documentation formalities



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### SBEC-II: PORTFOLIO PRESENTATION-VIVA VOCE

**PAPERCODE: 21UTFSP02** 

**CO1:** To design and execute an organized collection of creative works

CO2: To make original works of art that demonstrates effective use of design

principles, appropriate crafts man ship and technique.

CO3: Design collections by fulfilling the objectives of the client and user

requirements.

SBEC-III: BEAUTY CARE PRACTICAL

PAPERCODE: 21UTFSP03

**CO1:** Produce a capable & skill full workforce as required by the prevailing market demands.

**CO2:** Equip the trainees with skills & knowledge to ensure adherence to safety measures in saloon.

**CO3:** Select, operate and handle equipment according to the professional standards

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### DEPARTMENT OF COMPUTER SCIENCE (ARTIFICIAL INTELLIGENCE & DATA SCIENCE) SEMESTER -II

### FOUNDATION ENGLISH – II PAPERCODE:23UFEN02

**CO1:** Learn to introduce themselves and talk about everyday activities confidently

**CO2:** Be able to write short paragraphs on people, places and events **CO3:** Identify the purpose of using various tenses and effectively employ them in speaking and writing

**CO4:** Gain knowledge to write subjective and objective descriptions **CO5:** Identify and use their skills effectively in formal contexts.

### FOUNDATION TAMIL - II PAPERCODE:23UFTA02

CO 1	பக்தி இலக்கியங்களைக் கற்பதன் மூலம் பக்தி நெறியினையும், சமய நல்லிணக்கத்தையும் தெரிந்து பின்பற்றுவர்
CO 2	சிற்றிலக்கியங்களி <b>ன்</b> வழி இலக்கியச் சுவையினையும் பண்பாட்டு அறிவினையும்
CO 3	பட்டப் படிப்பினைப் படிக்கும்போதே பெரும்பான்மையான தமிழ் இலக்கியங்கள் குறித்த அறிவினைப் பெறுவர்
CO 4	தமிழ்ச் சமூகப் பண்பாட்டு வரலாற்றினை இலக்கியங்கள் வாயிலாக அறிவர்
CO 5	போட்டித் தேர்வுகளில் வெற்றி பெறுவதற்குத் தமிழ்ப் பாடத்தினைப் பயன்கொள்ளும் வகையில் ஏற்ற பயிற்சி பெறுவர்

### STATISTICS - STATISTICAL METHODS AND ITS APPLICATIONS PAPERCODE: 23USTAT04

- **CO-1** Understand the statistical methods measures of location
- **CO-2** Understand the statistical methods measures of dispersion
- **CO-3** Apply the statistical methods of dispersion and location
- **CO-4** Understand the relationship between variables and forecasting the future values.
- **CO-5** Understand the concept of sampling, sampling errors and types of sampling.

### INTRODUCTION TO PYTHON PROGRAMMING PAPERCODE:23UADCC02

- **CO1:** Read, write, execute by hand simple Python programs. Structure simple Python programs for solving problems.
- **CO2:** Decompose a Python program into functions
- CO3: Describe the hash function and concepts of collision and its resolution methods
- **CO4:** Represent compound data using Python lists, tuples, dictionaries. Read and write data from/to files in Python Programs
- CO5: Judge the pros and cons of Python



### PYTHON PROGRAMMING LAB PAPERCODE: 21UADCCP02

CO1: Implement Python programs with conditionals and loops

CO2: Develop Python programs step-wise by defining functions and calling them

CO3: Describe the hash function and concepts of collision and its resolution methods

**CO4:** Use Python lists, tuples, dictionaries for representing compound data

**CO5:** Apply Algorithm for solving problems like sorting, searching, insertion and deletion of data

### INTRODUCTION TO HTML PAPERCODE:23UADSE02

CO1: Knows the basic concept in HTML. Concept of resources in HTML

**CO2:** Knows Design concept. Concept of Meta Data Understand the concept of savethe files.

CO3: Understand the page formatting. Concept of list

CO4: Creating Links. Know the concept of creating link to email

address

CO5: Concept of adding images Understand the table creation

### MANAGERIAL SKILL DEVELOPMENT PAPERCODE:23UBANO2

**CO1:** Identify the personal qualities that are needed to sustain in the world of work.

**CO2:** Explore more advanced Management Skills such as conflict resolution, empowerment, working with teams and creating a positive environment for change.

**CO3:** Acquire practical management skills that are of immediate use in management or leadership positions.

**CO4:** Employ critical-thinking and analytical skills to investigate complex business problems to propose viable solutions.

**CO5:** Make persuasive presentations that reveal strong written and oralCommunication skills needed in the workplace.

### DEPARTMENT OF INFORMATION TECHNOLOGY

#### SEMESTER -II

### FOUNDATION ENGLISH - II PAPERCODE:23UFEN02

**CO1:** Learn to introduce themselves and talk about everyday activities confidently

CO2: Be able to write short paragraphs on people, places and events

CO3: Identify the purpose of using various tenses and effectively employ them in speaking and writing

**CO4**: Gain knowledge to write subjective and objective descriptions

CO5: Identify and use their skills effectively in formal contexts.

### FOUNDATION TAMIL - II PAPERCODE:23UFTA02

CO 1	பக்தி இலக்கியங்களைக் கற்பதன் மூலம் பக்தி நெறியினையும், சமய நல்லிணக்கத்தையும் தெரிந்து பின்பற்றுவர்
CO 2	சிற்றிலக்கியங்களி <b>ன்</b> வழி இலக்கியச் சுவையினையும் பண்பாட்டுஅறிவினையும்
CO 3	பட்டப் படிப்பினைப் படிக்கும்போதே பெரும்பான்மையான தமிழ் இலக்கியங்கள் குறித்த அறிவினைப் பெறுவர்
CO 4	தமிழ்ச் சமூகப் பண்பாட்டு வரலாற்றினை இலக்கியங்கள் வாயிலாக அறிவர்
CO 5	போட்டித் தேர்வுகளில் வெற்றி பெறுவதற்குத் தமிழ்ப் பாடத்தினைப் பயன்கொள்ளும் வகையில் ஏற்ற பயிற்சி பெறுவர்

### ALLIED MATHEMATICS - GRAPH THEORY PAPERCODE: 23UMAEGS06

- **CO 1**: Define Graphs, Subgraphs and Operation on Graphs.
- CO 2: Define Walk, Trails and Paths.
- CO 3: Define Eulerian Graphs and Hamiltonian graphs. Explain the concept of Konigsberg Bridge problem and Fleury's Algorithms.
- **CO 4:** Explain Characterization of Trees and Theorems.
- **CO 5:** Explain Applications of Connector problem and shortest path problem

### JAVA PROGRAMMING PAPERCODE: 23UITCC02

**CO1:** Outline the basic terminologies of OOP, programming language techniques, JDBC and Internet programming concepts

CO2: Solve problems using basic constructs, mechanisms, techniquesand technologies of

**CO3:** Analyse and explain the behavior of simple programs involving different techniques such as Inheritance, Packages, Interfaces, Exception Handling and Thread and technologies such as JDBC and Servlets

CO4: Assess various problem-solving strategies involved in Java todevelop a high-level application.

