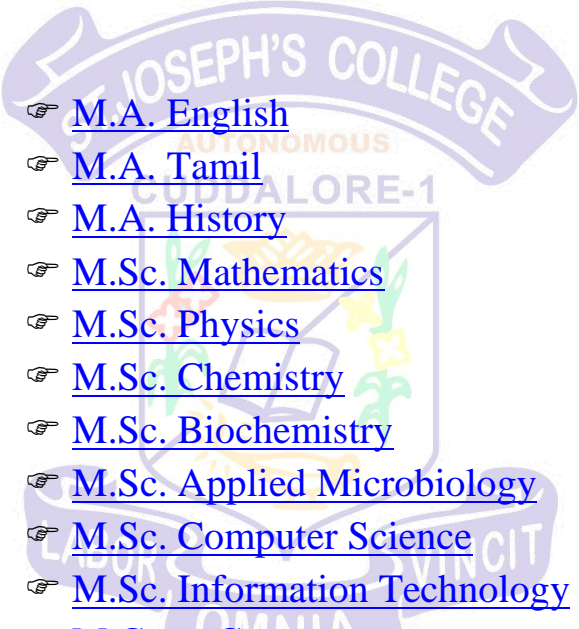




## **COURSE OUTCOMES**

### **POST GRADUATE PROGRAMMES**

**COURSE OUTCOMES (CO):** Course Outcomes (COs) describe the specific skills, knowledge, and abilities that students are expected to acquire upon completing a particular course. The courses are designed to equip students with the necessary skills and knowledge, and students can have a clear understanding of what they are expected to achieve by the end of the course.

- 
- ☞ [M.A. English](#)
  - ☞ [M.A. Tamil](#)
  - ☞ [M.A. History](#)
  - ☞ [M.Sc. Mathematics](#)
  - ☞ [M.Sc. Physics](#)
  - ☞ [M.Sc. Chemistry](#)
  - ☞ [M.Sc. Biochemistry](#)
  - ☞ [M.Sc. Applied Microbiology](#)
  - ☞ [M.Sc. Computer Science](#)
  - ☞ [M.Sc. Information Technology](#)
  - ☞ [M.Com. Commerce](#)
  - ☞ [M.S.W. Social Work](#)



## **M.A. ENGLISH**

### **18PEN11 ENGLISH POETRY**

- CO 1- The prosodic features of the composition of poetry.
- CO 2- Skills to communicate and understand the meaning in poetry.
- CO 3- The components of English poetry in general.
- CO 4- The literary devices and terminology of English poetry.
- CO 5- An intensive discussion of poetic texts and enrich real life.

### **PEN12A INDIAN LITERATURE IN ENGLISH**

- CO1-Traditional ethics of our nation from the Indian Literature.
- CO2-The various facts of Indian Literature and professionally specialised.
- CO3-The research and innovative ideas from the Indian Literature.
- CO4-Students find the technological development from classical to modern Literature
- CO5-The cultural displacement by reading modern writer works

### **PEN13A ENGLISH PROSE AND FICTION**

- CO1 Differentiate the facts, imagination, science, myth from the real life.
- CO2 Do research over a problem for the betterment of society.
- CO3 Understand the life situation.
- CO4 Dream of ideal nation in future.
- CO5 Know more about the technological inventions and developments.

### **18PEN14 20<sup>TH</sup> CENTURY BRITISH LITERATURE**

- CO1: Recognise the changes in culture and technology in society.
- CO2: Group the growth and changes in Language.
- CO3: Familiarity towards the great writers and their writings.
- CO4: To differentiate conventional genres and emerging trends.
- CO5: Ability to know the 20<sup>th</sup> century life style.

### **EPEN15A THEORY OF PRACTICE AND TRANSLATION**

- CO 1- Acquire the professional skill of translation.
- CO 2- Translate the great Indian works to foreign language (English)
- CO 3- Make research on translation at world level.
- CO 4- Obtain new languages and mould as a professional translator.
- CO 5- Find new theories for the betterment of translational theories.

### **18EPEN16 DEBATING AND PUBLIC SPEAKING**

- CO 1: Students present an effective and efficient message through learning.
- CO 2: The five canons of rhetoric to create and present effective speeches.
- CO 3: Skills for community leadership and presentation of ideas.
- CO 4: Strategies and skills to manage communication anxiety.
- CO 5: To describe how public speaking can be used to advocate or create change.

### **20PEN21 ENGLISH DRAMA**

- CO 1: understanding and interpretation of drama as a genre of literature.
- CO 2: Techniques in modern English Drama



CO 3: In acquiring knowledge of some of the important dramatic works

CO 4: Various trends in drama, and the different themes dealt in the dramas during the different literary periods.

CO 5: The development of modern English Drama also with the intellectual and social background.

**PEN22B AMERICAN LITERATURE**

CO 1: Display a working knowledge of American literary genre.

CO 2: distinct the characteristic features of the novels.

CO 3: Critically analyze poems from their structure and meaning, using correct terminology which will enhance their communicative and vocabulary abilities.

CO 4: Effectively communicate ideas related to the Dramas during class and group activities.

CO 5: Analyse simple literary discipline of sustained reading of prose work to develop their moral values.

**18PEN23 MODERN LINGUISTICS AND STYLISTICS**

CO 1 Displays the English sounds in differ from language.

CO 2 Acquire the professional skills of pronouncing.

CO 3 Understand the style of language to communicate

CO 4 Pronounce the word properly and correctly

CO 5 Attain the structure, theories, and applied linguistics

**PEN24B LITERARY CRITICISM**

CO 1 The use of a major online research tool in the field of literature.

CO 2 The text in the study of literary theory and culture.

CO 3 Variety of literary critical tools in research.

CO 4 Historical contexts for the development of contemporary theory and Criticism.

CO 5 An appreciation of the relevance and value of theoretical models in *literary* study

**18EPEN25 ENGLISH LANGUAGE TEACHING**

CO 1 The professional skills of English Language teaching.

CO 2 Research upon the Language.

CO 3 Psychological theories which lead to solve many problems

CO 4 Technological outlook over language enriched towards the teaching

CO 5 Understanding of British English through the Indian Standard English.

**18EPEN26 CREATIVE WRITING IN ENGLISH**

CO 1. Comprehension of the basic principles of creative writing

CO 2. Skills to write a short story/article more effectively

CO 3. Skill to chart out ideas adapting them for screening on radio/ Television

CO 4. Ability to design printed materials, brochures, handouts, audio Visual sources, workshops etc. with uniqueness at the time of presentation

CO 5. Ability to judge and evaluate any work of art

**18PEN31 FEMINIST THEORY AND PRACTICE**

CO 1 Understand feminist theories and get familiar with the major concepts and theories of gender studies.

CO 2 Develop a critical understanding of gender inequalities and social injustice



CO 3 Relate theory and practice through deep insight.

CO 4 Be aware of women's experience in the historical and contemporary Society.

CO 5 Frame a new outlook and skill for a better change in the society.

### **18PEN32 SHAKESPEARE**

CO 1- Enrich themselves in various techniques of drama

CO 2- Think over the development of drama

CO 3- Exhibit various research themes of Shakespeare to stabilize the Society.

CO 4- Promote the Indian Society through Shakespeare's Dramas.

CO 5- Write stories and emerge as an actor, director etc.

### **18PEN33 CONTEMPORARY CRITICAL THEORY**

CO 1: Understand the class division in the society.

CO 2: Enhance the analytical thinking.

CO 3: Understand the differences in culture.

CO 4: Grasp the reader centered approaches.

CO 5: Recognise and understand gender discrimination.

### **20PEN34 SUBALTERN LITERATURE**

CO 1 Comprehend the problems of marginalized people.

CO 2 Care for indigenous people around the world.

CO 3 Perceive complicatedness of Women and how they are suppressed doubly.

CO 4 Know the cultural Displacement by reading modern writer works.

CO 5 Voice for Women and against Gender Discrimination

### **20EPEN35 ENGLISH LITERATURE FOR UGC EXAMINATIONS**

CO 1 – To write NET / SET examinations with adequate knowledge.

CO 2 – To get a comprehensive view of English Literature.

CO 3 – To make the students apply, prepare and clear the competitive exams.

CO 4 – To collect the various materials for preparation.

CO 5 – To impart specific training necessary for writing competitive examinations.

### **18EPEN36 AESTHETICS**

CO 1 Develop innovative thought and communal ideas

CO 2 Acquire an aesthetic experience and the different kinds of beauty

CO 3 Perceive the difference between art and craft

CO 4 Comprehend modern aesthetic phenomena, contemporary modern Culture and society.

CO 5 Develop philosophical enquiry into the origin of our ideas.

### **18PEN41 NEW LITERATURES**

CO 1 Perceive a range of genres, contexts, and cultures.

CO 2 Develop major critical approaches to literary interpretation.

CO 3 Comprehend major conventions, tropes, and themes of abolitionist Literature.

CO 4 Discuss the historical context of a literary work.

CO 5 Comprehend the features with regard to individual authors/works.





**18PEN42 POST MODERN LITERATURE**

- CO 1: Knowledge of the recent trends in the field.
- CO 2: Flares with different cultural aspects across the nation.
- CO 3: Analytical thinking.
- CO 4: Grasp of the existing social norms through literature.
- CO 5: Self-motivation to do research work.

**18PEN43 COMPARATIVE LITERATURE AND LITERATURE IN TRANSLATION**

- CO 1: Knowledge in new areas that is about the concept of comparative Literature and literatures in translation.
- CO 2: Knowledge about literatures of the world and analyze the texts critically
- CO 3: The sense of translated texts that has been read worldwide by sensitizing the young minds to human values.
- CO 4: Effective communicative ideas related to the world historical contexts of Literary production and reception of diverse ideas.
- CO 5: Familiarity with diverse literary concepts written in various languages and translated by different writers.

**20EPEN44 ADVANCED ACADEMIC WRITING**

- CO 1- Acquire good professional writing skills at academic junctions.
- CO 2- Transform as a professionally tuned writer through mechanics of writing
- CO 3- Produce good research works
- CO 4- Change into a Journalist and builds media communication.
- CO 5- The ability to integrate one's own ideas for using appropriate documentation.

**18EPEN45 FEMINIST WRITING**

- CO 1. Develop an adequate skill to understand female tradition of writing.
- CO 2. Understand the major influences of feminist movements in women's writing.
- CO 3. Evaluate, compare and analyse the concepts of female experiences.
- CO 4. Frame connections among global, regional and local issues and their relationship to female experiences.
- CO 5. Recognize the socio-cultural construction of gender.

**18JPEN01 PROJECT WORK**

- CO1. Liberty to choose any genre from within the prescribed topics to write a thesis (Mini project) effectively
- CO 2. Critical analysis and research of the depth of meaning in various branches of Literature during the 20<sup>th</sup> and 21<sup>st</sup> century - British, American, Scottish, Indian Writing, Canadian & Children's.
- CO 3. A holistic approach to understand & appreciate the layers of ideas expressed in the medium of poetry.
- CO 4. Familiarity with the various literary genres and movements, with the depth of insight to work on their project.
- CO 5. Research aptitude as a skill pertaining to a domain

**M.A. TAMIL****20PTA11 இக்கால இலக்கியம்**

- C01:** பாரதியார், பாரதிதாசன், போன்ற கவிதையாளரின் கவிதைகளை படிக்க, எழுதக் கற்றுக்கொடுத்தல். உ.வே.சாவின் உரைநடையின் மூலம் உரைநடை எழுத, படிக்ககற்பித்தல்.
- C02:** நல்ல நாவல்களை படிக்கவும்,எழுதவும் கற்பித்தல்.
- C03:** அகிலனின் சிறுகதைகள் மூலம் சிறுகதைகள் படிக்க,எழுதக் கற்பித்தல்.
- C04:** நாடகம் நடிக்கவும், எழுதவும் சொல்லிக் கொடுத்தல்.
- C05:** நவீனதமிழ் இலக்கியங்களை கற்பித்தல்.

**20PTA12 அறஇலக்கியம்**

- C01:** பதினெண் கீழ் கணக்கு நூல்களான திருக்குறள், நாலடியார், ஆகியவற்றின் சிறப்பினைக் கற்றுக்கொடுத்தல்.
- C02:** திரிகடுகம், ஆசாசரக்கோவை, பழமொழிநானூறு ஆகியவற்றின் சிறப்பினைக் கற்றுக்கொடுத்தல்.
- C03:** மூதுரை, நீதிவெண்பா ஆகியவற்றைக் கற்பித்தல்.
- C04:** நன்னெறி, நீதிநெறி விளக்கம் ஆகியவற்றைக் கற்பித்தல்.
- C05:** குமரேசசதுகம்,குமரேசவெண்பாவைக் கற்பித்தல்.

**20PTA13 தொல்காப்பியம் - எழுத்ததிகாரம்**

- C01:** நூல்மரபு, மொழிமரபு, பிறப்பியல் ஆகியவற்றை கற்பித்தல்
- C02:** புணரியல், தொகைமரபு ஆகியவற்றை விளக்குதல்.
- C03:** உருபியல் உயிர் மயங்கியல் ஆகியவற்றை உணர்த்துதல்.
- C04:** புள்ளி மயங்கியல் பற்றிக் கூறுதல்.
- C05:** குற்றியலுகர புணரியல் பற்றி விளக்குதல்.

**20PTA14 பொது மொழியியல்**

- C01:** மொழியியலும் மொழியியல் சார்ந்த விளக்கங்களை கற்பித்தல்.
- C02:** ஒலியியலும், ஒலியனியலும் பற்றி விளக்குதல்.
- C03:** உருபனியல் வகைகள்,நைடாவின் உருபனைக் கண்டறியும் கொள்கைகள் ஆகியவற்றை எடுத்துரைத்தல்.
- C04:** தொடரியல் பற்றிக் கற்பித்தல்.
- C05:** பொருண்மையியலில் பொருள் வகைகள், சொற்பொருள் மற்றும் இலக்கணப் பொருள்களை கற்பித்தல்.

**20EPT15A ஒப்பிலக்கியம்**

- C01:** ஒப்பிலக்கியம், ஒப்பிலக்கியத் தோற்றம் வளர்ச்சி பயன்பாடுகளை எடுத்துரைத்தல்.
- C02:** இலக்கியப் பார்வையில் உலகம், பொதுமை, தேசியம், ஒப்புட போன்ற சாயல்களைக் கற்றுத்தருதல்..
- C03:** ஒப்பிலக்கியக் கோட்பாடுகளின் வளர்ச்சியில் மூன்றுபடிநிலைகளை அறியவைத்தல்.
- C04:** ஒப்பாய்வுக் களங்கள் பற்றிய ஆய்வு அறியச் செய்தல்.
- C05:** வீரபுகம், தன்னுணர்ச்சி, இயற்கைபுனைவு, முல்லை ஆகிய பாடல்களைப் பற்றி விளக்குதல்.

**20EPT15B கோயிற்கலையும் பண்பாடும் ஆட்சியும்**

- C01:** பண்டைய இலக்கியங்களின் வாயிலாக கோயில் கலையின் தோற்றம், வளர்ச்சிப் பற்றிக் கற்பித்தல்.

- C02:** மூவேந்தர்களின் கோவில் அமைப்புகள் விஜயநகரப் பேரரசுகாலக் கோயில்கள் மற்றும் இக்காலக் கோயிற்கலைவரை விளக்குதல்.
- C03:** கலைகளின் வளர்ச்சி, தலபுராணங்கள் இவற்றால் அறியப்படும் நாகரீகம், பண்பாடுகளைக் கற்றுக் கொடுத்தல்.
- C04:** திருவிழாக்கள், வழிபாட்டுவிதிமுறைகள், மன்னர்கள் கோவில்களில் பணிசெய்தமக்களிடம் மேற்கொண்ட அணுகுமுறைகள் ஆகியவற்றை அறியச் செய்தல்.
- C05:** பொதுநிர்வாகம், மன்னர்கள் நிர்வாகம், ஊர் நிர்வாகம், சிலைகள் பாதுகாத்தல், சிறுதெய்வ, பெருந்தெய்வ வழிபாட்டுமுறைகள் ஆகியவற்றை விளக்குதல்.

## 20PTA21 காப்பியங்கள்

- C01:** சிலப்பதிகாரம் - மதுரைகாண்டத்தில் கொலைகளக் காதைமுதல் வழக்குரைக்காதைவரையும், மணிமேகலையில் மூன்று காதைகளையும் கற்பித்தல்.
- C02:** சேக்கிழாரின் பெரியபுராணத்தில் திருநாளைப் போவார் புராணத்தை விளக்குதல்.
- C03:** கம்பராமாயணத்தின் ஆறு காண்டங்களில் சுந்தரகாண்டமான சூடாமணிப் படலம் பற்றி செய்திகளை கூறுதல்.
- C04:** இரட்சணியயாத்திரிகத்தில் ஆரணிய பருவமான நம்பிக்கை நன்னெறி பிடித்த படலத்தின் புராணத்தை அறியச்செய்தல்.
- C05:** உமறுபுலவரின் சீறாபுராணத்தில் நுபவத்துக்காண்டத்தில் புத்துபேசியபடலத்தின் சிறப்பை விளக்குதல்.

## 20PTA22 பக்தி இலக்கியம்

- C01:** திருஞானசம்பந்தர், திருநாவுக்கரசர், சுந்தரர் ஆகியோரின் தேவாரத்தின் திருமுறைகளில் ஒரு சில பதிகங்களை கற்பித்தல்.
- C02:** ஆழ்வார்களில் நம்மாழ்வார், திருமங்கை ஆழ்வார், ஆண்டாள், பிள்ளைப் பெருமாள் ஐயங்கார் ஆகியோரின் நூல்களைக் கற்றல்.
- C03:** திருமுலரின் எட்டாம் தந்திரம், அருணகிரிநாதர், சிவப்பிரகாசநாதர், வள்ளலார் ஆகியோரின் பாடல்களை விளக்குதல்.
- C04:** எச். ஏ. கிருட்டிணப்பிள்ளையின் இரட்சணிய மனோகரம் பற்றி விளக்குதல்.
- C05:** குணங்குடி மஸ்தான் சாகிபின் நூல்களின் சிறப்புகளை எடுத்துரைத்தல்.

## 20PTA23 தொல்காப்பியம் - சொல்லதிகாரம்

- C01:** கிளவியாக்கம், வேற்றுமையியல் ஆகியவற்றை கற்பித்தல்
- C02:** வேற்றுமைமயங்கியல், விளமரபு ஆகியவற்றை விளக்குதல்.
- C03:** பெயரியல், வினையியல் ஆகியவற்றை உணர்த்துதல்.
- C04:** இடையியல், உரியியல் பற்றிக் கூறுதல்.
- C05:** எச்சவியல் பற்றி விளக்குதல்.

## 20PTA24 இலக்கியத்திறனாய்வும் கொள்கைகளும்

- C01:** திறனாய்வு விளக்கம், பயன், பண்பு, தொல்காப்பிய திறனாய்வு கொள்கைகள், கற்பனை, வடிவகலைகளை கற்பித்தல்.
- C02:** விளக்கம்-ஒப்பீடு, அழகியல், பாராட்டுமுறை, முடியுமுறை, விதிமுறை, பகுப்புமுறை – ஆகிய திறனாய்வு முறைகளை விளக்குதல்.
- C03:** சமுதாயம், வரலாறு, உளவியல், தொல்படிமவியல், மொழியியல், சூழல் ஆகிய திறனாய்வு அணுகுமுறைகள் பற்றி அறியச்செய்தல்.
- C04:** ஒப்பிலக்கியம் - தாக்கம், தலித்தியம், பெண்ணியம், கதைபாடல்கள் பற்றி விளக்குதல்.
- C05:** அமைப்பியல் - நவீனத்துவம், புதுத்திறனாய்வு புதிய வரலாறு, நூல்கள், கட்டுரைகள் பற்றி விளக்கமளித்தல்.

## 20EPT25A பெண்ணியம்

- C01:** பெண்ணிய விளக்கம் - நம் நாட்டு பெண்களுக்கும் அயல் நாட்டு பெண்களுக்கும் இடையே இருக்கிற விடுதலை இயக்கத்தை அறியசெய்தல்.
- C02:** பெண்ணியக் கோட்பாடுகளில் பெண்ணடிமைக்கானகாரணங்கள்,முன்னேற வழிமுறைகள் பற்றியும் பெயார் பெண்களின் விடுதலைக்காக ஏற்படுத்திய வழிமுறைகள் பற்றியும் விளக்குதல்.
- C03:** இந்தியாவில் பெண்கள் தோற்றம், வளர்ச்சிகண்டதையும் பெண்களுக்கான சட்டதிட்டங்கள், மகளிர் அமைப்புகள் பற்றி அறிந்து கொள்ளச் செய்தல்.
- C04:** தமிழிலக்கியநோக்கில் பெண்களின் முன்னேற்றங்களைபற்றி கூறுதல்.
- C05:** இலக்கியத்தில் பெண்ணிய விமர்சன பார்வை இக்கால இலக்கியம் வரைகற்பித்தல்.

## 20EPT25B தமிழ்மொழி வரலாறு

- C01:** மொழி வரலாறு.யூச் சான்றுகளான இலக்கிய இலக்கணங்கள் கல்வெட்டுகள், அகராதிகள், உரையாசிரியர்களின் அயல்நாட்டு இலக்கியங்கள் பற்றிகற்பித்தல்.
- C02:** சங்ககாலத் தமிழில் எகரம் அகரமாதல், மூவிடங்கள், ஊகாரம் ஆகாரமாதல், இடைநிலைகள், விசுதிகள் ஆகிய இலக்கணங்களை கற்றுத் தருதல்.
- C03:** சங்கம் மருவியகாலத் தமிழ் இலக்கணங்களில் யகரமெய், நகரமெய் கெடல், குறில் நெடில் மாறுதல்கள், சகரமொழி,சுட்டுப்பெயரடைவேற்றுமை உருபுகள், எண்ணுபெயர்கள், காலம் காட்டும் கிளவிகள் ஆகியவற்றை விளக்கிக் கூறுதல்.
- C04:** பல்லவர், சோழர், பாண்டியர் காலத் தமிழானஒலியன்கள், ஒலிமாற்றங்கள். வடசொல் செலவாக்குகள், ஆள் விசுதிகள், வேற்றுமை ஏவல், எச்சங்கள் பற்றிவிளக்குதல்.
- C05:** தற்காலத் தமிழ் இலக்கிய இலக்கணமான நூல்களில் பேச்சுத் தமிழ் ஒலியன்களும் ஒலிமாற்றங்களும், வடிவங்கள், பெயர் பாகுபாடுகள், வானொலி தொலைக்காட்சி மேடை ஆயிவற்றில் பிறமொழிக்கலப்பால் தமிழ் சொற்களில் ஏற்பட்டுள்ள மாற்றங்களைப் பற்றி எடுத்துரைத்தல்.

## 20PTA31 சிற்றிலக்கியங்கள்

- C01:** 96 வகைசிற்றிலக்கியங்களில் ஒன்றானகலம்பகத்தையும் திருவரங்க கலம்பகத்தின் சிறப்பையும் விளக்குதல்.
- C02:** முத்துக்குமாராசாமிபிள்ளைத்தமிழில் முதல் 5 பருவங்களைகற்பித்தல்.
- C03:** கலிங்கத்துப் பரணியின் கடைத்திறப்பு,களம் பாடியதுபற்றிக் கற்பித்தல்.
- C04:** திருவெங்கையலாவின் சிறப்பினைஎடுத்துரைத்தல்.
- C05:** தஞ்சைவாணன் கோவை நூலின் முதல் 50 பாடல்களைகற்பித்தல்.

## 20PTA32 ஆராய்ச்சி நெறிமுறைகள்

- C01:** ஆராய்ச்சி நெறிமுறைகள் விளக்கம், பொருள், ஆய்வாளர்க்குரிய தகுதிகள், ஆராய்ச்சி வகைகள் ஆய்வுசிக்கல்கள் பற்றிஎடுத்தரைத்தல்.
- C02:** ஆய்வின் அடிப்படை நெறிமுறைகள், ஆய்வுபொருளை தெளிவாகச் சுட்டல், ஆராயப்படவேண்டியவற்றை தெளிவாக எடுத்துக் கொள்ளுதல் போன்றவற்றை கற்றுத் தருதல்.
- C03:** ஆய்வுலகஅடிப்படைக் கோட்பாடுகளில் செய்திகள்,கருத்துகள்,விதி, கொள்கை,அறிவியல் ஆய்வும் கலையியல் ஆய்வும் தெரிந்துகொள்ளசெய்தல்.
- C04:** ஆய்வேட்டின் அமைப்பும் வரைவுமுறையும் பற்றி தெளிவாக அறிந்து கொள்ளவைத்தல்.
- C05:** தமிழாய்வு பரப்பு, இலக்கிய ஆய்வு வரலாறு, அகராதி, தமிழியலும் - மொழியிலும், பண்பாட்டியலும், நுண்கலைகளும் பற்றிகற்பித்தல்.



## 20PTA33 தொல்காப்பியம் பொருளதிகாரம் 1

- C01:** அகக் கருத்துகளையும் அக இலக்கணத்தையும் கற்பித்தல்  
**C02:** புறக் கருத்துகளையும் புற இலக்கணத்தையும் கற்பித்தல்  
**C03:** களவியலில் கற்புநெறியை உணர்த்துதல்.  
**C04:** கற்பியலின் கற்புநெறியை உணர்த்துதல்.  
**C05:** பொருளியலின் சிறப்பையும் இலக்கணத்தையும் விளக்குதல்.

## 20PTA34 உரையியல்

- C01:** உரையின் வரையறை, வகைகள், வரலாறு, உரையாசிரியர் பரம்பரை ஆகியவற்றை கற்பித்தல்.  
**C02:** இலக்கண உரைகளையும் இலக்கண உரைகளுக்கு இடையேயான தன்மைகளையும் இலக்கண உரைவரலாற்றையும் எடுத்துரைத்தல்.  
**C03:** இலக்கிய உரைகளின் சிறப்புகளையும் சமய உரைகளின் வரலாற்றையும் கற்பித்தல்.  
**C04:** உரை ஆய்வுகள், உரைக் கொத்து, உரையின் வரலாறு, உரையின் மீட்டுருவாக்கம் ஆகியவற்றை விளக்கியுரைத்தல்.  
**C05:** உரை ஆளுமைகளையும் இலக்கண, இலக்கிய உரையாசிரியர்களின் தனித்தன்மையையும் விளக்குதல்.

## 20EPT35A நாட்டார் வழக்காற்றியல்

- C01:** நாட்டார் வழக்காற்றியல் கருத்தாக்கம் பற்றிக் கற்பித்தல்.  
**C02:** நாட்டார் வழக்காற்றியல் கோட்பாடுகளைக் கற்பித்தல்.  
**C03:** நாட்டார் வழக்காற்றியல் பின் புலத்தையும் வழக்கலாறுகளையும் கற்பித்தல்.  
**C04:** நாட்டார் வழக்காற்றியல் கலைநிகழ்ச்சிகளையும் கற்பித்தல்.  
**C05:** நாட்டார் வாழ்வு, பண்பாடு, சமயம் பற்றிக் கற்பித்தல்.

## 20EPT35B இந்திய தத்துவங்கள்

- C01:** இந்திய தத்துவம், உலகாதம், ஆசீவகம் போன்றவற்றை கற்பித்தல்.  
**C02:** சமணம், பொளத்தம், யோகம் போன்றவற்றை கற்பித்தல்.  
**C03:** வைசேடிகம், சத்தபிரமவாதம், பரிணாமவாதம், வேதாந்தம் கற்பித்தல்.  
**C04:** சைவம், வீரசைவம், பாசுபதசைவம் பற்றி விளக்குதல்.  
**C05:** வைணவம், சித்தர், சித்தாந்தம் பற்றி விளக்கியுரைத்தல்.

## 20PTA41 சங்க இலக்கியம்

- C01:** எட்டுத்தொகையில் அக நூல்களான குறுந்தொகை, நற்றிணை, அகநானூறு பாடல்களை விளக்குதல்.  
**C02:** எட்டுத்தொகையில் புற நூல்களான புறநானூறு, பதிற்றுப்பத்து நூல்களை விளக்குதல்.  
**C03:** பத்துப்பாட்டின் கடவுள் வாழ்த்தாக அமைந்த திருமுருகாற்றுப்படையின் சிறப்பினை எடுத்துரைத்தல்.  
**C04:** கலித்தொகையில் குறிஞ்சிகலி மற்றும் மருதக்கலியினை எடுத்துரைத்தல்.  
**C05:** எட்டுத்தொகையில் அகமும் புறமும் பற்றி கூறும் பரிபாடலின் சிறப்பினை விளக்கி உரைத்தல்.

## 20PTA42 அகராதியியல்

- C01:** அகராதியியல் சொல்விளக்கம், வரலாறு பல்வேறுகாலம் பற்றி கற்பித்தல்.  
**C02:** அகராதியின் வகைகள் பற்றி விளக்குதல்.  
**C03:** அகராதியின் பல்வேறு கொள்கைகள், குறிப்புபொருள் பற்றி விளக்குதல்.  
**C04:** அகராதியின் உருவாக்கம் மற்றும் கலைச்சொல், கூட்டுச்சொல் பற்றி விளக்குதல்.  
**C05:** அகராதியின் பதிவுக் கூறுகள், அகராதியியல் ஆய்வுகள் பற்றி விளக்குதல்.