CO5: Design GUI based JDBC applications and able to develop Servlets using suitable OOP concepts and techniques



### JAVA PROGRAMMING & DATA STRUCTURE PRACTICAL PAPERCODE: 23UITCCP02

**CO1:** Identify and explain the way of solving the simple problems

**CO2:** Use appropriate software development environment to write, compile and execute object-oriented Java programs

**CO3:** Analyze and identify necessary mechanisms of Java needed to solve real-world Problem

**CO4:** Test for defects and validate a Java program with different inputs

**CO5:** Design, develop and compile Core Java , GUI , JDBC and servlet applications that utilize OOP and data structure concepts

### INTRODUCTION TO HTML PAPERCODE: 23UITSE06

CO1: Knows the basic concept in HTML• Concept of resources in HTML

**CO2:** Knows Design concept. Concept of Meta Data Understand the concept of savethe files.

**CO3:** Understand the page formatting. Concept of list

**CO4:** Creating Links. Know the concept of creating link to email address

CO5: Concept of adding images Understand the table creation

### MANAGERIAL SKILL DEVELOPMENT PAPERCODE: 23UBAN02

**CO1:** Identify the personal qualities that are needed to sustain in the world of work.

**CO2:** Explore more advanced Management Skills such as conflict resolution, empowerment, working with teams and creating a positive environment for change.

**CO3:** Acquire practical management skills that are of immediate use in management or leadership positions.

**CO4:** Employ critical-thinking and analytical skills to investigate complex business problems to propose viable solutions.

**CO5:** Make persuasive presentations that reveal strong written and oralCommunication skills needed in the workplace.

#### DEPARTMENT OF HISTORY

### **COURSE OUTCOME**

### SEMESTER II

### Core Paper III - HISTORY OF MEDIEVAL INDIA 1206-1707 CE

- **CO1** Understanding about the genesis of the Sultanate rule in India and its early rulers
- **CO2** Knowledge about the founding and conquests of the Mughal rulers.
- **CO3** Art and Architectutre and administration policies during the mughals.
- **CO4** The administration, art and architectutre during Bahmini and Vijayanagar kingdoms
- **CO5** Appreciation of the administration of Tuglags, sayyids and Lodis and the impact of Bhakthi movement

### Core Paper IV- HISTORY OF TAMIL NADU - 1311-1801 CE

- **CO1** Rise of the Madurai Sultanate and its contribution.
- **CO2**Knowledge about the impact of Vijayanagar rule in Tamilaham.
- **CO3** Contribution of the Nayaks of Madurai, Senji and Thanjavur.
- **CO4**Contribution of the Marathas to Tamil culture.
- **CO5** Understand the Poligar Rebellion as the early resistance against British imperialism.

### **Elective II - BUSINESS ENVIRONMENT**

- **CO1** Remember the nexus between environment and business.
- **CO2** Apply the knowledge of Political Environment in which the businesses operate.
- **CO3** Analyze the various aspects of Social and Cultural Environment.
- **CO4** Evaluate the parameters in Economic Environment.
- **CO5** Create a conducive Technological Environment for business to operate globally.

#### SEC 2 - INDIAN CONSTITUTION

**CO1**Understanding of the salient features of the Indian Constitution

**CO2**Knowledgeabout the fundamental rights and duties.

CO3Knowledge about the structure and functions of the Union

Government.

**C04**Knowledge about thestructure and functions of the State Government

**CO5**Understanding of the powers and functions of the local government

#### **SEMESTER-IV**

#### CORE-VHistory of India from 1707A. D. TO 1885 A. D.

**CO1** To understand the causes for the disintegration of the Mughals

**CO2** To understand the reason for the success of the expansion of British rule

CO3To know the various Policies of the British and the Indians reaction

**CO4**The causes for the disintegration of the Mughal

**CO5**The reason for the success of the expansion of British rule

CORE -

**CO1** pre-incorporation matters (promoters and pre-incorporation contracts); incorporation

**CO2** Types of companies, corporate personality, piercing the corporate veil, company constitutions, corporate powers and their division

**CO3** Membership and the general meeting; directors; meetings of directors; duties and liability of directors; corporate governance

**CO4** To provide with knowledge and appreciation of the major core topics in Company Law including the legal nature of the company as a business structure

**CO5** The legal implications of separate corporate personality including limited liability, the validity of contracts made with companies

**CO6** The role of the board of directors and their legal duties as directors and the legal protection of shareholders

#### **SEMESTER - IV**

#### SBEC IIIINTERNATIONAL CURRENT AFFAIRS

**CO1**Students get to know the international Organization like UNO, SAARC, NAM &ASEAN and Their in improving and maintaining the international relationships

**CO2**The course helps the students to learn social front, economic front, and L P G for with current relevance.

**CO3** By this course the students understand the impact of natural calamities drive against proliferation, global -warming and other related current affairs

**CO4**The students to learn social front, economic front and current relevance

**CO5** To understand the impact of natural calamities drive against proliferation, global - warming and related current affairs.

#### SBEC IVGENERAL SCIENCE

**CO1**The course is to understand origin of universe solar system and earth system

CO2To enrich knowledge on Biomass fuel and conventional energy source.

**CO3**To understand the importance of hygiene and communicable disease and preventive measures

**CO4**To understand origin of universe solar system and earth system

**CO5**To biomass fuel and communicable Disease and preventive measures.

#### SEMESTER -VI CORE XI: History of Tamilnadu from 1565 TO 2000 A.D.

**CO1:** To know about the medieval History of Tamil nadu

**CO2:** To know the British Revenue system in tamilnadu

**CO3:** To understand the emerge of Tamil political parties

**CO4:** To know about the present conditions in tamilnadu

**CO5:** To know about role of Tamil nadu in freedom struggle.

#### CORE XII – India and her neighbors

**C01** To introduce the students to the basics of Indian foreign policy

**CO2**To understand the important transactions in Indo-Chinese and Indo-Nepal relations.

**C03**To focus on India's relations which Pakistan, Bangladesh, Are Lanka, Maldives and Bhutan

**C04** To study about organizations of Regional Co operations

**C05** To the basics of Indian foreign policy

#### CORE -XIIIHISTORY OF USA FROM 1865 TO 2001A. D.

**CO1**To understand the rapid growth of American Economy

**CO2**To understand how the United States of America became a Global power in 20th century

CO3 To know the role of USA in the Two World War

**CO4**To know about the civil right movement and it impact in American society and politics

**CO5** To know about the post-cold war period and world new order.

#### CORE XIV - History of Europe from 1799A. D. to 2000 A. D.

**CO1**To analyze the nature of French revolution and the emergence of Napoleon Bonaparte

**CO2**To study the rise of nationalism in 19thcentury with special reference to Italy and Germany

**CO3** To learn the causes, course and results of the first and second World War.

**CO4**To highlight the developments during the cold war and its role in international relations

**CO5** To understand the age of revolutions

CORE XV-
Principles
and Methods
of
Archaeology
CO1Students
get the
knowledge
enriched by
learning the
hidden
civilization &
buried
archaeological
assets.
<b>CO2</b> Students learn the importance of preserving the archaeological evidences which are historical resources
<b>CO3</b> Students understood the methods of exploration and excavation fo epigraph and learning numismatic makes the students understand the economic status of the people.