## 20PTA43 தொல்காப்பியம் பொருளதிகாரம் 2

**C01:** மெய்பாட்டியலின் இலக்கணத்தையும் சிறப்பையும் கற்பித்தல்

**C02:** உவமயியலில் கூறும் கருத்துகளை விளக்குதல்.

**C03:** மரபுச் சொற்களையும் மரபியல் சார்ந்த செய்திகளையும் விளக்குதல்.

**C04:** செய்யுளியல் சூத்திரத்தில் 1 முதல் 118 வரையிலான இலக்கணங்களை எடுத்துரைத்தல்.

**C05:** செய்யுளியல் சூத்திரத்தில் 119 முதல் 235 வரையிலான இலக்கணங்களை எடுத்துரைத்தல்.

## 20PTA44 Project (களஆய்வு, நூல் ஆய்வு)

**C01:** ஆய்வுக்குரிய இடங்களை நேரில் சென்று பார்த்தல்.

**C02:** களஆய்வு செய்வதனால் பண்பாடு, கலாச்சாரம் அறிதல்.

**C03:** களஆய்வு மூலம் கல்வெட்டியல், சுவடியலின் தன்மையை அறிதல்.

**C04:** களஆய்வு மூலம் நேரடி மனித தொடர்பு உண்டாவுதல்.

**C05:** நாடகத்தின் சிறப்பையும் அமைப்பையும் விளக்குதல்.

## 20EPT45A தமிழர் மானிடவியல்

**C01:** மானிடவியல் தோற்றம், விலங்குகளும் மனிதனும் மற்றும் பண்பாட்டின் தன்மைகள் பற்றிக் கற்றுக் கொடுத்தல்.

**C02:** தாய்வழிமரவு- வகைகள், ஆதிசமுக்க அமைப்பு மற்றும் தமிழ் திருமண முறைகள் பற்றி விளக்குதல்.

**C03:** சாதித் தொன்மங்கள், சமூகமாற்றங்கள், பிறசமூக அமைப்புகளின் முரண்பாடு – கோட்பாடுபற்றி விளக்குதல்.

**C04:** தெய்வ உலகம், சமூகப் பெயர்வும் குலதெய்வவழிபாட்டுக் குழுவின் மாற்றங்களை கற்றுக் கொடுத்தல்.

**C05:** திருவிழாக்கள், கைவினைக் கலைஞரும் சமயமும் பற்றியும் தமிழக கிராமங்கள் - கிழக்கிந்திய கம்பெனியாளரின் பார்வை பற்றி விளக்குதல்.

## 20EPT45B படைப்பாக்கமும் ஆளுமைத்திறனும்

**C01:** படைப்பிலக்கிய வசதிகள், படைப்பாளியின் உளவியல் - கோட்பாடுகளையும் கற்பித்தல்.

**C02:** நாடகம், கவிதை, சிறுகதை, நாவல், ஆய்வுக் கட்டுரை ஆகியவற்றின் அடிப்படை வசதிகளை கற்றுக் கொடுத்தல்.

**C03:** ஆளுமைப்பண்பு – கோட்பாடுகள், வெவ்வேறு பருவங்களில் ஆளுமைப்பண்பின் வளர்ச்சி, ஆளுமைப் பண்பின் கூறுகளைக் கற்பித்தல்.

**C04:** ஆளுமைப் பண்பை பாதிக்கும் காரணிகள், ஆளுமைப் பண்பை மேம்படுத்தும் விதிகள், நன்னடத்தை, நீதி நூல்கள் காட்டும் அறவழிகளைக் கற்றல்.

**C05:** மகத்தான ஆளுமையாளர்களான காந்தி, அம்பேத்கார், பாரதியாரின் படைப்புகளை பயிற்றுவித்தல்.



## **M.A. HISTORY**

### **PHI701 HISTORY OF TAMIL NADU UPTO 1336 A.D**

**CO1:** The students will be aware about the various sources such as archaeological, inscriptional and literary sources on Tamil Nadu History

**CO2:** Be aware of the novel characteristics of the Sangam Society

**CO3:** Will be in a position to understand and analyse the political condition that existed till 885 C.E.

**CO4:** To be well versed in the evolution of art history in Tamil Country

### **PHI702 HISTORY OF INDIA – I (Upto 1206 A.D)**

**CO1:** Students will demonstrate knowledge of the chronology of history of ancient India.

**CO2:** Students will correctly extract evidence from primary sources by analyzing and understanding the ancient state system to modern state system.

**CO3:** Students will evaluate primary historical sources like inscription like as well as literature by analyzing them in relation to the evidence that supports them their theoretical frameworks, and other secondary historical literature.

**CO4:** Students will acquire the knowledge of the civilization of ancient people of the study period.

### **PHI703 CULTURAL HERITAGE OF INDIA**

**CO1:** Students will be aware about the various social and cultural and religious history of India

**CO2:** Be Aware the novel characteristics of vedic society

**CO3:** Will be in a position to understand and analyse the political condition that existed till 1615 C.E.

**CO4:** To be well versed in the evolution of cultural history in India.

### **EPHI705 ECONOMIC HISTORY OF MODERN INDIA**

**CO1:** To understand about the economic condition of European conversation of India.

**CO2:** Known about the diversified ambitions of Indian agriculture.

**CO3:** Various Reforms of and promote of the Indian economy the three types.

**CO4:** Trace the Economic consequences of the British agriculture method and deputed Economy depleted Economy Mixed Economy Stagnation and Poverty.

### **PHI704 HISTORY OF EUROPE I (FROM 1453 TO 1788 A.D)**

**CO1:** Know about the onset of a Modern Thought Process in Europe through the Speeches and Writings of European Philosophers.

**CO2:** Clearly know about the active participation of German Protestant Leaders towards Reformation in Christian Religion.

**CO3:** Visualize on the Rise and fall of Great Dynasties and on the Era of Enlightened Despots in Europe.

**CO4:** Grasp on the emergence of nascent form of democratic institutions in Europe, replacing the autocratic rule.



## **PHI806 HISTORY OF TAMIL NADU FROM 1336 A.D TO 1990 A.D.**

- CO1:** The students will be aware about the various sources such as archaeological, inscriptional and literary sources on Tamil Nadu History
- CO2:** Be aware of the novel characteristics of the Sangam Society
- CO3:** Will be in a position to understand and analyse the political condition that existed till 885 C.E.
- CO4:** To be well versed in the evolution of art history in Tamil Country

## **PHI807 HISTORY OF INDIA – II (FROM 1206 TO 1761 A.D.)**

- CO1:** Understand about the political condition that prevailed in India during the decline of Mughal rule, Judiciary advent of Europeans
- CO2:** Know about the diversified ambitions of Europeans in India to colonise and their subsequent success in wars achieving their goal
- CO3:** Acquire knowledge about the various reforms administrative measures taken by the company through its Governor Generals in a bid to consolidate their military gains.
- CO4:** Trace the socio religious reforms, educational reforms, judicial reforms, reforms in Transport and communication and on the subsequent outbreak of Mutiny.

## **PHI808 CONSTITUTIONAL HISTORY OF INDIA 1773-1950**

- CO1:** Know the Indian Democracy, Federation, Unitary, General Elections
- CO2:** Study more about National and Regional Parties, Vote turn out, interest pressure groups, last twelve General Elections
- CO3:** Learn about the Nature of the Constitution, The Preamble, Fundamental Rights, The Directive Principles of the State Policy.
- CO4:** The Union Government, The President, Vice-President, The Parliament, The Union and State Relations, Emergency Provisions

## **EPHI810 HISTORY OF MODERN ASIA**

- CO1:** Understand the Traditional Geographical and historical background.
- CO2:** Understand more about exploration and exploitation with reference to Burma, Malay Peninsula, Indonesia,
- CO3:** Study more about the National Movements for freedom
- CO4:** Know the Political and economic problems population and food.

## **PHI809 HISTORY OF EUROPE FROM 1789 A.D. TO 1919 A.D**

- CO1:** Know about the onset of a Modern Thought Process in Europe through the Speeches and Writings of European Philosophers.
- CO2:** Clearly know about the active participation of German Protestant Leaders towards Reformation in Christian Religion.
- CO3:** Visualize on the Rise and fall of Great Dynasties and on the Era of Enlightened Despots in Europe.
- CO4:** Grasp on the emergence of nascent form of democratic institutions in Europe, replacing the autocratic rule.





## **ECHR901T HUMAN RIGHTS OTHER DEPARTMENTS ALL PG**

Co1: Knowledge About Emergence Of Human Rights.

Co2: Knowledge Relating To Various Declaration On Human Rights

Co3: Know The Various Covenants For Protecting Human Rights

Co4. To Know The Various Covenants For Protecting Human Rights

Co5: To Evaluate Certain Issues On Human Rights.

## **PHI911 HISTORY OF INDIA – III (FROM 1761 TO 1947 AD)**

**CO1:** Students will demonstrate knowledge of the Muslim empire, secularism, and unexplored areas of history.

**CO2:** Students will correctly extract evidence from primary sources by analyzing and understanding the ancient state system to modern state system.

**CO3:** Students will evaluate primary historical sources like inscription like as well as literature by analyzing them in relation to the evidence that supports them their theoretical frameworks, and other secondary historical literature

**CO4:** Students will acquire the knowledge of the Indian history during the medical period

## **PHI91 INTERNATIONAL RELATIONS SINCE 1945**

**CO1:** Understand different theories the world political dynamics and key aspects of world affairs affecting different nations and the working of international organisations.

**CO2:** Understand the Geo – political considerations in the management of international Realtions.

**CO3:** Understand different cooperative actions and agreements affecting the participating countries in terms of political social, economic, cultural and exchanges.

**CO4:** Appreciate the working of international cooperation organizations like UNO, EU, ASEAN etc.

## **PHI913 HISTORY OF THE U.S.A (FROM A.D. 1900 TO A.D. 2000)**

**CO1:** Understand the challenges of USA in the construction of its own government

**CO2:** Know the accomplishment of Presidents of USA for ascertaining its internal progress

**CO3:** Obtain knowledge on how the USA tackled problems like geographical expansion and slavery.

**CO4:** Assess the basic principles affluence and influence are being still experimented by USA

## **PHI914 INTELLECTUAL HISTORY OF INDIA**

**CO1:** Understand about the political condition that prevailed in India during the decline of Mughal rule, Judiciary advent of Europeans

**CO2:** Know about the diversified ambitions of Europeans in India to colonise and their subsequent success in wars achieving their goal

**CO3:** Acquire knowledge about the various reforms administrative measures taken by the company through its Governor Generals in a bid to consolidate their military gains.

**CO4:** Trace the socio religious reforms, educational reforms, judicial reforms, reforms in Transport and communication and on the subsequent outbreak of Mutiny.



**EPHI915 HUMAN RIGHTS**

**CO1:** Know the Indian Justice and Human Rights – Liberty and Equality.

**CO2:** Understand the international Covenants on Human Rights – Economic Social & Cultural Rights.

**CO3:** Visualize on Constitutional Guarantee on Human Rights – Fundamental Rights of India.

**CO4:** Clearly know the Contemporary issues in Human Rights. Private Human Rights Organization.

**PHI1016 INDIA IN INTERNATIONAL RELATIONS**

**CO1:** Understand different theories the world political dynamics and key aspects of world affairs affecting different nations and the working of international organizations.

**CO2:** Understand the Geo – political considerations in the management of international Relations.

**CO3:** Understand different cooperative actions and agreements affecting the participating countries in terms of political, social, economic, cultural and exchanges.

**CO4:** Appreciate the working of international cooperation organizations like UNO, EU, ASEAN etc.

**PHI1017 HISTORIOGRAPHY AND RESEARCH METHODOLOGY**

**CO1:** Students will be able to connect science and technology to real world problems by explaining how science relates to problems of societal concern

**CO2:** Distinguish between sound and unsound interpretations of scientific information

**CO3:** Demonstrate knowledge of scientific and technological advancements and their impact on historical and modern societies

**CO4:** Student will be understand the difference between ancient scientific knowledge of Indians in to Modern scientific Technology

**EPHI1018 ARCHIVAL MANAGEMENT**

**CO1:** Knowledge about Functions of an Archival and value of Archeology as a primary source.

**CO2:** Understand the understandings of Archival management.

**CO3:** Knowledge relations to conservation of Archival management.

**CO4:** Study more about Archival in Tamil Nadu.



## **M.Sc. MATHEMATICS**

### **PMT701 ALGEBRA-I**

- CO1: Studying more on groups about Another Counting Principle
- CO2: Studying about Sylow’s proofs on index of subgroups
- CO3: Learning about Direct products and Modules of groups
- CO4: Reading the canonical forms and Jordan forms of Matrices
- CO5: Studying on Rational canonical form of Trace and Transpose of Matrices

### **PMT702S REAL ANALYSIS**

- CO1: Learning the functions of bounded variations in real analysis
- CO2: Getting the knowledge about basics and properties of Reimann- Steiljes Integral
- CO3: Knowing more properties of Reimann- Steiljes Integral
- CO4: Receiving more information about infinite series
- CO5: Acquiring more knowledge of sequences of functions

### **PMT703 ORDINARY DIFFERENTIAL EQUATIONS**

- CO1: knowing the basic concepts Linearly Independent and dependent functions for solving differential equations.
- CO2: Knowing methods to solve the differential equations and check the linear solutions.
- CO3: Knowing some new techniques to convert differential equations for matrix form to find matrix solution.
- CO4: Knowing some matrix methods to solve the linear differential equations.
- CO5: Knowing the application of Real Analysis for solving the differential equations with analysis of unique solutions.

### **PMT704S CLASSICAL MECHANICS**

- CO1: Use knowledge of mechanical system in classical mechanics.
- CO2: Understand formulate physical problems as classical mechanics using Lagrange’s equation.
- CO3: Interpret solutions in physical context, Hamiltonian equations, variational principle.
- CO4: Classify classical mechanics, apply Hamiltonian Jacobians, descriptions.
- CO5: Formulate, understand analogies between canonical transformation.

### **EPMT705T MATHEMATICAL PROGRAMMING**

- CO1: Identify the significance to use ILP.
- CO2: Know the different between LPP and DPP approaches.
- CO3: Able to use some of the NLP technique.
- CO4: Learn to solve general LPP in an essential computation procedure.
- CO5: Solving LPP using revised simplex method

### **EPMT705B APPLIED ABSTRACT ALGEBRA (OPTIONAL)**

- CO1: Applications of Algebra in regarding with Lattices and its properties
- CO2: Studying about Applications of Lattices like switching circuits
- CO3: Getting the Knowledge about fields and polynomials
- CO4: Studying more about polynomials like reducible and irreducible polynomials to find roots
- CO5: Getting the Knowledge about coding theory for Linear Codes and Cyclic codes



**PMT806S ALGEBRA –II**

- CO1: Acquiring the knowledge on Extension fields
- CO2: Learning the methods to find the roots of polynomials theoretically
- CO3: Learning more about roots and Galois's theory
- CO4: Receiving the knowledge about solvability of groups
- CO5: Getting the knowledge on Division Algebra and Four-Square theorem

**PMT807 MEASURE THEORY**

- CO1: Learning the basics of Lebesgue Measure
- CO2: Getting the more knowledge about Lebesgue Measure
- CO3: Knowing more properties of Measureable set
- CO4: Receiving the information about General measure
- CO5: Acquiring more knowledge of Measure and outer measure

**PMT808S NUMERICAL ANALYSIS**

- CO1: Knowing the methods to find roots of non-linear equation.
- CO2: Knowing the Numerical value of Integration by comparing the Analytical solution.
- CO3: Knowing the intermediate values using cubic spline.
- CO4: Knowing the methods of cubic spline to solve the differential equations.
- CO5: Knowing the numerical solution of partial differential equations.

**PMT809T FLUID DYNAMICS**

- CO1: Understand the Concepts of flow in Fluid
- CO2: Measure Fluid Pressure and related to flow velocity, understanding Bernouli's equations
- CO3: Understand the concept of some Three-Dimensional Flow, like source, sink.
- CO4: Understand and analysis the Concepts of Two Dimensional in Complex Fluid
- CO5: Understand concepts of Stress in flow of Fluid, Navier Stokes Equation.

**EPMT810T OPERATIONS RESEARCH**

- CO1: Acquires the knowledge of PERT – CPM calculation
- CO2: develops the skill of analyzing the stock managements
- CO3: exposed to identify and solve different queuing models
- CO4: to optimize the outcome in production using Replacement models
- CO5: gets knowledge on stocks, demand and supply for smooth business progress.

**EPMT810A SPECIAL FUNCTIONS (OPTIONAL)**

- CO1: Students able to solve simultaneous linear differential equations.
- CO2: Students able to determine the Numerical solution using Taylor series.
- CO3: Students able to analyses problems in linear second order differential equations.
- CO4: Students able to pertain Bessel functions and Legendre functions.
- CO5: Students able to know Fourier series and Fourier integrals.

**PMT911 COMPLEX ANALYSIS-I**

- CO1: Explain fundamental concepts of complex analysis and the role in modern mathematics.
- CO2: Apply calculus in complex domain..
- CO3: Apply cauchy's theorem in evaluating integral in different domains.
- CO4: Apply cauchy's intergral formula In evaluating complex integrals.
- CO5: Apply cauchy's residue theorem in evaluating harder integral





**PMT912S TOPOLOGY**

- CO1: To understand Concept such as open set, closed set, interior, closure related to Topology
- CO2: Create new topological by using sub spaces
- CO3: To understand Concepts of Compactness and ability to analysis the related theorem
- CO4: construct the completely regular spaces and normal spaces in topology.
- CO5: Demonstrate a Weierstrass approximation theorem in locally connected spaces

**PMT913S DIFFERENTIAL GEOMETRY**

- CO1: To understand the concept of Space Curve and learn to classify the standard examples.  
In particular contact between curves and surfaces, Involutes, Evolutes, Serent Ferent Formula.
- CO2: To Learn Properly in Space Curves, Fundamental Existence in Space Curves
- CO3: Understanding of Intrinsic Properties and its related to other discipline.
- CO4: Calculate the Gaussian Curvature, Mean curvature, the geodesics of the surfaces
- CO5: Capability to analysis Non-Intrinsic Properties of surfaces

**PMT914A NUMBER THEORY AND CRYPTOGRAPHY**

- CO1: Students able to understand the divisibility and Euclidean algorithm.
- CO2: Students able to understand quadratics residues and reciprocity.
- CO3: Students able to analyse encryption and decryption.
- CO4: Students able to do the primality test.
- CO5: Students able to the determine the elliptic curve primality test.

**EPMT915 FUZZY SUBSETS AND ITS APPLICATION**

- CO1: Acquire knowledge on the basic definitions and fundamentals of Fuzzy set theory.
- CO2: Able to get ideas on Fuzzy graphs and its properties
- CO3: Improve their ability in the concept of Fuzzy relations
- CO4: Attain knowledge of the Fuzzy Logic in different forms
- CO5: Understand the applications of Fuzzy logic

**EPMT915A INTEGRAL TRANSFORMS**

- CO1: Enables to classify, convert and solve linear equations, IVP and BVP
- CO2: Attains knowledge on Fredholm Intergral Equation  
Able to get ideas on Fuzzy graphs and its properties
- CO3: Improves their understanding ability on Volterra Integral Equations
- CO4: Attains knowledge on Integra-Differential Equations
- CO5: understands the idea on Singular Integral Equations

**PMT1016 COMPLEX ANALYSIS-II**

- CO1: Compute the Taylor's and Laurent expansion of simple functions, determine the singularity.
- CO2: manipulate and explicit analytic expression for exponential and trigonometric functions.
- CO3: understand the Riemann zeta functions and its role in application of complex analysis to number theory.
- CO4: Apply Normality, Equi- continuity, compactness properties of family of family of analytic function.
- CO5: Apply Riemann mapping theorem in mapping of multiply connected region, Apply reflection principle in simple connected region.



**PMT1017 FUNCTIONAL ANALYSIS**

- CO1: To understand the concept of Banach Space and learn to classify some standard examples
- CO2: To understand the concept of Hilbert Space and learn to classify some standard examples
- CO3: To Learn to Properly the specific Techniques for bounded operator over normed and Hilbert Space
- CO4: To understand How to use the main Properties of Compact Operator
- CO5: To understand the concept of Banach Algebra

**PMT1019T PARTIAL DIFFERENTIAL EQUATIONS**

- CO1: Use knowledge of partial differential equation (PDE), partial differential equation of first order.
- CO2: Formulate fundamental concepts, second order PDE.
- CO3: Understand analogies between elliptic differential equations.
- CO4: Classify PDE and apply parabolic differential equation for a circle.
- CO5: Solve practical PDE problems with hyperbolic differential equations.

**EPM1020 GRAPH THEORY**

- CO1: Develops the skill of calculating minimum shortest path in a weighted graph.
- CO2: Learns to get an minimum weighted complete graph using krushal algorithm.
- CO3: Knows to determine the good solution for travelling sales man problem.
- CO4: Collectively solve the time tabling problem using edge colorings.
- CO5: Enables to understand the characterization of planar graph and dual, vertex coloring and its application.

**EPM1020A FORMAL LANGUAGES AND AUTOMATA THEORY(optional)**

- CO1: Know the concepts of finite automata, nondeterministic finite automata and finite automata moves.
- CO2: Learns the concepts of regular expression and pumping lemma for regular sets.
- CO3: Know the concepts of free grammars and simplification of context.
- CO4: Enables to understand the pushdown automata and free languages.
- CO5: Able to understand the properties of context-free languages.

**PCS701S MATHEMATICAL FOUNDATIONS FOR COMPUTER SCIENCE**

- CO1: Know the basic concepts of operations on sets, relations and functions.
- CO2: Learns to solve the logical operators and know the tautology concepts.
- CO3: Know the concepts of finite automata and language accepted by a finite automata.
- CO4: Know the concepts of equivalence of finite automata and nondeterministic finite automata.
- CO5: Enables to understand the pushdown automata, acceptance by pushdown automata and important properties of move relation.



## **M.Sc. PHYSICS**

### **PPH11A CLASSICAL MECHANICS**

- CO1:** Acquire knowledge of Lagrangian formulations
- CO2:** Understand the concepts Central Force Motion And Small Oscillations
- CO3:** Understand the concept of Hamiltonian Formulations
- CO4:** Study the dynamics of rigid bodies
- CO5:** Understand the concepts of relativistic mechanics

### **PPH12A MATHEMATICAL PHYSICS - I**

- CO1:** Give the basic knowledge of vector spaces
- CO2:** Study the complex variables
- CO3:** Understand the Fourier Series And Laplace Transforms
- CO4:** Under various differential equations
- CO5:** Understand the concepts of special functions

### **PPH13A ELECTROMAGNETIC THEORY**

- CO1:** Study electromagnetic waves
- CO2:** Understand the concepts of reflection and transmission of EM waves
- CO3:** Acquire knowledge of wave guides and waves
- CO4:** Study about antenna and wave propagation
- CO5:** Understand the concepts relativistic electrodynamics

### **18EPPH14 ELECTRONIC DEVICES & APPLICATION**

- CO1:** Acquire knowledge of PN junction diode and special diodes
- CO2:** Understand the concepts of various semiconductor transistors & devices
- CO3:** Study microwave devices
- CO4:** Understand the concepts Op-amps and its applications
- CO5:** Apply the knowledge of Oscilloscope and other measuring instruments

### **18EPPH15 LASER PHYSICS**

- CO1:** Understand the basic principles of laser action
- CO2:** Learn the characteristics of laser
- CO3:** Provide solutions to various problems related to laser systems
- CO4:** Apply the laser spectroscopic techniques in various applications
- CO5:** Study the features and parameters of quantum laser

### **18PPH21 STATISTICAL MECHANICS**

- CO1:** Study the nature of statistical mechanics
- CO2:** Understand the concepts of various ensembles
- CO3:** Study statistics of systems of independent particles
- CO4:** Understand the concepts quantum statistics
- CO5:** Understand the fluctuations and Transport Properties of materials



**PPH22A MATHEMATICAL PHYSICS – II**

- CO1:** To give the basic knowledge of tensors
- CO2:** Get the acquire knowledge of group theory
- CO3:** Understand the concepts partial differential equation
- CO4:** Study numerical analysis
- CO5:** Understand the concepts of probability and statistics

**18PPH23 QUANTUM MECHANICS – I**

- CO1:** Study the postulates of quantum mechanics
- CO2:** Understand the concepts one dimensional problems
- CO3:** Understand the concepts of angular momentum operators & Eigen values.
- CO4:** Understand the various approximation methods
- CO5:** Acquire knowledge of relativistic quantum mechanics

**EPPH24A PHYSICS OF NANOMATERIALS**

- CO1:** Classify nanoparticles based on various factors.
- CO2:** Use the different methodologies for synthesis and characterization of nanomaterials
- CO3:** Differentiate between pure and composite nanoparticles and their uses
- CO4:** Select a particular methodology and material for synthesis, characterization and analysis.
- CO5:** Design or develop sensors for different applications. Catering to the needs of the recent developments.

**18EPPH25 MEDICAL PHYSICS**

- CO1:** Get the knowledge of production of X-ray images and applications
- CO2:** Acquire knowledge about vitro and in vivo testing
- CO3:** Aware of knowledge of ultrasound in medicine
- CO4:** Get the knowledge about the radiotherapy
- CO5:** Get the basic ideas of neuroelectrics and neuromagnetics

**18PPH31 MOLECULAR PHYSICS**

- CO1:** Understand the concepts microwave and IR spectroscopy
- CO2:** Understand concept of Raman spectroscopy and its applications
- CO3:** Understand the concepts molecular quantum
- CO4:** Study the electronic spectra of molecules
- CO5:** Acquire the knowledge of nuclear spectroscopy

**18PPH32 QUANTUM MECHANICS – II**

- CO1:** Study transition under constant perturbation and transition probability
- CO2:** Understand the concepts of scattering theory
- CO3:** Study the identical particles.
- CO4:** Understand the semi classical treatment of radiation
- CO5:** Acquire knowledge of quantization of fields.

**18PPH33 CONDENSED MATTER PHYSICS**

- CO1:** Acquire knowledge on crystals and to study crystal structure by x-ray diffraction pattern.
- CO2:** Explore the various defects in crystals
- CO3:** Understand the band theory of solids
- CO4:** Acquire knowledge of superconductors
- CO5:** Study the Ferro electric and magnetic systems





## 18EPPH34 MICROPROCESSOR 8086 AND MICROCONTROLLER

- CO1: Acquire knowledge of Intel 8086 architecture and instruction set
- CO2: Get basis knowledge of modular programming and multiprogramming
- CO3: Know the basis of I/O consideration, interrupts and system bus structure
- CO4: Acquire knowledge about Intel 8051 micro controller
- CO5: Get the idea of Interfacing I/O and memory with 8051

## 18EPPH35 COMMUNICATION PHYSICS

- CO1: Know the basic of FM, SSB & ISB transmission methods.
- CO2: Acquire the knowledge of digital modulation and satellite communication.
- CO3: Understand the concept of transmission and reception of TV signals
- CO4: Acquire knowledge on modern communication system
- CO5: Study the basics of fiber optic communication

## 18PPH41 NUCLEAR & PARTICLE PHYSICS

- CO1: Understand the concepts of various nuclear models
- CO2: Study the central force and tensor force in the molecular system.
- CO3: Understand the concepts of nuclear reaction
- CO4: Study the theory of beta decay
- CO5: Acquire the knowledge of particle physics

## 18EPPH42 RESEARCH METHODOLOGY, COMPUTATION METHODS & PROGRAMMING

- CO1: To understand the Principles of Scientific Research
- CO2: To Understand Qualitative & Quantitative Analysis
- CO3: Understanding the Plotting & Analyzing Origin
- CO4: To Learn the Programming using MATLAB
- CO5: To study the Python Programming

## 18EPPH43 MATERIALS SCIENCE

- CO1: To understand the classification of materials.
- CO2: To study various phase diagrams.
- CO3: To know the phase transformation and nucleation.
- CO4: To learn the electron theory of metals
- CO5: To study the electric and magnetic properties of materials.