CO4To understand the meaning and the scope of the study of archaeology

**CO5** To understand archaeology as a source for history

#### **ELECTIVE III - HUMAN RIGHTS**

CO1 To highlight the importance of Human Rights from historical perspective

- **CO2** To study the role of national and international organizations for the protection of Human Rights
- **CO3** To understand the value of human rights
- **CO4** To study various theories of human rights
- CO5 To know various laws and acts pertaining to Human Rights

#### DEPARTMENT OF NUTRITION AND DIETETICS-UG

#### COURSE OUTCOMES

#### SEMESTER II

#### **CORE II - HUMAN PHYSIOLOGY**

PAPER CODE: 23UND02

CO1: Structure of various tissues and organs of the body and their functions.

CO2: Different systems of the human body and their functions.

CO3: Importance of hormonal and nervous regulation of the body.

#### CORE PRACTICAL I - HUMAN PHYSIOLOGY PRACTICAL PAPER CODE: 23UND02

CO1: Understand the histology of tissues

CO2: Make aware of the structure of various organs

CO3: Learn the procedure for estimation of vital components of blood

#### SEC IV -FUNDAMENTALS OF BAKERY

CO1: Understand the technique of baking.

CO2: Know the equipments and ingredients used in baking.

CO3: Understand the production of baked product

#### SEMESTER IV

#### **CORE IV - PRINCIPLES OF HUMAN NUTRITION**

PAPER CODE:21UND04

PAPER CODE: 23UNDF03

**CO1:** Summarize and critically discuss and understand both fundamental and applied aspects of nutrition.

**CO2:** Able to explain functions of specific nutrients in maintaining health.

**CO3:** Identifying nutrient specific force and applying the principles from the various factors of foods.

**CO4:** Gain in basic knowledge of the different nutrients and their role in maintaining health of the community.

**CO5:** Develop skills in qualitative analysis and quantitative estimation of nutrients.

#### SEC IV - FOOD STANDARD AND QUALITY CONTROL

PAPER CODE: 23UNDS03

**CO1:** To provide an opportunity to learn food quality standards.

**CO2:** To develop the skills on the standardization of food products with respect to quality maintained according to universal food standards worldwide.

**CO3:** To understand the principles of sensory evaluation.

**CO4:** To develop skills to carry out sensory evaluation of a newly developed product.

**CO5:** To understand the terms food adulteration and adulterant.

#### ALLIED IV - FOOD STANDARD AND QUALITY CONTROL PAPER CODE: 23UNDA04

**C01:** Provide situations to understand significance of family income and expenditure and saving for future.

**C02:** Know the importance of early childhood years and significance of intervention programs for early childhood development.

CO3: Learn about women's human rights and laws related to women in India.

**C04:** Gain knowledge on consumer protection Laws and Acts and reflect upon personal rights and responsibilities.

**C05:** Learn about the concept of extension, extension approaches and models.

#### SEMESTER VI

#### **CORE VIII - FOOD MICROBIOLOGY**

#### PAPER CODE:21UND08

**CO1:** Explain the interactions between microorganisms and the food environment, and factors influencing their growth and survival.

**CO2:** Explain the significance and activities of microorganisms in food.

**CO3:** Describe the characteristics of food borne, waterborne and spoilage microorganisms, and methods for their isolation, detection and identification.

**CO4:** Understand the role of microorganisms in the environment.

**CO5:** Apply preservation techniques to avoid food spoilage.

#### CORE IX -QUANTITY FOOD SERVICE AND PHYSICAL FACILITIES PAPER CODE:21UND09

**CO1:** Manage the human resources within a food services organization or department.

**CO2:** Communicate appropriately with clients, staff and management. Apply food services technology and operate industry equipment.

**CO3:** Develop nutritional menus for food service production. Design and run a quantity food service establishment.

#### **ELECTIVEIII - NUTRITION FOR SPORTS AND FITNESS**

#### PAPER CODE:21UNDE03

**CO1:** Explain the principles of physical fitness and nutrition (such as body composition, energy intake, energy expenditure, and the acute and chronic physical changes related to exercise and nutrition) complement each other in helping to develop physiological well-being and overall health.

**CO2:** Explain the principles of fitness and nutrition (such as setting realistic short-term behavior change goals and the relationship of exercise and diet to stress reduction) complement each other in helping to develop psychological well-being and overall health.

**CO3:** Identify some of the social and cultural influences on food habits and exercise/activity patterns.

**CO4:** Evaluate current nutritional information with regard to its contribution to Health and physical fitness.

**CO5:** Apply the knowledge acquired for planning diet for athletes.

#### SEECVI - ENTREPRENEURSHIP DEVELOPMENT

PAPER CODE:21UNDS06

**CO1:** Understand the concept of entrepreneurship.

**CO2:** Identify ways to approach supportive Institutions and Banks for starting an enterprise.

**CO3:** Analyze the steps in product selection and form of ownership.

**CO4:** Focus on the formation of project proposals and practice effective accounting processes.

**CO5:** Understand the requirements to become an entrepreneur.

#### **SEECV - DIET COUNSELLING**

#### PAPER CODE:21UNDS05

**CO1:** Understanding the diet counseling skills and acquaint them with basic principle.

**CO2:** Determine and translate nutrient needs into menus for individuals and groups across the lifespan, in diverse cultures and religions.

**CO3:** Students will be able to interpret and apply nutrition concepts to evaluate and improve the nutritional health of individuals with medical conditions

**CO4:** Produce oral and written communications for a group education session.

**CO5:** Interview individuals for diet histories and Counsel individuals.

#### **CORE VI - PRACTICAL-DIETETICS**

#### PAPER CODE:21UNDP06

**CO1:** Understanding of the conditions where nutrition plays a significant role in disease management.

**CO2:** Develop the knowledge to provide nutrition and dietetic care for individuals, groups and populations who have or already are at risk of developing long-term health conditions.



#### DEPARTMENT OF PSYCHOLOGY COURSE OUTCOMES(CO) SEMESTER II

#### CORE - V: DEVELOPMENTAL PSYCHOLOGY-I PAPER CODE: 23UPY05

**CO1:** To know the perspectives on life span development

**CO2:** To understand the stages in prenatal development

**CO3:** To compare and contrast different stages in life span

**CO4:** To distinguish the various development in middle childhood

## CORE-III: Introduction to Psychology-II PAPER CODE:23UPY03

**CO1:** To Understand the different types of cognition and thinking processes and to analyse the steps in problem solving anddecision making.

**CO2:** To summarize and compare the various functions andmemory processes involved in memory and forgetting.

**CO3:** To outline the various theories of motivation and tounderstand the implications of it.

**CO4:** To explain the theories of intelligence and the ways to assessintelligence.

**CO5:** To explore the various theories of Personality and examinethe uses of personality assessments.

## ELECTIVE-II: Cross Cultural Psychology PAPER CODE:23UPYE02

**CO1:** To describe and discuss the various theoretical orientations/paradigms that describe cultural differences

**CO2:** To analyse and discuss the ways in which differentcultures influence our socialisation and enculturation process.

**CO3:** To discuss and evaluate the impact of culture on human development concepts like temperament, attachment stylesand morality.

**CO4:** To understand the interaction of language, culture and communication and analyse methods to improve intercultural communication.