## 18EPPH44 ELECTRONIC INSTRUMENTATION

- CO1: Understand the various transducers
- CO2: Study digital instrumentation methods
- CO3: Know the analytical instrumentation techniques
- CO4: Study the bio medical instrumentation
- CO5: Apply the knowledge of computer peripherals

## 18EPPH45 ASTRONOMY AND ASTROPHYSICS

- CO1: Understand the principles of relativity.
- CO2: Know the different frame works of relativity
- CO3: Study the Einstein's equation and its solutions
- CO4: Acquire the knowledge of cosmological models
- CO5: Explore the thermal history of the universe



**18PPH48 SCIENTIFIC ANALYSIS**

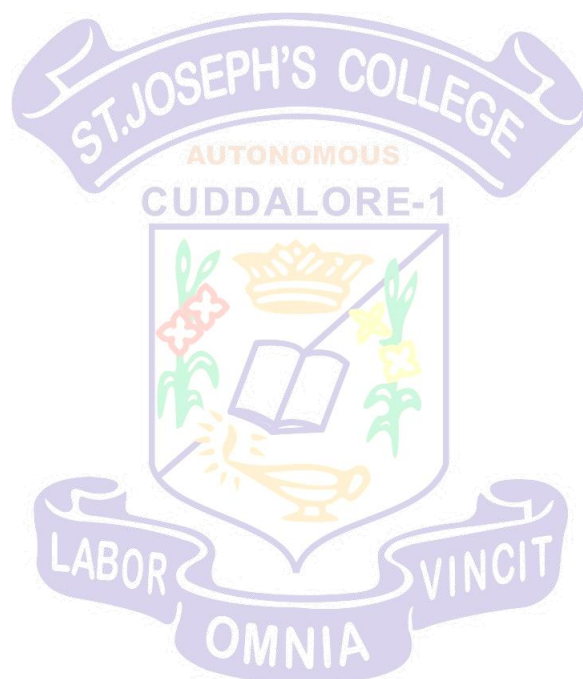
**CO1:** Solve the problems on Mathematical Methods of Physics and Classical Mechanics

**CO2:** Solve the problems on Electromagnetic Theory and Quantum Mechanics

**CO3:** Solve the problems on Thermodynamic and Statistical Physics, Electronics and Experimental Methods

**CO4:** Solve the problems on Atomic & Molecular Physics, Condensed Matter Physics

**CO5:** Solve the problems on Nuclear and Particle Physics





## **M.Sc. CHEMISTRY**

### **19PCH11 ORGANIC CHEMISTRY – I**

- CO1:** Understanding of the concepts involved in stereochemistry and the ability to solve the problems based on stereochemistry.
- CO2:** Understanding of the principles of reaction mechanism and the ability to arrive at reasonable mechanisms for organic reactions.
- CO3:** Knowledge of the reactive intermediates such as Benzyne, Free radicals, Carbenes and Nitrenes and the reactions involving these intermediates.
- CO4:** Knowledge of reactions involving Carbocations, Carbanions and the ability to apply it in organic synthesis.
- CO5:** A sound knowledge of oxidising and reducing agents and the ability to apply them in Organic synthesis.

### **19PCH12 INORGANIC CHEMISTRY – I**

- CO1:** To know about the various types of isomerism existing in complexes.
- CO2:** To learn the concepts of CFT and the applications of macrocyclic ligands.
- CO3:** To interpret the stability of various complexes.
- CO4:** To acquire the knowledge about the molecular polyhedral and clusters.
- CO5:** To learn about poly acids and inorganic polymers.

### **19PCH13 QUANTUM MECHANICS AND MOLECULAR STRUCTURE**

- CO1:** Students learn the elements of classical mechanics, quantum mechanical postulates and Schrodinger equations.
- CO2:** Students acquire the knowledge about the solution of Schrodinger equation, quantum numbers and their physical significance.
- CO3:** Students learn the knowledge of approximation methods and the concept of hybridization.
- CO4:** Students learn the knowledge of Empirical MO theory.
- CO5:** Students understand the Basics of Popular quantum chemical calculations and Semi-empirical methods.

### **20EPCH14 BIOINORGANIC AND SUPRAMOLECULAR CHEMISTRY**

- CO1:** Students learn about metal storage, transport and biomineralisation.
- CO2:** Students understand various enzymes and their importance in the biological process.
- CO3:** Students become familiar with metal-genetic molecular interactions.
- CO4:** Students learn interaction, recognitions in supramolecular chemistry.
- CO5:** Students understand supramolecular devices.

### **EPCH704A HETEROCYCLICS AND NATURAL PRODUCTS**

- CO1:** Students understand the Nomenclature, synthesis of few heterocyclic chemicals.
- CO2:** Students acquire the knowledge about the Occurrence, isolation, classification, functions and general properties of alkaloids.
- CO3:** Students learn the structural elucidation and general properties of terpenes.
- CO4:** Students understand the Nomenclature and classification of steroids and steroidal alkaloids.
- CO5:** Students get the in depth knowledge on Anthocyanins.



**19PCH21 ORGANIC CHEMISTRY - II**

**CO1:** Knowledge pertaining to stereochemistry.

**CO2:** Aliphatic electrophilic and nucleophilic substitution reaction mechanisms.

**CO3:** Addition and elimination reactions.

**CO4:** Aromatic electrophilic substitution reactions.

**CO5:** Aromatic nucleophilic substitution reactions.

**19PCH22 INORGANIC CHEMISTRY – II**

**CO1:** To learn about the MO theory of complexes.

**CO2:** To interpret the electronic spectra of various complexes.

**CO3:** To learn the fundamental concepts of nanotechnology and about the Lanthanides and actinides.

**CO4:** To appreciate the applications of metal ions in biological systems.

**CO5:** To understand the theory behind the nuclear reactions and their applications.

**PCH807T GROUP THEORY AND ITS APPLICATIONS IN SPECTROSCOPY**

**CO1:** To study the elements of group theory and the application of group theory.

**CO2:** To study the different types of molecular spectroscopy

**CO3:** To study about the various spectroscopy in molecular level.

**CO4:** To understand about the normal modes and vibrational analysis.

**CO5:** To study about the various types of NMR spectroscopy and its importance.

**19EPCH24 REAGENTS AND NAMING REACTIONS**

**CO1:** Students understand the importance of stereochemical aspects of structure and properties.

**CO2:** Students learn the overview of the organic reaction mechanisms.

**CO3:** Students learn the chemistry of organometallic compounds and its organic reactions.

**CO4:** Students understand the concept of photochemical reaction and its applications.

**CO5:** Students are motivated to know the concept of green chemistry.

**EPCH808A NUCLEAR AND RADIOCHEMISTRY**

**CO1:** Students understand subatomic particles and nuclear models.

**CO2:** Students learn different decays and detectors in nuclear chemistry.

**CO3:** Students acquire disintegration processes, nuclear reactions and fission.

**CO4:** Students learn about the radiation safety.

**CO5:** Students understand the fundamentals and the applications of radioactivity in medicine for diagnosis and therapy (nuclear medicine).

**PCHP201 ORGANIC CHEMISTRY PRACTICAL – I**

**CO1:** Students learn the Identification of Compounds in a two-component mixture.

**CO2:** Students learn the preparation of some organic compounds.

**PCHP202S INORGANIC CHEMISTRY PRACTICAL - I**

**CO1:** To improve the skill in quantitative estimation of metal ions by complexometric titration.

**CO2:** To identify the metal ions qualitatively in a mixture of metal ions.

**CO3:** To improve the skill in the synthesis of inorganic complexes.





**19PCHP23 PHYSICAL CHEMISTRY PRACTICAL - I**

**CO1:** Students learn the Experiments in Thermodynamics, colligative properties, phase rule, Surface Phenomenon, chemical equilibrium, and chemical kinetics.

**CO2:** Typical examples are given and a list of experiments is also provided from which suitable experiments can be selected as convenient.

**19PCH31 ORGANIC CHEMISTRY – III**

**CO1:** Students understand stereo chemical implications of pericyclic reaction in organic synthesis.

**CO2:** Students understand the structural and stereochemical implications on photochemical reactions.

**CO3:** Students get learnt the concept of aromatic character in some molecules.

**CO4:** Students learn the applications of various reaction in organic synthesis.

**CO5:** Students understand stereo chemical implications of pericyclic reaction in organic synthesis.

**19PCH32 INORGANIC CHEMISTRY – III**

**CO1:** To understand the bonding nature of the metal complexes and the reaction mechanisms of the metal complexes.

**CO2:** To learn the catalytic behavior of the metal complexes.

**CO3:** To gain knowledge in isolable analogy of the metal carbonyls.

**CO4:** To understand the EPR and photo electron spectra and the theories behind them.

**CO5:** To describe  $^{31}\text{P}$ ,  $^{19}\text{F}$  NMR, and the principles, applications of NQR Mossbauer Spectroscopy.

**PCH33A STATISTICAL THERMODYNAMICS AND ITS APPLICATIONS**

**CO1:** To understand the average behavior of large group of individual particles and to know the probabilities about microstates of the system.

**CO2:** To develop a vast knowledge in the interpretation of partition function and to relate partition function and thermodynamic function.

**CO3:** To get acquainted with the concept of statistical mechanics of ensemble.

**CO4:** To study Partial molar properties and thermodynamics of real gases.

**CO5:** To give the concept of thermodynamics of ideal and non-ideal binary solutions with problem solving skill.

**19EPCH34 PHYSICAL METHODS IN ORGANIC CHEMISTRY**

**CO1:** Students learn concepts and applications of UV-Vis spectroscopy.

**CO2:** Students get learnt the concept IR spectroscopy and are able to find out the IR stretching frequency of organic functional groups.

**CO3:** Students get to know the instrumentation, ionization techniques and fragmentation patterns, of chemical compounds using mass spectrometry.

**CO4:** Students learn and understand the concepts of  $^1\text{H}$  NMR spectroscopy and its applications.

**CO5:** Students learn the principles, techniques and applications of  $^{13}\text{C}$  NMR spectroscopy for the structural elucidation.



**EPCH912A BIOORGANIC CHEMISTRY**

**CO1:** To study about the classification and biological role of carbohydrates.

**CO2:** To study about the types of amino acids and its metabolism, proteins types

**CO3:** To study about various types of lipids and its metabolism.

**CO4:** To understand about structure and function of DNA, RNA

**CO5:** To know about the vitamins types and its biological role.

**PCHP304T ORGANIC CHEMISTRY PRACTICALS –II**

**CO1:** Students learn the Quantitative Organic analysis.

**CO2:** Students learn the double stage organic compound preparation.

**PCHP305S INORGANIC CHEMISTRY PRACTICALS – II**

**CO1:** To improve the skill in quantitative estimation of metal ions by colorimetry.

**CO2:** To identify the methodology to estimate a metal ion in the presence of another metal ion.

**CO3:** To improve the skill in the synthesis of inorganic compounds.

**PCHP306 PHYSICAL CHEMISTRY PRACTICALS – II**

**CO1:** Students learn various experiments in Conductometry, Potentiometry and Pulse polarography,

**19PCH41 ORGANIC CHEMISTRY - IV**

**CO1:** Knowledge pertaining Alkaloids and Bioorganic chemistry

**CO2:** proteins peptides and their structures

**CO3:** Modern synthetic methods, reactions and reagents

**CO4:** Knowledge pertaining to Reterosynthesis

**CO5:** Advanced programming techniques using pointers, files and graphics concepts.

**19PCH42 INORGANIC CHEMISTRY – IV**

**CO1:** To learn about the reaction mechanisms of transition metal complexes.

**CO2:** To acquire the knowledge of photochemistry.

**CO3:** To describe about the electron transfer reactions.

**CO4:** To gain knowledge on solid state chemistry.

**CO5:** To describe electronic and magnetic properties of molecules.

**PCH43A REACTION KINETICS, ELECTRODE KINETICS, AND PHOTOCHEMISTRY**

**CO1:** To study the chemical potential and its significance.

**CO2:** To study the effect of temperature on the reaction rate.

**CO3:** To study the different types of Enzyme catalysis and Kinetics of complex reactions.

**CO4:** To understand about the kinetics of unimolecular and bimolecular photo physical processes.

**CO5:** To study about types of photochemical reactions and radiation chemistry.



## **M.Sc. BIOCHEMISTRY**

### **PBC11A CHEMISTRY OF BIOMOLECULES**

- CO1:** To understand and acquire knowledge about the classification, structure, properties and biological importance of carbohydrates.
- CO2:** To gain knowledge about the different structural aspects of proteins and the allosteric nature of haemoglobin.
- CO3:** To acquire knowledge about the classification, structure and properties of lipids and its importance in physiological process.
- CO4:** To acquire the knowledge about the structure, types, properties and functions of DNA and RNA
- CO5:** Be familiar with important motifs involved in DNA-protein interaction and also gain technical skills in predicting the interactions.

### **PBC12A CELLULAR BIOCHEMISTRY**

- CO1:** To gain in-depth knowledge about the structure and functions of various cell organelles, membrane and the techniques involved in visualization.
- CO2:** Able to understand the cell - cell interactions and the functional aspects of their components.
- CO3:** Able to understand the structure, functions and organization of microfilaments and microtubules.
- CO4:** To gain in-depth knowledge about the various mechanisms involved in cell signaling process.
- CO5:** To acquire knowledge and understand the different phases of cell cycle apart from types and tumorigenic properties of cancer.

### **PBC13A METABOLISM AND REGULATION**

- CO1:** To gain insights about the biological oxidation process, high energy compounds and key carbohydrate metabolic pathways such as glycolysis, TCA and ETC.
- CO2:** To understand the key metabolic steps involved in various pathways of carbohydrate metabolism.
- CO3:** To gain knowledge about the metabolic pathways of amino acid metabolism and its related inborn errors.
- CO4:** To gain knowledge about the metabolic pathways of lipid metabolism and its storage diseases.
- CO5:** Able to understand and interpret the metabolic pathways of nucleic acid metabolism and nucleotide coenzymes.

### **EPB14A CLINICAL NUTRITION**

- CO1:** Students gain knowledge about diet and different nutritional disorders.
- CO2:** To understand and gain knowledge about different types of nutritional measurements.
- CO3:** Students are able to comprehend the daily requirements and functions of vitamins & minerals.
- CO4:** Students are able to demonstrate and exhibit different dietary plan for different age groups & disease condition.
- CO5:** Students are able to gain knowledge about importance of nutraceuticals and antioxidants in human health.



## EPB14B CLINICAL LAB TECHNOLOGY

- CO1:** To learn about the handling of the laboratory equipment's and also know about how to collect and preserve the biological samples.
- CO2:** To gain the knowledge about to accessing various blood components and predict its clinical significance.
- CO3:** To acquire the knowledge and skill about various steps involved in the histopathological techniques.
- CO4:** To understand the importance of various biochemical parameters and its clinical significance.
- CO5:** To learn the basic skills of microbial culture and its safety measures.

## EPB14C FOOD TECHNOLOGY

- CO1:** To study the structure, composition, nutritional quality of milk product and importance of Food Adulteration.
- CO2:** To acquire knowledge about the important pathogens and spoilage microorganisms in foods and the conditions under which they will grow.
- CO3:** To understand the source and variability of raw food materials and their impact on food processing operations.
- CO4:** To Emphasis the various properties of the raw materials used in food processing, different processing technologies required in transforming them into quality food products and material handling equipment involved in food processing operations.
- CO5:** To gain the knowledge about Food laws and quality control.

## PBC21A MOLECULAR BIOLOGY

- CO1:** Understand the mechanisms and factors involved in replication process in prokaryotes and eukaryotes and its packaging model.
- CO2:** Acquire knowledge about transcription process in prokaryotes and eukaryotes, inhibitors and its modification.
- CO3:** Comprehend the features of genetic code and steps involved in translation process
- CO4:** Gain knowledge about protein targeting, transport to different organelles, and gene regulation with respect to different operons.
- CO5:** Understand the mechanisms of various DNA repair systems and diseases caused due its disorders.