**CO5:** To examine the role of culture in the understandinggender roles, stereotypes and ideology development.

## SBEC-III : PSYCHOLOGICAL FIRST AID PAPER CODE: 23UPYF02

CO1: To understand the nature and meaning of Psychological First Aid

CO2: To understand the techniques of PFA

**CO3:** To understand the intervention techniques

**CO4:** To know the self care techniques of PFA

CO5: To distinguish between PFA and Psychological Debrefing



#### **SEMESTER-IV**

#### CORE -X: EXPERIMENTAL PSYCHOLOGY-I PAPER CODE: 21UPYP02

**CO1:**Understand the various psychological concepts **CO2:**Knowing tests to measure psychological concepts **CO3:**Learn the skill of administrating psychological tests

## CORE -VIII: DEVELOPMENTAL PSYCHOLOGY-II PAPER CODE: 21UPY08

**CO1:** To realize the importance of puberty

CO2:To understand the issues of young adulthood adjustment issues

CO3:To recognize the issues of middle and late adulthood

**CO4:**To explain the concepts of death and dying

#### CORE-IX: HEALTH PSYCHOLOGY PAPER CODE: 21UPY09

**CO1:** Examine the models of behaviour change

**CO2:** Explain the bio psychosocial model of health and illness

CO3: Analyze the effects of smoking, Alcoholism

**CO4:** Understands the concept & theories of Stress and Coping

## ALLIED-IV: MARKETING MANAGEMENT PAPER CODE: 21UBAA06

**CO1:** Know The Basic Concepts In Marketing

CO2: Understand Consumer Behaviour And Market Segmentation

**CO3:** Analyze The Concept Of Marketing Mix

CO4: Explore Personnel Selling E-Business

**CO5:** Explore Personnel Selling E-Business

## SBEC-II: BASICS IN COMPUTER APPICATIONS PAPER CODE: 21UPYS02

**CO1:** To know the basic techniques of Statistical Methods.

**CO2**: To familiarize with complete fundamentals and the carriers commonly used computing software

**CO3:** To understand programming language concepts, mainly control structures, reading a set of data, stepwise refinement, function and arrays.

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#### **SEMESTER-VI**

#### CORE XV: ABNORMAL PSYCHOLOGY-II PAPER CODE: 20UPY15

**CO1:** To Understand the various types of psychological disorders, as classified by mental-health practitioners

**CO2:** To Evaluate one's own behaviour and, if necessary, comprehend the possibilities of altering the causal factors

**CO3:** To Extend a helping hand to those who may need some assistance in manoeuvring their lives

#### CORE XVI: SOCIAL PSYCHOLOGY-II PAPER CODE: 20UPY16

CO1: To Understand the theories of Persuasion

**CO2:** To Understanding the concepts of Social Facilitation, Social Loafing and group influence

**CO3:** To Analyze the difference between Prejudice and Discrimination

CO4: To Evaluate the Concept of Liking, Love, and Other Close relationship

**CO5:** To Understand the concept and theories of Aggression

## CORE XVII: GUIDANCE AND COUNSELING PSYCHOLOGY PAPERCODE: 20UPY17

**CO1:** To Understand the nature, meaning and areas of guidance

CO2: To Know the functions of guidance services and personnel

**CO3:** To Know the historical roots of counselling

**CO4:** To Understand counselling process and types of Counselling

**CO5:** To Develop basic counselling skills

## SBEC-V: PSYCHOLOGY OF ADJUSTMENT PAPER CODE: 20UPYS05

**CO1:** To Understand the concept of adjustment

**CO2:** To Analyze the relationship between personality and adjustment

**CO3:** To Understand the importance of adjustment in various life areas

**CO4:** To Explore the facets of marital adjustment

## SBEC-VI: CONSUMER BEHAVIOR PAPER CODE: 20UPYS06

**CO1**: To know the factors and facets of consumer behavior

**CO2**: To understand the consumer behaviour in different setting

**CO3**: To understand the attitude of consumers and communication process

**CO4**: To develop basic skills decision making



# MSC BIOTECHNOLOGY SEMESTER-II

#### **CORE IV - MICROBIOLOGY**

PAPER CODE: 23PBTCT04

- **CO 1:**To understand the major discoveries of microbiology and describe microbial diversity, Microbial growth and metabolism.
- **CO 1:**To provide basic knowledge about microbial culture, identification of microbes, principle and working of microscopes and sterilization techniques
- **CO 1:**To enlighten the students on host microbe interaction and Epidemiology of microbial disease
- **CO 1:**To update the knowledge on epidemic and pandemic diseases.
- **CO 1:**To assess and appraise the role of novel microbes in environment and integrate them in specific innovative approaches.

# CORE V-PLANT AND ANIMAL BIOTECHNOLOGY PAPER CODE: 23PBTCT05

- **CO 1:** To impart theoretical knowledge on various techniques of plant biotechnology like tissue culture, plant genetic transformation and their application in industries.
- **CO 2:** Importance of secondary metabolites and production in plants.
- **CO 3:** To develop concepts, principles and processes in animal biotechnology.
- **CO 4:** Concept and different types in Animal Cell Culture and animal cell lines.
- **CO 5:** Use of molecular biology techniques genetically engineer the animals to improve sustainability, productivity and suitability for pharmaceutical and industrial applications.



#### **CORE VI- GENETIC ENGINEERING**

#### PAPER CODE: 23PBTCT06

- **CO 1:** Understanding the basic steps of gene cloning and the role of enzymes and vectors responsible for gene manipulation, transformation and genetic engineering.
- **CO 2:** Getting detailed knowledge of gene transfer methods and identifying suitable hosts for cloning.
- **CO 3:** Acquiring theoretical knowledge in the techniques, tools, and application and safety measures of genetic engineering.
- **CO 4:** Describes the genome mapping and sequencing and methods for gene therapy.
- **CO 5:** Elucidate different techniques involved in genetic engineering

# PAPER CODE: 23PBTMEB3

- **CO 1:**Explain the basic components of pharmaceutical and biotechnology industry and methods and applications of biosensor
- **CO 2:**Describe the Scientific, technical and economic aspects of vaccine & rDNA technology
- **CO 3:**Describe the basic concepts of protein Engineering, therapeutic proteins and enzyme immobilization techniques
- **CO 4:**Describe the concepts of hybridoma technology, microbial biotransformation and microbial bio-transformed products
- **CO 5:**Explain the basic components of somatic gene therapy, Xenotransplantation and fermented and bio safety methods

# CORE PRACTICAL-II MICROBIOLOGY, PLANT AND ANIMAL BIOTECHNOLOGY & GENETIC ENGINEERING

#### PAPER CODE: 23PBTCP02

- **CO 1:** Isolate and identify microbes from various sources.
- **CO 2:** Characterize microbes.
- **CO 3:** Examine Plant and Animal cells and their functions
- **CO 4:** Assess extracted DNA, RNA and protein for rDNA technology
- **CO 5:** To study cloning tools



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#### **SEMESTER-IV**

#### **CORE XVII-PROJECT**

PAPER CODE: 23PBTCP02

- **CO 1:** Work in a team
- CO 2: Adapt to the varying working environment in industry and research institute
- **CO 3:** Identify a problem in biotechnology based industry.
- **CO 4:** Formulate a research problem in research laboratory
- **CO 5:** Design experiments to solve the industrial/research problem.
- **CO 6:** Compile and/or interpret the industrial data.