## PBC22A ENZYMOLOGY

- CO1:** To provide a deeper insight into the Nomenclature, IUB classification, and assay of enzymes, function and kinetics of enzymes
- CO2:** Able to understand the kinetics of the enzyme catalysed reaction using different plots.
- CO3:** To exhibit knowledge and understanding about the enzyme catalytic reactions in the active site with appropriate example
- CO4:** To understand the mechanisms of enzyme regulation and its allosteric effects with suitable examples.
- CO5:** To gain knowledge about the types of inhibition in enzyme catalysis, immobilization of enzymes and its applications.





## **PBC23A BIOCHEMICAL TECHNIQUES**

- CO1:** To gain knowledge about the Principle, instrumentation and application of various types of chromatography and its interpretation.
- CO2:** To acquire knowledge about the principle, preparation, instrumentation and application of different kinds of electrophoretic techniques.
- CO3:** To get in-depth understanding about the basic principle: types of rotors, instrumentation and application of different types of centrifugation process.
- CO4:** Able to exhibit their knowledge about the principle, instrumentation and application of spectroscopic techniques.
- CO5:** Able to demonstrate their skills in basic concepts of radioactivity, its measurement and application.

## **EPB24A PLANT BIOCHEMISTRY**

- CO1:** Able to gain knowledge about the different components of plant cells apart from mechanism of absorption by plants.
- CO2:** To get in-depth knowledge about the functions and mechanisms of different plant hormones.
- CO3:** To acquire knowledge about the steps and mechanisms involved in photosynthesis of plants.
- CO4:** To know and interpret the different secondary metabolites present in the plants and its stress adaptation.
- CO5:** To gain thorough understanding about the nitrogen fixing mechanisms adopted by the soil microbes

## **EPB24B DEVELOPMENTAL BIOLOGY**

- CO1:** To gain the knowledge about gene mapping and genetic basis of development in human and animal.
- CO2:** To understand the fundamental aspects and in depth knowledge about gametogenesis, fertilization and early development in plants and animals.
- CO3:** To get insight knowledge about the morphogenesis and organogenesis in animal.
- CO4:** Able to gain through knowledge about the morphogenesis and organogenesis in plants especially Arabidopsis and Antirrhinum.
- CO5:** To get in depth understanding knowledge about ageing, stem cells and apoptosis in various species.

## **EPB24C MICROBIAL BIOCHEMISTRY**

- CO1:** To Gain the knowledge about the microbial growth, energy yielding metabolism and characteristics of bacteria, fungi and virus
- CO2:** To Acquire the knowledge about design, types, functions and operations of fermenter
- CO3:** To Gain the knowledge about bioprocess technology and various process involved in downstream processing.
- CO4:** To Understand the microbial production of organic acids, antibiotics and production of foods
- CO5:** To Gain the knowledge about infectious microbes and its diseases

## **OEPB2A NUMERICAL APTITUDE**

- CO1:** To understand the logical reasoning and puzzles
- CO2:** To understand the brief knowledge about in english



**CO3:** To acquire knowledge about the quantitative aptitude

**CO4:** Students are able to understand the general awareness about current affairs, Indian banking and Indian RBI.

**CO5:** To acquire knowledge about the computer & programming

### **OEPB2B SOFT SKILLS**

**CO1:** Students are able to understand the nature and types of communication skills.

**CO2:** Students are able to comprehend the importance of body language and also improve their personality development.

**CO3:** Students are able to gain knowledge about team work and methodology of group discussion.

**CO4:** Students are able to acquire knowledge about the types of interviews and also how to face the interview.

**CO5:** Students are able to exhibit the understanding about the preparing various types of business presentation.

### **OEPB2C COMPETITIVE EXAMS FOR BIOLOGICAL SCIENCE**

**CO1:** To Gain the knowledge about the DNA replication, transcription, protein synthesis & control of gene expression

**CO2:** To Acquire knowledge about steps and mechanism involved in photosynthesis and nitrogen metabolism

**CO3:** To Gain the knowledge about Mendelian principles and gene mapping methods

**CO4:** To Understand Emergence of evolutionary thoughts, evolutionary synthesis & its origin

**CO5:** To learn the basic concept of development and gametogenesis process

### **PBC31A ENDOCRINOLOGY**

**CO1:** To gain the knowledge about the functions of pituitary, hypothalamus and pineal gland hormones and its regulations.

**CO2:** To learn and understand the structure and functions of thyroid, parathyroid hormones and its regulations.

**CO3:** To understand the structure and functions of gastrointestinal and pancreatic hormones.

**CO4:** To acquire the knowledge about the structure and functions of adrenal hormones and its regulation.

**CO5:** To gain the knowledge about the structure and functions of male and female sex hormones and its regulation.

### **PBC32A IMMUNOLOGY**

**CO1:** To gain acquaintance on the significance of different cells, types and organs involved in the immune system.

**CO2:** Students are able to figure out the structure and functions of the different types of antibody.

**CO3:** Students are proficient to gain knowledge about the importance of different immunological techniques.

**CO4:** Students will be able to acquire knowledge about the transplantation immunology and antigen presentation.

**CO5:** Students are able to comprehend the complications of hypersensitivity and autoimmune diseases.



**PBC33A CLINICAL BIOCHEMISTRY**

- CO1:** To gain knowledge about the blood sugar homeostasis and its complications.
- CO2:** To understand and interpret the functional tests for liver and gastric disorder.
- CO3:** To understand and analyze the various renal function tests.
- CO4:** To gain in depth insights about the metabolic disorders related to amino acid and carbohydrate metabolism.
- CO5:** To acquire the skill and knowledge about the endocrine functional test.

**EPB34A HUMAN PHYSIOLOGY**

- CO1:** To learn about the digestion and absorption of various macromolecules.
- CO2:** To learn and gain knowledge about the blood cells and cardiac system.
- CO3:** To understand the mechanism of respiration and its types.
- CO4:** To acquire the knowledge about the structure and functions of kidney, nephron and mechanism of urine formation.
- CO5:** To gain the knowledge about the structure, types and functions of muscles and nervous system.

**EPB34B CANCER BIOLOGY**

- CO1:** To understand the biology of the normal and cancer cells, and phases of cell cycle.
- CO2:** Students gain knowledge about the mechanism of cancer development.
- CO3:** To understand about the various agent cases cancer.
- CO4:** Students acquire knowledge the role of biomarkers in cancer disease prognosis.
- CO5:** Students are able to understand the various treatment methods followed in cancer therapy

**EPB34C GENETIC ENGINEERING**

- CO1:** To gain knowledge about the basic principles of recombinant technology
- CO2:** To acquire knowledge about different methods of gene transfer
- CO3:** To understand the mechanisms of cloning
- CO4:** To understand the principle and applications of DNA sequencing, DNA fingerprinting and PCR.
- CO5:** To gain knowledge about different methods of gene transfer in plants, process of transgenic animals and its applications.

**SPBC31A NANOTECHNOLOGY**

- CO1:** To understand the different types of nanomaterial.
- CO2:** To know the various aspects of synthesis of nanomaterials.
- CO3:** To know about the different types of biomaterials and its compatibility properties.
- CO4:** To get insights about protein and DNA based nanostructures.
- CO5:** To understand various applications of nanotechnology in food and agriculture field.

**SPBC31B NUTRACEUTICALS & FUNCTIONAL FOODS**

- CO1:** To Understand the basics, importance and applications of nutraceuticals
- CO2:** To acquire the knowledge about Nutraceuticals of plant and animal origin
- CO3:** To understand the Nutraceutical remedies for common disorders
- CO4:** To understand the basics for functional foods
- CO5:** To gain knowledge about foodomics.



**PBC41A BIOTECHNOLOGY**

**CO1:** To gain knowledge about the importance of restriction enzymes, various types of vectors and gene expression for prokaryotic and eukaryotic genomes.

**CO2:** To understand about the cell and tissue culture media preparation, different kinds of cell culture, importance of embryogenesis, organogenesis, various stages of micro propagation, somaclonal variation, germplasm storage and cryopreservation.

**CO3:** To acquire knowledge about different types of vaccines, in vitro fertilization, process of transgenic animals and its applications.

**CO4:** To gain knowledge about basic principles of microbial growth, various types of culture medium and fermenters and also biosynthesis of Vitamin B<sub>12</sub>, penicillin and its applications.

**CO5:** To learn about the solid waste management, bioremediation, biogas and biofertilizers.

**PBC42A RESEARCH METHODOLOGY & BIOSTATISTICS**

**CO1:** To understand the basic concepts of scientific research, of various research, research process, research design and sampling.

**CO2:** To gain appropriate knowledge about sample collection, hypothesis testing analysis, tabulation of statistical data apart from measures of central tendency and averages.

**CO3:** To acquire in-depth knowledge about the statistical analysis and hypothesis testing.

**CO4:** To understand and gain insight knowledge about bioethics and patenting.

**CO5:** To gain knowledge about the principle and application of various biochemical techniques.

**EPB43A PHARMACEUTICAL BIOCHEMISTRY**

**CO1:** To acquire knowledge about the study of drugs particularly their metabolism and actions on living system.

**CO2:** To gain thorough knowledge about the different drug receptors and their actions.

**CO3:** To get insight knowledge about the adverse effects of drug actions.

**CO4:** To gain in-depth insights about the mode of action of drugs used in different diseases.

**CO5:** To acquire knowledge about the study of different chemotherapeutic value of drugs.

**EPB43B GENOMICS & PROTEOMICS**

**CO1:** Students are able to understand basic and aspects of organization of genomes

**CO2:** Students are able to comprehend the basic and applied aspects in genomics

**CO3:** Students are able to gain knowledge about to understand basic and importance of genome projects.

**CO4:** Students are able to acquire knowledge about the basic and applied aspects in proteomics

**CO5:** Students are able to exhibit the understanding about the applications of genomics & proteomics.

**EPB43C HISTOPATHOLOGICAL TECHNIQUES**

**CO1:** Students are able to understand the general organization of histopathological laboratory.

**CO2:** Students are able to acquire the information about the basic steps in tissue processing fixation, embedding, microtome, staining and mounting.

**CO3:** Students are able to gain knowledge about the various essential steps involved in the fixation and decalcification processes.

**CO4:** Students are able to acquire knowledge about steps involved in tissue processing

**CO5:** Students are able to understand the mounting methods and the different steps involved in the staining process





## **M.Sc. APPLIED MICROBIOLOGY**

### **21PMB11 FUNDAMENTALS OF MICROBIOLOGY**

- CO1:** Acquires knowledge about History of Microbiology and Bacterial taxonomy
- CO2:** Attains knowledge about Microscopy and Staining techniques
- CO3:** Learns about Prokaryotic cell structure and function
- CO4:** Understands the Characteristics and importance of fungi, algae, protozoa, viruses
- CO5:** Gains knowledge about Sterilization and Antimicrobial therapy

### **21PMB12 IMMUNOLOGY**

- CO1:** Acquires knowledge about the Immune system and its functions.
- CO2:** Gains knowledge about Serological and Hematological techniques.
- CO3:** Understands the mechanisms and functions of MHC.
- CO4:** Learns the Immunological process of transplantation and cancer.
- CO5:** Learns the importance of polyclonal and monoclonal antibody production.

### **21PMB13 MICROBIAL GENETICS**

- CO1:** Understands the components of Nucleic acids and its types
- CO2:** Understands gene expression and regulation
- CO3:** Gains knowledge of different kinds of mutations and role of viruses in oncogenesis
- CO4:** Knows different gene transfer mechanisms in bacteria
- CO5:** Acquires knowledge about phage life cycles and its genetics

### **21PMB14 MICROBIAL ECOLOGY**

- CO1:** Gains knowledge about the basics of microbial ecology
- CO2:** Acquires knowledge about microbial interactions in various ecosystems
- CO3:** Understands the role of microorganisms in cycling of nutrients and biodegradation of pollutants
- CO4:** Gains knowledge about role of microorganisms in wastewater treatment
- CO5:** Acquires knowledge about quantitative studies and microbial applications in environment

### **21EPM15A BIOINFORMATICS**

- CO1:** will be able to describe various sequence databases and sequence analysis methods
- CO2:** will understand the structural aspects of proteins *in silico*
- CO3:** will be able to appreciate the significance of Comparative Genomics
- CO4:** will be able to relate the basics of Functional Genomics and Proteomics with their application
- CO5:** will be able to apply the concept of Pharmacogenomics in Pharma industry

### **21EPM15B BIOSEPARATION TECHNIQUES**

- CO1:** Acquires knowledge about Primary Separation Techniques
- CO2:** Attains knowledge about Cell disruption methods
- CO3:** Learns about membrane technology
- CO4:** Gains knowledge about Chromatography
- CO5:** Understands the advanced separation methods