#### **DEPARTMENT OF ENGLISH (PG)**

#### **SEMESTER II**

#### **CORE PAPER -AMERICAN LITERATURE**

PAPERCODE: 23PENCT04

CO1: Analyze the movements and trends that shaped American literature

CO2: Estimate various speeches and concepts of living which changed American history

**CO3**: Evaluate the relation between aesthetics and racism in fiction

**CO4**: Validate representative socio-political, cultural, racial and gender perspectives in theatrical works

**CO5:** The exposure to the different literary genres and its evolution in American Literature

#### **CORE PAPER – SHAKESPEARE STUDIES**

#### PAPERCODE: 23PENCT05

CO1: Critically understanding the appreciations by critics on Shakespeare

CO2: Understand elizabethan theatre and the theatre's development.

**CO3:** Critical perspectives on Shakespeare's Plays and Sonnets

**CO4**: Understand the trends in Shakespeare studies

CO5: Modern Approaches in Shakespearean criticism

#### CORE PAPER - POST- COLONIAL THEORY AND LITERATURE

#### PAPERCODE: 23PENCT06

CO1: Critically understanding the political and social background of the third world nations

**CO2**: Understand the emerging trends in Post- Colonial Literature

**CO3**: Problems and consequences of the decolonization of a country.

**CO4**: Examine the ethnocentric perspective of different colonial cultures with respect to postcolonial literature

**CO5**: Interpret the postcolonial concepts found in different literary genres



#### ELECTIVE PAPER – APPROACHES TO ENGLISH LANGUAGE TEACHING

#### PAPERCODE:23PENME03

**CO1**: Know the brief history of language teaching methods

**CO2**: Understand the difference between the terms, methods, approaches and techniques used in teaching

**CO3**: Identify the objectives, active role of learners, teachers and materials of different approaches in teaching

CO4: Analyse the steps of teaching prose, poetry, grammar, non- detailed text etc and develop it

**CO5**: Perceive the use of radio and television in language learning

#### ELECTIVE PAPER - A GLIMPSE OF NOBEL LAUREATES

**PAPERCODE: 23PENME04** 

**CO1**: Relate the outstanding works of Nobel Laureates in an idealistic direction that adds the greatest benefit to humankind

**CO2:** Interpret the works of various Nobel Laureate

CO3: Analyse the different themes with regard to social, political and cultural aspects.

**CO4**: Evaluate critically and aesthetically the prescribed texts

**CO5:** Perceive the influence of Nobel Laureates in Literature

#### **SEMESTER-IV**

#### CORE PAPER- ENGLISH LANGUAGE TEACHING AND ICT

#### **PAPERCODE:21PEN12**

**CO1:** Students can read and understand any text in English listening to the inputs given by the teacher in the classroom

**CO2:** Understand the use ICT tools for developing grammar and vocabulary

**CO3**: Gain knowledge in using ICT tools for developing listening, speaking, reading, and writing skills.

**COREPAPER – INDIAN WRITING IN ENGLISH** 

**PAPERCODE :21PEN13** 



**CO1:**Appreciate the historical trajectory of various genres of Indian Writing in English from colonial times to till the present.

**CO2:** Understand the role of English as a medium for political awakening and the use of English in India for creative writing

**CO3:**apply the ideas encapsulated in Indian Aesthetics to literary texts

#### CORE PAPER - JOURNALISM AND MEDIA COMMUNICATION

#### PAPER CODE: 21PEN04

**CO1**: To introduce basic concepts of communication and its role in society.

CO2: To introduce different types of media their characteristics, merits and demerits.

**CO3**: To introduce students to various processes and theories of communication.

#### **CORE PAPER - PROJECT**

#### PAPER CODE:21PENPR01

**CO1:** Students will demonstrate high level proficiency in literary research and in the synthesis of research.

CO2: enhances critical thinking of students

CO3: become thorough with reading works with theoretical basis.

#### ELECTIVE PAPER – ENGLISH LITERATURE FOR COMPETITIVE EXAMINATIONS

PAPER CODE: 21PENE04

CO1: Develop proficiency in the language.

CO2: Use grammatically accurate language

**CO3:** Use communication skills in formal correspondence

#### DEPARTMENT OF CHEMISTRY (PG)

#### SEMESTER-II

**PO1 (Scientific knowledge):** Apply the knowledge of chemical science to find solutions to various academic and research problems.

**PO2 (Problem analysis):** Identify a research problem, review research literature, and design innovative solutions for scientific problems.

**PO3 (Skill enhancement):** Recognize and practice the required skillsets to enhance them for future employability.

**PO4 (Modern tool usage):** Adopt appropriate modern techniques, resources, and tools to execute the experiments and analyze and interpret the data.

**PO5** (Society and ethics): Implement contextual knowledge and ethical principles to assess various societal issues related to common scientific and industrial practices.

**PO6 (Environment and sustainability):** Assess the impact of scientific approaches in environment with special emphasis on the need for sustainable development.

**PO7** (Individual and teamwork): Function as an individual or as a member or leader in diverse teams, and in multidisciplinary settings.

**PO8 (Communication):** Communicate effectively, write reports and design documentation, make effective presentations, and give and receive clear instructions.

**PO9** (**Project management**): Utilize knowledge and understanding of the chemical principles to manage projects of various magnitudes in multidisciplinary environments.

**PO10 (Life-long learning):** Identify the important aspects of Chemistry and other allied subjects for independent and life-long learning in the broader context of scientific and technological development.

#### ORGANIC REACTION MECHANISM-II

**CO1:** To recall the basic principles of aromaticity of organic and heterocyclic compounds.

**CO2:** To understand the mechanism of various types of organic reactions.

**CO3:** To predict the suitable reagents for the conversion of selective organic compounds.

**CO4:** To correlate the principles of substitution, elimination and addition reactions.

CO5: To design new routes to synthesis organic compounds

#### PHYSICAL CHEMISTRY-I

**CO1:** To explain the classical and statistical concepts of thermodynamics.

**CO2:** To compare and correlate the thermodynamic concepts to study the kinetics of chemical reactions.

**CO3:** To discuss the various thermodynamic and kinetic determination.

**CO4:** To evaluate the thermodynamic methods for real gases and mixtures.

**CO5:** To compare the theories of reactions rate and fast reactions.

#### GREEN CHEMISTRY

**CO1:** To recall the basic chemical techniques used in conventional industrial preparations and in green innovations.

**CO2:** To understand the various techniques used in chemical industries and in laboratory.

**CO3:** To compare the advantages of organic reactions assisted by renewable energy sources and non-renewable energy sources.

**CO4:** To apply the principles of PTC, ionic liquid, microwave and ultrasonic assisted organicsynthesis.

**CO5:** To design and synthesize new organic compounds by green methods.

#### **BIO-INORGANIC CHEMISTRY**

**CO1:** The students will be able to analyses trace elements.

**CO2:** Students will be able to explain the biological redox systems

**CO3:** Students will gain skill in analyzing the toxicity in metals.

**CO4:** Students will have experience in diagnosis.

**CO5:** Learn about the nitrogen fixation and photosynthetic mechanism

#### **INORGANIC CHEMISTRY PRACTICAL**



**CO1:** To identify the anions and cations present in a mixture of salts.

**CO2:** To apply the principles of semi micro qualitative analysis to categorize acid radicals and basic radicals.

**CO3:** To acquire the qualitative analytical skills by selecting suitable confirmatory tests and spot tests.

**CO4:** To choose the appropriate chemical reagents for the detection of anions and cations.

**CO5:** To synthesize coordination compounds in good quality

#### **SEMESTER-IV**

## CORE PAPER-IX- INORGANIC CHEMISTRY-III PAPERCODE:21PCH09

**CO1:** To understand the bonding in organometallic complexes and metal carbonyls

**CO2:** To learn the synthesis, bonding and reactions of organometallic complexes

**C03:** To understand the importance of catalysis and applications

**CO4:** To understand the basics of Supramolecular chemistry and photochemistry and its applications

**CO5:** To understand the basics behind the origin and principle of electronic spectra.

## ELECTIVE PAPER-IV- MEDICINAL CHEMISTRY PAPERCODE:21PCHE06

**CO1:** To understand the basic concepts of the drugs.

**CO2:** To understand the different Drugs Acting on CNS

CO3: To learn the various theories Drugs Affecting the Cardiovascular System

**CO4:** To study the various reaction Drugs Affecting the Harmonal System and

Immune System

**CO5:** Understand the Concept Chemotherapeutic Agents

# CORE PRACTICAL-IV-ORGANIC CHEMISTRY PRACTICAL-II PAPERCODE: 21PCHP04

**CO1:** To develop analytical skill in Estimation of organic compounds.

**CO2:** Study the types of preparation of organic compounds



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involving two stages

CO3: Learn the types and methods of Extraction of natural products

# CORE PRACTICAL-V-INORGANIC CHEMISTRY PRACTICAL-II PAPERCODE: 21PCHP05

CO1: To develop analytical skill in Quantitative analysis of complex materials

**CO2:** Study the types of Quantitative analysis of complex materials and Analysis of

Ores and alloys.

**CO3:** Learn the types and methods of Preparations.

# CORE PRACTICAL-VI- PHYSICAL CHEMISTRY PRACTICAL-II PAPERCODE: 21PCHP06

**CO1:** To perform experiments in viscosity, surface tension, potentiometry and chemical kinetics.

**CO2:** Study the types of Viscosity.

**CO3:** Learn the types and methods of Electromotive Force and Potentiometric Titrations.

#### DEPARTMENT OF PG COMMERCE

Semester: II

#### Core – IV STRATEGIC COST MANAGEMENT PAPER CODE: 23PCM04

**CO1**: Explain strategic cost management and QC

**CO2**: Choose the appropriate technique for cost control **CO3**: Make use of activity based costing in practice

**CO4:** Choose transfer pricing methods to solve problems **CO5:** Construct cost structure for Agriculture and IT sector

#### Core - V CORPORATE ACCOUNTING PAPER CODE: 23PCM05

**CO1**: Determine profit and financial position by preparing financial statements of companies as per schedule III of Companies Act,2013

**CO2**: Apply the provisions of IRDA Regulations in the preparation of final accounts of Life Insurance and General Insurance Companies.

**CO3**: Determine the overall profitability and financial position by preparing consolidated financial statements of holding companies in accordance with AS21.

**CO4**: Analyse contemporary accounting methods.

**CO5**: Examine Financial Reporting based on appropriate AccountingStandardsandprovisionsofCompaniesAct2013withrespect to Corporate Social Responsibility.

# Core – VI SETTING UP OF BUSINESS ENTITIES PAPER CODE: 23PCM06

**CO1**: Compare the various avenues of acquiring finance to setup a business entity.

**CO2**: Recall the legal requirements for Section 8 Company.

**CO3**: Examine the provisions for LLP and joint venture.

**CO4**: Analyse the registration and licensing procedure.

**CO5**: Examine the compliance of regulatory framework regarding environment.

#### PAPER CODE: 23PCME06

**CO1**: Compare different types of audit.

**CO2**: Assess the provisions relating to secretarial audit.

**CO3**: Recall the basics of due diligence.

**CO4**: Explain the various types of due diligence.

**CO5**: Examine due diligence for take overs and prepare due diligence report.

## Elective – IV A RURAL AND AGRICULTURAL MARKETING PAPER CODE: 23PCME08

**CO 1 :** Recall the concepts of rural marketing.

**CO 2 :** Analyse the buying behavior of rural consumers.

**CO 3 :** Develop the strategies relating to rural product, branding, packaging, etc.

**CO 4 :** Construct distribution and promotional mix in the rural market relating to food processing industry.

**CO 5 :** Explain the principles and functioning of cooperative marketing.

Semester: IV

## CORE-XIII - GOODS & SERVICE TAX PAPER CODE: 21PCM13

**CO1**: Define and describe the meaning of indirect taxes, GST and Customs act. **CO2**: Explain the recent developments in indirect taxes, GST and customs act.

**CO3**: Generalize the practical applicability of GST.

**CO4**: Relate the concepts of GST in real life situations.

CO5: Determine the concepts related to GST, Customs act

#### CORE -XIV- SERVICE MARKETING

#### PAPER CODE: 21PCM14

**CO1**: To know the services vision and mission

**CO2**: To study services positioning and differentiation

**CO3**: To analyze the customer focused services

**CO4**: To familiarize service marketing mix

CO5: To study the specific service marketing



#### PAPER CODE: 21PCMPR1

**CO1**: To know about the techniques and methods of writing projects in History

**CO2**: Selection of topic

CO3: Identification and collection of data

**CO4**: Analysis of data ,Preparation of hypothesis

**CO5**: Importance of citations, glossary, list of abbreviations and appendices

# ELECTIVE- IV- INSURANCE AND RISK MANAGEMENT PAPER CODE: 21PCME07

**CO1**: Understand the concepts and principles of insurance

CO2: Identify the various types of insurance and insurance business in India.

CO3: Explain aware of insurance legislation in India

**CO4**: Understand the functions of IRDA

**CO5**: Understand the contribution of Insurance in Indian economic development



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#### PG & RESEARCH DEPARTMENT OF COMPUTER SCIENCE

#### I MSC COMPUTER SCIENCE SEMESTER -II

## ADVANCED JAVA PROGRAMMING PAPER CODE: 23PCSP06

CO1: Understand The Advanced concepts of Java Programming

CO2: Understand JDBC and RMI concepts

**CO3:** Apply and analyze Java in Database

**CO4:** Handle different event in java using the delegation event model, event listener and class

CO5: Design interactive applications using Java Servlet , JSP and JDBC

#### ADVANCED OPERATING SYSTEM

#### PAPER CODE: 23PCS05

**CO1:** Understand the design issues associated with operating systems

**CO2:** Master various process management concepts including scheduling, deadlocks and distributed file systems

**CO3:** Prepare Real Time Task Scheduling

**CO4:** Analyze Operating Systems for Handheld Systems

CO5: Analyze Operating Systems like LINUX and iOS

#### **DATA MINING**

#### PAPER CODE: 23PCSC04

**CO1:** Understand the basic data mining techniques and algorithms

**CO2:** Understand the Association rules, Clustering techniques and Data warehousing Contents

#### **CO3**:

Compareandevaluatedifferentdataminingtechniqueslikeclassification, prediction, Clustering and association rule mining



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**CO4:** Design data warehouse with dimensional modeling and apply OLAP operations