**21EPM16B MOLECULAR TAXONOMY AND PHYLOGENY**

**CO1:** Acquires knowledge about basics of Microbial Taxonomy

**CO2:** Attains knowledge about Biochemical and Molecular taxonomy

**CO3:** Understands DNA finger printing methods

**CO4:** Learns about Sequence analysis methods

**CO5:** Gains knowledge about Molecular Phylogeny

**21PMB21 MICROBIAL PHYSIOLOGY**

**CO1:** Acquires knowledge about microbial nutrition and pure culture methods.

**CO2:** Attains knowledge about microbial growth.

**CO3:** Learns about bioenergetics, enzymes and redox.

**CO4:** Gains knowledge about catabolism.

**CO5:** Gains knowledge about anabolism.

**21PMB22 FERMENTATION TECHNOLOGY**

**CO1:** Imparts knowledge on bioprocess techniques and fermenter design

**CO2:** Learns the basic operations of fermenter

**CO3:** Acquires knowledge about Strain development, preservation and media formulation

**CO4:** Gets familiar with product recovery

**CO5:** Gains knowledge about stoichiometry of cell growth and product formation.

**21PMB23 MEDICAL MICROBIOLOGY**

**CO1:** Becomes familiar with Host-parasite relationship

**CO2:** Acquires knowledge about the diseases caused by bacteria and their characteristics

**CO3:** Attains knowledge about fungal infections

**CO4:** Learns about parasitic and worm infections

**CO5:** Gains knowledge about pathogenesis and laboratory diagnosis of viruses

**21PMB24 MICROBIAL GENOMICS**

**CO1:** will be able to interpret the basics of Genomics

**CO2:** will be able to correlate Genomics with Microbial evolution

**CO3:** will be able to understand the role of DNA microarray technology in Genomics

**CO4:** will be able to describe the functional genomics of model organisms

**CO5:** will be able to comprehend the Genomic analysis of selected bacteria

**21EPM25A RESEARCH METHODOLOGY**

**CO1:** Acquires knowledge about Research and Experimental designs

**CO2:** Becomes familiar with Citation and Impact factor

**CO3:** Learns about preparing Research Report

**CO4:** Understands the role of committees in biological research

**CO5:** Gains knowledge about General Laboratory Procedures

**21EPM25B VETERINARY MICROBIOLOGY**

**CO1:** Acquires knowledge about bacteria causing animal disease

**CO2:** Gets knowledge about Pathogenic fungi causing diseases in animal

**CO3:** Learns about parasitic infections in animals

**CO4:** Understands the properties of viruses and their cultivation

**CO5:** Gains knowledge about viral infections in animals



**21EPM26A                    METHODS IN BIOLOGY**

**CO1:** acquires the knowledge about the study of advanced techniques in biology

**CO2:** gains the knowledge about the biophysical techniques used to detect functional structure of biological samples

**CO3:** gets insight knowledge about radioisotopes and its application

**CO4:** gets depth insights about the electrophysiological methods.

**CO5:** acquires the knowledge about the animal population and migration through remote sensor technique.

**21EPM26B                    MEDICAL LAB TECHNOLOGY**

**CO1:** gains knowledge on basic hematology and blood disorders

**CO2:** gets detailed information about the blood banking systems and preservation process

**CO3:** gets information on the setup of modern clinical laboratories

**CO4:** understands the preparation of reagents and buffer solutions in the laboratories

**CO5:** understands the methods of isolating and identification of bacterial pathogens in the clinical labs

**21SPMB2A                    PUBLIC HEALTH**

**CO1:** will be able to describe the basic concepts of health

**CO2:** will be able to correlate nutrition and health

**CO3:** will be able to explain the role of environment in health

**CO4:** will be able to relate occupation and health

**CO5:** will be able to understand the strategies for the prevention of diseases

**21SPMB2B                    PROBIOTICS FOR HUMAN HEALTH**

**CO1:** will understand the sources and uses of probiotics

**CO2:** will know the characteristics of probiotics

**CO3:** will be able to describe probiotic organisms

**CO4:** will be able to appreciate the applications of probiotics

**CO5:** will become familiar with the safety regulations of probiotic products

**21SPMB2C                    PHARMACEUTICAL MICROBIOLOGY**

**CO1:** Understands the basic concepts of Pharmacological Microbiology and the role of microbiologist in pharmacology.

**CO2:** Grasps knowledge on pharmaceutical microbiology laboratory and management.

**CO3:** Gains knowledge on drug discovery and development, clinical and preclinical trials.

**CO4:** Grasps information on pharmaceutical applications.

**CO5:** Understands regulatory aspects in Pharmaceuticals.

**21PMB31                    SOIL AND AGRICULTURAL MICROBIOLOGY**

**CO1:** Understands the soil properties and the role of soilborne microbes

**CO2:** Understands the cyclical movements of important plant nutrients in the soil

**CO3:** Gains knowledge about different biofertilizers and their production

**CO4:** Understands different biopesticides and their applications

**CO5:** Knows important plant diseases of India and their control



**21PMB32 r-DNA TECHNOLOGY**

- CO1:** Learns the available genetic engineering tools & molecular techniques
- CO2:** Learns the importance of Cloning vectors
- CO3:** Acquires knowledge about Cloning strategies
- CO4:** Understands the expression of cloned DNA molecules
- CO5:** Learns the importance of Genome Editing using r-DNA technology.

**21PMB33 FOOD MICROBIOLOGY**

- CO1:** Recognizes the principles of food preservation and the factors that influence growth and survival of microorganisms in food.
- CO2:** Understands the importance of fermented dairy and nondairy foods and probiotics.
- CO3:** Acquires knowledge on food spoilage and foodborne diseases.
- CO4:** Comprehends and applies the standard methods for microbiological analysis of foods.
- CO5:** Gains knowledge on food regulatory agencies and policies related to food safety and quality.

**21PMB34 HUMAN INFECTIONS AND DIAGNOSIS**

- CO1:** will be able to describe various methods of diagnosis
- CO2:** will be able to describe the infections in Respiratory and Genitor-urinary tract
- CO3:** will be able to describe the infections in Gastrointestinal and Central nervous system
- CO4:** will be able to distinguish infections caused by vectors and animals
- CO5:** will learn the methods of Antimicrobial susceptibility testing

**21EPM35A BIOETHICS AND INTELLECTUAL PROPERTY RIGHTS**

- CO1:** Acquires knowledge about concept of bioethics
- CO2:** Learns about Ethics committees
- CO3:** Attains knowledge about intellectual property
- CO4:** Understands the Patents, Copy rights and related rights
- CO5:** Gains knowledge about Indian IPR legislations

**21EPM35B BIOPHYSICS**

- CO1:** learns about the origin of biopotency, electrode electrolyte interface with skin surface etc.
- CO2:** gains knowledge on ECG, EEG, EMG, ERG and EOG
- CO3:** learns about the importance of bio amplifiers in ECG
- CO4:** understands the measurement of non-electrical parameter and its importance in monitoring human health
- CO5:** gains knowledge about analysis and instruments used in biochemical sensors to monitor human health

**21PMB41 MICROBIAL BIOTECHNOLOGY**

- CO1:** learns about Microbial enzyme technology and Biotransformation
- CO2:** becomes familiar with the microbial products of industrial fermentations
- CO3:** acquires knowledge about the use of microorganisms in the production of biopolymers
- CO4:** gains knowledge about biotechnological applications available for environmental issues
- CO5:** understands the possibilities of entrepreneurship in microbiology





**21EPM42A BIOTECHNIQUES**

**CO1:** Understands the basic Microscopy.

**CO2:** Learns the importance of Electron Microscopy and its application.

**CO3:** Acquires knowledge about basic Chromatographic techniques.

**CO4:** Gains knowledge on Advanced Chromatographic techniques and its application.

**CO5:** Learns the importance of Modern Cytogenetic techniques and Immunotechniques.

**21EPM42B MOLECULAR TECHNIQUES**

**CO1:** Acquires knowledge about various electrophoretic techniques

**CO2:** Attains knowledge about advanced chromatographic techniques

**CO3:** Learns about techniques used to study Molecular polymorphism

**CO4:** Understands various Extraction methods

**CO5:** Gains knowledge about Gene sequencing methods





## **M.Sc. COMPUTER SCIENCE**

- CO1:** Ability to know the Purpose of Protocols and the TCP/IP Suite.
- CO2:** Ability to understand the Principles of Signal Encoding Techniques.
- CO3:** Ability to acquire knowledge about the wireless networking.
- CO4:** Ability to understand the cordless systems and wireless local loop.
- CO5:** Ability to learn the IEEE 802.11 Wireless LAN Standard.

### **19PCS809 WEB TECHNOLOGY**

- CO1:** Understand the basics of internet communications and hardware elements associated with it.
- CO2:** Learn the fundamentals of HTML tags, frames, frameset and tables.
- CO3:** Acquire knowledge about java script and its controls statements, functions, objects.
- CO4:** Understand about XML, CSS, XSL, DTD, XSD.
- CO5:** Create dynamic web applications with PHP scripting.

### **EPCS810 DISTRIBUTED COMPUTING**

- CO1:** To understand the basic concepts of distributed systems.
- CO2:** Outline the Client /server communication in distributed systems.
- CO3:** Demonstrate concurrency control and properties of transaction in Distributed Systems.
- CO4:** Ability to know about file accessing model and various services in Distributed System.
- CO5:** Understand the Resource Process Management and Distributed Shared Memory in distributed system.

### **EPCS810A FUZZY LOGIC**

- CO1:** Understand the basic concept of Grid Computing.
- CO2:** Gain knowledge on the concepts of Grid Benefits & Status of Technology.
- CO3:** Understand the concept of Components of Grid Computing Systems.
- CO4:** Ability to know Grid computing Architecture & its Drawbacks.
- CO5:** Understand the Concept of Grid Computing Standards and Service Elements and Components of OGSA Services.

### **21PCSP23 PYTHON PROGRAMMING- PRACTICAL-III**

- CO1:** To Learn the Simple programs of Python.
- CO2:** Learn the Basic Syntax of Python.
- CO3:** Learn about the Strings, Lists, Tuples and Dictionary in Python.
- CO4:** Acquired an idea about Control Structures in Python.
- CO5:** Understood the Defining a Function – Calling a Function.

### **19PCSP24 WEB TECHNOLOGY LAB – PRACTICAL-IV**

- CO1:** Create a HTML table with rows and columns and split them using Row span and Col span.
- CO2:** Understand and create web pages using text links and align them.
- CO3:** Acquire knowledge to create XML documents, write a XSL style sheet and validate them using DTD or XSD.
- CO4:** Understand and write PHP programs for storage and retrieval of data from my sql.
- CO5:** Create java script programs and illustrate its various concepts.



## **PCS911 DATA MINING AND WAREHOUSING**

- CO1:** Ability to know the data mining introduction and classification of data mining system.
- CO2:** Ability to understand the principles of knowledge discovery process.
- CO3:** Ability to acquire knowledge about Data Warehouse Architecture.
- CO4:** Ability to apply classification and prediction.
- CO5:** Ability to learn the Data warehouse scoping and planning.

## **21PCS912 BASICS OF MACHINE LEARNING**

- CO1:** Essential knowledge on Machine Learning.
- CO2:** Learn the Basics of Machine Learning and its concepts.
- CO3:** Acquire the fundamental knowledge on building Machine Learning programs.
- CO4:** Develop an idea about Machine Learning Algorithms
- CO5:** Understand and develop Research Application using Machine Learning.

## **PCS913P CLOUD COMPUTING**

- CO1:** To understand the basic concepts of Cloud Computing.
- CO2:** Understand the concept of Infrastructure as a service in cloud.
- CO3:** Ability to Design & develop backup strategies for cloud data based on features.
- CO4:** Gain idea about the Cloud with Map Reducing concept.
- CO5:** Ability to understand the concept of security and key components of AWS.

## **EPCS914T PRINCIPLES OF COMPILER DESIGN**

- CO1:** Apply skills and familiarity which are applicable to a broad range of computer applications.
- CO2:** Design and develop a comprehensive Compiler for a given language.
- CO3:** Implement various parsing, conversion, optimization and code generation algorithms for the design of a compiler.
- CO4:** Understand the concept parsing techniques.
- CO5:** Able to understand the memory allocation with Loop Optimization and DAG.

## **EPCS914S MOBILE COMPUTING**

- CO1:** Ability to gain knowledge on basis of mobile computing and MAC.
- CO2:** Ability to acquire knowledge on multiple Telecommunication systems.
- CO3:** Ability to access wireless LAN, Bluetooth.
- CO4:** Ability to gain idea on IP, Tunneling and reverse tunneling.
- CO5:** Ability to understand WAP, its Architecture, WML.

## **EPCS914A DIGITAL IMAGE PROCESSING**

- CO1:** Ability to gain knowledge on basic fundamentals of Digital Image Processing.
- CO2:** Ability to acquire knowledge about Image Enhancement.
- CO3:** Ability to know about Image Restoration.
- CO4:** Ability to gain idea on Geometric Transforms.
- CO5:** Ability to understand Image Compression.

## **EPCS915A RESEARCH METHODS**

- CO1:** Understand and acquire the basics knowledge about research methodology and the research design concepts.
- CO2:** Understand the various data collection methods for doing research.



**CO3:** Knowledge about data analysis methods and its usage.

**CO4:** Understand the usage and significance of report writing and its techniques.

**CO5:** Understand about the importance of writing and presentation of research report.

**19EPCS35A CYBER FORENSICS**

**CO1:** Ability to gain knowledge on basic Forensics, its tasks, cybercrime laws.

**CO2:** Ability to restrict from crimes, threat and fraud by learning social ethics.

**CO3:** Ability to learn about cyber criminals, crime fighters and understanding Investigators.

**CO4:** Ability to understand local, state, national, international laws and their procedures.

**CO5:** Ability to understand how to preserve and recover digital evidence.

**19EPCS35B E –BUSINESS**

**CO1:** Essential knowledge on Business Process Model.

**CO2.** Learn the working environment functions for E Market places.

**CO3.** Learn about the E Business Applications of Outsourcing Industry.

**CO4.** Acquired an idea about employment and job Market online different field and Industries.

**CO5.** Understood the challenges and dynamics of each E-Learning process.

Education and Industries to help better manage operations.

**21PCSP35 MACHINE LEARNING USING PYTHON-PRACTICAL-V**

**CO1:** Essential knowledge on Machine Learning Algorithms.

**CO2.** Learn the Basics of Machine Learning and its concepts.

**CO3.** Acquire the fundamental knowledge on building Machine Learning programs.

**CO4.** Develop an idea about Machine Learning Algorithms.

**CO5.** Understand and develop Research Application using Machine Learning.

**19JPC306 MINI PROJECT-PRACTICAL-VI**

**CO1:** Ability to perform Critical Thinking, Reasoning, and Creative Thinking.

**CO2:** Ability to use the technology

**CO3:** Ability to visualize the problems and Provide Solution

**CO4:** Ability to test technical skills.

**CO5:** Ability to work both independently and in groups on presentations and/or development of Projects.

**JPCS1016 PROJECT**

**CO1:** Ability to perform Critical Thinking, Reasoning, and Creative Thinking.

**CO2:** Ability to use the technology

**CO3:** Ability to visualize the problems and Provide Solution

**CO4:** Ability to test technical skills.

**CO5:** Ability to work both independently and in groups on presentations and/or development of Projects.





## **M.Sc. INFORMATION TECHNOLOGY**

### **18PIT11 PROBLEM SOLVING TECHNIQUES USING C**

- CO1: Knowledge pertaining to C-Language Fundamentals
- CO2: Logic using Control Statements
- CO3: Modular Programming using Functions
- CO4: Knowledge pertaining to arrays and structures.
- CO5: Advanced Programming techniques using pointers, files and graphics concepts.

### **18PIT12 INTRODUCTION TO INFORMATION TECHNOLOGY**

- CO1: Knowledge pertaining to basics of Computers
- CO2: Proficiency in Computer Software and OS
- CO3: Knowledge pertaining to Network Communication
- CO4: Knowledge pertaining to Network Applications.
- CO5: Expertise in Latest IT trends.

### **18PIT13 WEB TECHNOLOGIES**

- CO1: Knowledge pertaining to HTML Fundamentals
- CO2: Designing capabilities using CSS
- CO3: Modular Programming using Scripts.
- CO4: Web Site Development using ASP.Net.
- CO5: Web Site Development with database support using ADO.Net.

### **EPIT14A E-COMMERCE**

- CO1: Basic Knowledge pertaining to E-Commerce
- CO2: Basic Knowledge pertaining to E-Commerce business models.
- CO3: Knowledge pertaining to Electronic Data Interchange (EDI)
- CO4: Knowledge pertaining to Marketing on the Internet.
- CO5: Basic Knowledge pertaining to Multimedia and Digital Video.