**CO5:** Identify appropriate data mining algorithms to solve real world problems

#### INTERNET OF THINGS

PAPER CODE: 23PCSE05

**CO1:** Understand about IoT, its Architecture and its Applications

CO2: Understand basic electronics used in IoT & its role

**CO3:** Develop applications with C using Arduino IDE

CO4: Analyze about sensors and actuators

**CO5:** Design IoT in real time applications using today"s internet & wireless technologies

#### PRACTICAL IV: ADVANCED JAVA LAB

#### PAPER CODE 23PCSCP04

**CO1**: Understand to the implement concepts of Java using HTML forms, JSP & JAR

**CO2:** Must be capable of implementing JDBC and RMI concepts

**CO3:** Able to write Applets with Event handling mechanism

**CO4:** To Create interactive web based applications using servlets and jsp

PRACTICAL III: DATA MINING USING R

PAPER CODE: 23PCSCP03

**CO1**: Able to write programs using R for Association rules, Clustering techniques

**CO2:** To implement data mining techniques like classification, prediction

CO3: Able to use different visualizations techniques using R

**CO4:** To apply different data mining algorithms to solve real world applications



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#### II MSC COMPUTER SCIENCE

#### **SEMESTER-IV**

#### **MACHINE LEARNING**

PAPER CODE: 23PCSC04

**CO1**: Advanced Understanding of Machine Learning Concepts

CO2: Proficiency in Algorithms and Models

CO3: Data Preprocessing and Feature Engineering

**CO4:** Experimental Design and Evaluation

#### CRYPTOGRAPHY AND NETWORK SECURITY

PAPER CODE: 21PCS12

**CO1**: Understanding Cryptographic Principles

CO2: Security Protocols and Mechanisms

CO3: Cryptanalysis Skills

CO4: Network Security Architecture



#### **DEPARTMENT OF MICROBIOLOGY (PG)**

#### SEMESTER-II

## CORE-III- MEDICAL BACTERIOLOGY AND MYCOLOGY PAPER CODE- 23PMI03

- **CO1:** Collect transport and process of various kinds of clinical specimens.
- **CO2:** Analyze various bacteria based on morphology and pathogenesis.
- **CO3:** Discuss various treatment methods for bacterial disease.
- **CO4:** Employ various methods detect fungi in clinical samples and apply knowledge on antifungal agents.
- **CO5:** Apply various immunodiagnostic methods to detect fungal infections.

## CORE-IV- MEDICAL VIROLOGY AND PARASITOLOGY PAPER CODE- 23PMI04

- **CO1:** Cultivate viruses by different methods and aid in diagnosis. Perform purification and viral assay.
- **CO2:** Investigate the symptoms of viral infections and presumptively identify the viral disease.
- **CO3:** Diagnose various viral diseases by different methods.(serological, conventional and molecular).
- **CO4:** Educate public about the spread, control and prevention of parasitic diseases.
- **CO5:** Identify the protozoans and helminthes present in stool and blood specimens. Perform serological and molecular diagnosis of parasitic infections.

## CORE PRACTICAL-II- MEDICAL VIROLOGY AND PARASITOLOGY PAPER CODE- 23PMIPO2

- **CO1:** Collection of different clinical samples, transport, culture and examination.
- **CO2:** Identify medically important bacteria, fungus and parasites from the clinical samples by staining and biochemical tests.
- **CO3:** Promote diagnostic skills; interpret laboratory tests in the diagnosis of infectious diseases.
- **CO4:** Perform antibiotic sensitivity tests and compare with the standard tests.
- **CO5:** Screening of industrially important microbes for metabolite production.



## ELECTIVE-III- CLINICAL AND DIAGNOSTIC MICROBIOLOGY PAPER CODE- 23PMIE02

**CO1:** Apply Laboratory safety procedures and hospital waste disposal strategies.

**CO2:** Collect various clinical specimens, handle, preserve and process safely.

**CO3:** Identify the causative agents of diseases by conventional and molecular methods following standard protocols.

**CO4:** Assess the antimicrobial susceptibility pattern of pathogens.

**CO5:** Trace the sources of nosocomial infection and recommend control measures.

#### ELECTIVE-III- NANOBIOTECHNOLOGY PAPER CODE- 23PMIE04

**CO1**: Analyze nanomaterials based on the understanding of nanobiotechnology.

**CO2:** Discuss the methods of fabrication of nanomaterials.

**CO3:** Gain Knowledge on characterization of nanomaterials.

**CO4:** Discover nanomaterials for targeted drug delivery.

**CO5:** Explain nanomaterials in nanomedicine and environmental pollution.

## NMEC- GENE MANIPULATION TECHNOLOGY PAPER CODE- 23PBTN01

**CO1:** Understand the basics of Basics of Gene Manipulation Technology.

**CO2:** Apply the knowledge to create Constructions of DNA Libraries Constructions of DNA Libraries.

**CO3:** Acquire adequate knowledge in the use of Genome Sequencing and Transcriptomics.

**CO4:** Evaluate the benefits of Protein Engineering & Pharmaceutical Products. Analyse the importance of Gene Cloning& Applications



# SEMESTER-IV CORE X - RESEARCH METHODOLOGY, BIOSTATISTICS AND BIOINFORMATICS PAPER CODE: 21PMI10

**CO1:** Students shall be enriched with the basic principle of research methodology.

**CO2:** Students shall learn the fundamentals of research methodology and shall learn essential steps involved in research.

**CO3:** They shall be enabled to define and formulate a research problem and also form a research report.

**CO4:** Students shall develop an understanding of importance of biostatistics and its applications in analysis and interpretation of data.

# CORE – XI – PROJECT PAPER CODE: 21PMBPR1

**CO1:** Demonstrate capacity to improve student achievement, engagement and retention.

**CO2:** Demonstrate capacity to lead and manage change through collaboration with others.

**CO3:** Demonstrate an understanding of the ethical issues associated with practitioner research. Analyse data and synthesize research findings.

# ELECTIVE-III – PLANT PHYSIOLOGY AND PLANT TISSUE CULTURE PAPER CODE: 21PMIE03

**CO1:** Also the role of enzymes in it and mechanism of photosynthesis, respiration, nitrogen and lipid metabolism.

**CO2:** The students are able to isolate starch, pectin and various nutritive products from the plants.

**CO3:** Qualitative and quantification of the plant contents and its biochemistry and mode /mechanism of synthesis etc.



# DEPARTMENT OF PHYSICS (PG) SEMESTER-II CORE PHYSICS -STATISTICAL MECHANICS PAPERCODE: 23PPH05

**CO1:** To learn crystal structures.

**CO2:** To study diffraction of X-rays by crystal and defects in crystals. **CO3:** To understand the electric and dielectric properties of non-metals. **CO4:** To gain the knowledge of thermal and electrical properties of solids

# CORE PHYSICS -QUANTUM MECHANICS PAPERCODE: 23PPH06

**CO1:** Study of basics concepts of quantum particles

**CO2:** Gain knowledge on the basic to construct and solve the particle equations in one dimension and three- dimension form.

**CO3:** Learn the knowledge of Relativity theory and its application in day to day life

**CO4:** Study the applications of concentrations cells, storage cells

# PRACTICAL - II ANALOG AND DIGITAL EXPERIMENTS PAPERCODE: 23PPHP02

**CO1:** Understand the implications of characteristics of special diodes

CO2: Understand the implications of characteristics of Transistors

CO3: Gain knowledge on FET, MOSFET, UJT and SCR

**CO4:** Know the operating characteristics of a transistor amplifier

**CO4:** To apply the principles of PTC, ionic liquid, microwave and ultrasonic assisted organic synthesis.

# Skill Enhancement Course – I ELECTRONICS IN DAILY LIFE PAPERCODE;23PPHEC01

**CO1:** To acquire in-depth knowledge of measuring instruments involving electric and magnetic fields

CO2: To study various magnetic properties of materials and their applications



**CO3:** Effectively formulate the electrical circuit problem into a mathematical problem using circuits, laws and theorems

#### **SEMESTER-IV**

# CORE PAPER-IX- NUCLEAR & ELEMENTARY PARTICLE PHYSICS PAPERCODE: 21PPH10

CO1: To learn about nuclear structure and model

**CO2**: To study the nuclear reactions

CO3: To know the basics radioactive decay and particle detectors and

accelerator

**CO4**: To understand the elementary particle physics

#### **ELECTIVE PAPER-IV- CONDENSED MATTER PHYSICS**

PAPERCODE: 21PPH11

**CO1**: Understand the basics of crystals and crystal defects

**CO2**: Understand the free electron theory and semiconductor crystals

**CO3**: To Know the types of materials

# CORE PRACTICAL-IV- MICRO CONTROLLER & C++ PROGRAMMING EXPERIMENTS PAPERCODE: 21PPHP04

**CO1**: The students should be able to gets a wide knowledge of numerical methods in computational Physics that can be used to solve many problems which does not have an analytic solution



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**CO2**: To provide an opportunity to the students to learn about the fundaments of computer applications in solving the problems in different branches of Physics and Mathematics.

**CO3**: They would learn basics of C-programming and programming languages and their applications which can useful in their future carrier in the field of research and technology



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#### **SEMESTER-II**

விருப்ப பாட**ம் பக்தி இலக்கியம்** 

PAPER CODE: 23PTAC04 COURSE OUTCOME

C01 தமிழின் பக்தி இலக்கியப்புலத்தில் புலமை பெறுதல்

CO2 சைவ இலக்கியங்களின் இலக்கிய அழகுகளையும் கருத்து நலன்களையும் யாப்பு

C03 சிறப்புகளையும் தனித்தன்மைகளையும் வைணவ இலக்கியங்களில் இலக்கிய அளவைகளையும்

கருத்து நயங்களையும்யாப்புசிறப்புகளையும் தனித்தன்மைகளையும் உணர்த்தல்

C04 பிற்கால பகுதி இலக்கிய வளர்ச்சி நிலைகளை அறிதல் அருணகிரிநாதர் தாயுமானவர் ராமலிங்கர்

ஆகியோரின் தனித்த பத்தி இலக்கிய பங்களிப்புகளை உணர்தல்

#### காப்பியம்

**PAPER CODE: 23PTAC05** 

**COURSE OUTCOME** 

C01 தமிழில் சமயங்களுக்கும் காப்பியங்களுக்கும் இடையிலான உறவை பங்களிப்பை அறிதல்

C02 சிலப்பதிகாரம் மணிமேகலை சிந்தாமணி கம்பராமாயணம் பெரியபுராணம் முதலிய காப்பிய இலக்கியங்களில் புலமை பெறுதல்

C03 காப்பிய இலக்கியங்களின் நோக்கம் போக்கும் குறித்த தெளிவான பார்வையை பெறுதல்

<u>C04</u> காப்பியங்களின் **அமைப்பு யாப்பு பொருண்மை இலக்கிய நலன்கள்** 

<u>C05 முதலியவற்றை திறனாய்வு பார்வையோடு நன்கறிந் செய்தல்</u>

முதன்மை பாடம் : தொல்காப்பியம்

PAPER CODE: 23PTAC06

#### **COURSE OUTCOME**

C01தமிழ் மொழியின் சொல் அமைப்பினையும் தொடர் அமைப்பினையும் அறிதல்

C02தமிழ் இலக்கணத்தின் தொடர் அமைப்பை அறிந்து கொள்வதன் மூலம் பிற

மொழியை எளிதாக கற்றல் ஆகும்

C03மரவிலக்கியத்தை புரிந்து கொண்டு நவீன இலக்கியத்தை உருவாக்கப்பழகுதல்



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C04தமிழில் உள்ள சொற்களின் வகைகளை அடையாளம் காண பழகுதல்

C05தொடர் இலக்கணம் கற்பதன் வழி பிழையற்ற சொற்களை எழுத இயலும்

அயலகத் தமிழ் இலக்கியம்

PAPER CODE: 23PTAE03
COURSE OUTCOME

CO1உலகளாவிய நிலையில் தொல்குடி நிலையிலும் புலம்பெயர்ந்த நிலையிலும் தமிழர்கள் விளங்குதலை அறிதல்

CO2ஈழத் தமிழ் இலக்கியம் மலையக இலக்கியம் ஆகியவற்றின் வரலாற்றிலையும் வளர்ச்சிகளையும் அறிதல் இலக்கியங்களில் தனித்தன்மையும் இலக்கிய தன் தலைமையும் சமூக பிரதிபலிப்புகளையும் அறிதல்

CO3மலேசியா சிங்கப்பூர் தமிழ் இலக்கியங்கள் குறித்து அறிதல் வகை மாதிரியாக இலக்கியங்கள் பயலல்

CO4அயல்நாடுகளில் **தோற்றம் பெற்றுள்ள தமிழ் இலக்கிய வகைகள் வளம் இலக்கிய நலன்கள்**புலம்பெயர்வின் வலிக்க இடையிலும் இலக்கியத்தில**்** தமிழர்கள் புரிந்துள்ள
தலைச்சிறந்த இலக்கிய ஆக்கங்கள் முதலிய குறித்து ஆழமாக அறிதல்

பொது மொழியியல்

PAPER CODE: 23PTAE04
COURSE OUTCOME

CO1மொழியின் அடிப்படை கூறுகளை விளக்கிக்கொள்ளுதல்

CO2மொழியின் ஒலி ஒலியன் உருவன் தொடர் முதலியனவற்றை அடையாளம்

காணும் திறன் பெறுதல்

CO3தமிழ் இலக்கணங்களையும் இலக்கியங்களையும் மொழியியல் பார்வையில் அணுகும் திறனை பெறுதல்

CO4மொழிகளின் பல்வேறு வகைகளை தெரிந்து கொள்ளுதல்

CO5காலந்தோறும் தமிழ் மொழியின் நிகழ்ந்த நிகழ்வும் மாற்றங்களை

மொழியியல் அணுகு முறையில் விளக்கும் திறமை பெருதல்



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#### **SEMESTER-IV**

பல்நோக்கு **பார்வையில் திருக்குறள்** 

**PAPER CODE: 23PTA18** 

**COURSE OUTCOME** 

CO1திருக்குறளின் சிறப்புகளை மாணவர்களுக்கு உணர்த்துவது

CO2அறம் பொருள் இன்பம் மேலாண்மை போன்ற பல நிலைகளில் ஆராய்தல்

CO3திருக்குறள் கலந்தோறும் பொருந்தி வருவதை புலப்படுத்துவது

CO4அரசியல் தொழில்நுட்பம் மனித வளம் ஆகிய கோணத்தில் பார்ப்பது

CO5பல்நோக்கு பார்வையில் திருக்குறள் அமைந்திருப்பதை மாணவர்களுக்கு

உணர்த்துவது