### **EPIT14B MANAGEMENT INFORMATION SYSTEMS**

- CO1: Basic Knowledge pertaining to Information Systems
- CO2: Knowledge pertaining to Business Operations.
- CO3: Managing ability pertaining to Information Technology.
- CO4: Knowledge pertaining to ERP.
- CO5: Implementing ability of ERP package.

### **EPIT14C OBJECT ORIENTED ANALYSIS AND DESIGN**

- CO1: Learn the UML analysis and design diagrams.
- CO2: Learn to map design to code, Compare and contrast various testing techniques.
- CO3: Apply appropriate object model and design patterns.
- CO4: Create object code from design Patterns
- CO5: At the end of the course, the student should be able to: Design and implement projects using OO concepts.



**18PITP11 C PROGRAMMING AND WEB TECHNOLOGIES**

CO1: Knowledge pertaining to C-Language Fundamentals and Knowledge pertaining to HTML Fundamentals.

CO2: Logic using Control Statements and Designing capabilities using CSS

CO3: Modular Programming using Functions and Modular Programming using Scripts.

CO4: Knowledge pertaining to arrays and structures and Web Site Development using ASP.Net.

CO5: Advanced Programming techniques using pointers, files and Web Site Development with database support using ADO.Net.

**18JPIT11 C PROGRAMMING OR WEB TECHNOLOGIES**

CO1: Stand-alone applications using “C” or HTML/CSS/Javascript

CO2: System Program using “C”

CO3: Web Services using Asp.Net

CO4: A Web Site using Asp.Net and ADO.Net

CO5: A Novel Application.

**18PIT21 OBJECT ORIENTED PROGRAMMING USING JAVA**

CO1: Proficiency in Classes & Objects in Java.

CO2: Proficiency in Packages, Interfaces and Threads.

CO3: Knowledge pertaining to AWT.

CO4: Application developing skills using RMI.

CO5: Application developing skills using Servlets.

**18PIT22 RELATIONAL DATABASE MANAGEMENT SYSTEM**

CO1: Proficiency in SQL Basics.

CO2: Proficiency in Advanced SQL Concepts.

CO3: Knowledge pertaining to SQL Loader.

CO4: Application developing skills using PL/SQL.

CO5: Application developing skills using Cursors and Triggers.

**PIT23A SOFTWARE TESTING**

CO1: Proficiency in Principles of Testing.

CO2: Proficiency in Different Testing Techniques.

CO3: Knowledge pertaining to Specialized Testing.

CO4: Application developing skills using Proper Test Plan and Reporting.

CO5: Implementing ability using Software Tools.

**18EPIT24 CLOUD COMPUTING**

CO1: Proficiency in basics of Cloud Computing.

CO2: Proficiency in Developing Cloud Services.

CO3: Knowledge pertaining to Cloud Computing.

CO4: Application developing skills using Cloud Services.

CO5: Proficiency in Cloud Security and Challenges.



## **18EPIT24A                    BIG DATA ANALYTICS**

- CO1: Proficiency in basics of Big Data.
- CO2: Proficiency in basics of Hadoop.
- CO3: Knowledge pertaining to Hadoop architecture.
- CO4: Proficiency in Hadoop Ecosystem and Yarn
- CO5: Proficiency in Hive and HiveQL, HBASE.

## **EPIT24B                    DATA MINING**

- CO1: To understand about the basics of Data Mining and Data
- CO2: To understand about the methods of Data Warehousing
- CO3: To understand about the techniques of Data Mining
- CO4: To understand about the importance of Cluster and outlier detection
- CO5: To improve the student's knowledge with recent trends and tools

## **18PITP22                    JAVA PROGRAMMING AND RDBMS**

- CO1: Application development efficiency using Java basic statements and SQL basics.
- CO2: Application development efficiency using AWT Controls and advanced SQL concepts.
- CO3: Network Application development skill and knowledge pertaining to SQL loader.
- CO4: Application developing skills using RMI and Application developing skills using PL/SQL.
- CO5: Application developing skills using Servlets and Application developing skills using Cursors and Triggers.

## **18JPIT22                    JAVA PROGRAMMING OR RDBMS**

- CO1: Stand-alone applications using Java or RDBMS Package.
- CO2: System Program using Java
- CO3: Web Services using Servlet
- CO4: A Web Site using Servlet and SQL.
- CO5: A Novel Application.

## **18PIT11                    DATA ANALYTICS USING PYTHON**

- CO1: Learn Primitive data types, selection statements, loops, functions to write programs.
- CO2: To learn handling of files and handling errors in files,
- CO3: Understanding the Numpy module.
- CO4: Understanding the data manipulation using Pandas.
- CO5: Understanding the use of OpenCV for image manipulation.

## **18PIT32                    OPEN SOURCE TECHNOLOGIES**

- CO1: Knowledge pertaining to Building blocks of PHP
- CO2: Proficiency in Working with Strings, Date and Time Functions.
- CO3: Proficiency in Error Handling and Debugging.
- CO4: Proficiency in Working with Directories.
- CO5: Knowledge pertaining to application development using MySQL.

## **19EPIT33                    INTERNET OF THINGS**

- CO1: Knowledge pertaining to Basics of IoT
- CO2: Proficiency in IoT Market Perspectives.
- CO3: Proficiency in IoT Technology Fundamentals.



CO4: Proficiency in IoT State of the Art Architecture.

CO5: Knowledge pertaining to Commercial building automation in the future.

**18EPIT33A ETHICAL HACKING**

CO1: Knowledge pertaining to Basics of Information Security.

CO2: Proficiency in Hacking.

CO3: Proficiency in Attacks in Information Highway.

CO4: Proficiency in Security Defenses in Information Highway.

CO5: Knowledge pertaining to Ethical Hacking.

**18PIT11 DIGITAL IMAGE PROCESSING**

CO1: To know the basics of Digital image and techniques.

CO2: To understand various Image enhancement ideas.

CO3: To understand Image restoration techniques.

CO4: To understand degrees of image resolution and compression methods.

CO5: To understand concepts of image representation and recognition.

**18EPIT34 DISTRIBUTED OPERATING SYSTEMS**

CO1: Knowledge pertaining to Basics of Distributed Systems.

CO2: Proficiency in Inter-Process Communication.

CO3: Proficiency in Synchronization in Distributed Systems.

CO4: Proficiency in Processor allocation and Real Time Systems.

CO5: Knowledge pertaining to File system and Shared memory.

**18EPIT34A ARTIFICIAL INTELLIGENCE**

CO1: Knowledge pertaining to Basics of Artificial Intelligence.

CO2: Proficiency in Heuristic Search Techniques.

CO3: Proficiency in Using Predicate logic.

CO4: Proficiency in Natural Language Processing.

CO5: Knowledge pertaining to Perception and Action.

**18EPIT34B MACHINE LEARNING**

CO1: To Learn about Machine Intelligence and Machine Learning applications.

CO2: To implement and apply machine learning algorithms to real-world applications.

CO3: Have an understanding of the strengths and weaknesses of many popular machine learning approaches.

CO4: Appreciate the underlying mathematical relationships within and across Machine Learning algorithms and the paradigms of supervised and un-supervised learning.

CO5: Be able to design and implement various machine learning algorithms in a range

**PITP34 DATA ANALYTICS USING PYTHON AND WEB DEVELOPMENT USING PHP**

CO1: Understand and summarize different File handling operations in Python.

CO2: Design and develop Client Server network applications using Python.

CO3: Develop Application using Forms in PHP.

CO4: Develop different application such as online shopping cart, banking App.

CO5: Develop Database application using Android and PHP





**18JPIT33 DATA ANALYTICS USING PYTHON OR WEB DEVELOPMENT USING PHP OR ANDROID APPLICATIONS**

CO1: Stand-alone applications using Android and PHP.

CO2: System Program using Android

CO3: Web Services using PHP.

CO4: A Web Site using PHP and MySql.

CO5: A Novel Application.

**18JPIT44 MAIN PROJECT**

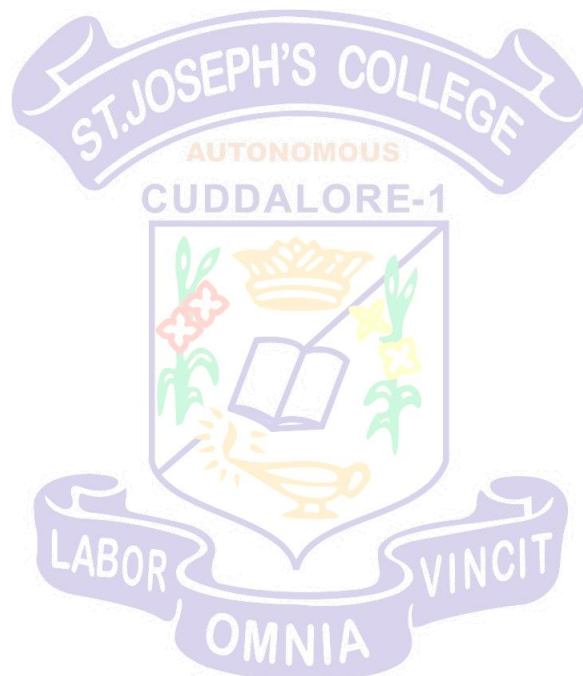
CO1: Project Analysis Technical Skill.

CO2: Project Designing Technical Skill.

CO3: Project Coding Technical Skill.

CO4: Project Testing Technical Skill.

CO5: Project Implementation Technical Skill





## **M.Com. COMMERCE**

### **PCM702Q CONSUMER BEHAVIOUR**

CO1: Familiarize with consumer Behaviour and Consumer Modeling.

CO2: Understand the Consumer Behaviour and determine their relevance to particular Marketing to Consumer Perception.

CO3: Reflective thinking about Consumer Personality, Attitude and Motivation

CO4: Comprehension about the Influence of Reference Groups, Culture and Subculture.

CO5: Evaluate the relating to Consumer Satisfaction and Consumerism.

### **PCM703T INSURANCE AND RISK MANAGEMENT**

CO1: Identify various types of financial and non-financial risk and methods of treating such risk.

CO2: Analyze of insurance in India and create frame work of insurance.

CO3: Asses the identification of risk and measurements of insurance risk.

CO4: Gain a knowledge of the different types of insurance companies, identify risk aversion and demand for insurance.

CO5: Assess the economic need for life insurance and design, solutions to meet the client's goals.

### **PCM704S STRATEGIC MANAGEMENT**

CO1: Learn the basic concepts of strategic management process and Inherit skills required to analyse the industry.

CO2: Learn how firms formulate, implement and evaluate corporate business strategies.

CO3: Get acquainted with different forms of strategies

CO4: Acquire skills to gain how implementation strategy is adopted by business

CO5: Correlate the importance of change and learn how to implement it in the company.

### **PCM806T FINANCIAL MANAGEMENT**

CO1: Understand the concept of Finance and its fundamentals.

CO2: Identify different sources of finance and choose appropriate long-term capital expenditure decisions.

CO3: Recognise the impact of capital structure on shareholder's wealth.

CO4: Elucidate the concept of working capital and its management.

CO5: Calculate the cost of capital of different sources of funds and acquire the knowledge of different dividend policies and their impacts.

### **PCM807A LEGAL ENVIRONMENT OF BUSINESS**

CO1: Create premise and clear understanding for legal aspects of transfer of property

CO2: Comprehend and utilize laws relating to Societies and Trusts for start-ups and entrepreneurial ventures, independently

CO3: Comprehend and utilize laws relating to Societies and Trusts for start-ups and entrepreneurial ventures, independently

CO4: Learn about the legitimate rights and obligations under The Right to Information Act.

CO5: Know about environmental laws.



## **19PCM808 MICRO, SMALL AND MEDIUM ENTERPRISE MANAGEMENT**

- CO1: Understand the basic concepts of MSME's.
- CO2: Determine the Financing options and Modes of MSME's.
- CO3: Diagnosis the Taxation Benefits to Small-Scale Enterprises.
- CO4: Gain knowledge on Supporting Institutions and subsidies.
- CO5: Determine the concepts of MSME Rehabilitation.

## **PCM809A ADVANCED ACCOUNTING**

- CO1: Explain and exposure to a few International Accounting standards.
- CO2: Understand the various aspects of amalgamation and apply the same in real life situation with due regard to the type and circumstances of amalgamation.
- CO3: Prepare Consolidated Balance Sheet as per AS 21.
- CO4: Draft profit and loss a/c and balance sheet of Banking companies.
- CO5: Prepare the profit and loss account and balance sheet of Insurance Companies.

## **EPCM810Q BUSINESS ENVIRONMENT AND POLICY**

- CO1: Combine the various categories of the business environment and apply various approaches that are helpful to manage both the internal and external environment of the business.
- CO2: Appraise the various types of policies in the economic environment, applying these policies change the structure of the economy.
- CO3: Classify Political and legal Environment of business, and evaluate various constitution provisions, Consumer Protection act and Competition Act 2002.
- CO4: Evaluate and understanding of technological, demographic social, and cultural factors, social responsibility of business.
- CO5. Cultivate Global Environment of business and, to demonstrate the various policies of foreign institutions.

## **EPCM810A SECURITY ANALYSIS AND PORTFOLIO MANAGEMENT**

- CO1: Understand the basic concepts of Security analysis and portfolio Management.
- CO2: Ascertain the Security Market and Portfolio Theory.
- CO3: Ascertaining the bond prices and Yields.
- CO4: Acquire knowledge of investment policies and strategies of portfolio Management.
- CO5: Discovering the basic implementation of portfolio management.

## **PCM31 HUMAN RESOURCE DEVELOPMENT**

- CO1: Understand the concepts of Human Resource Development.
- CO2: Acquire the Skills on Group dynamics, behavior and Emotional intelligence..
- CO3: Enables to plan for career and its development and also adjust work and life.
- CO4: Understand the importance of leadership and its qualities.
- CO5: Learn to manage talent people and human diversity.

## **PCM912Q RESEARCH METHODOLOGY**

- CO1: Understand the basic concepts of research.
- CO2: Familiar with formulation research design and framing Suitable hypothesis.
- CO3: Comprehend the sampling survey and sampling procedures.
- CO4: Use suitable methods for Data collection and apply different statistical tools.
- CO5: Use dynamic methods in Interpreting and writing the research report.



## **PCM914A INCOME TAX LAW**

- CO1: Understanding the basic concepts of Income Tax.
- CO2: Ascertaining the filing Procedures involved in Income tax.
- CO3: Diagnosis the various Produces for assessment.
- CO4: Classify the authorities of Income Tax.
- CO5: Ascertain the Appealing procedures, Penalties.

## **PCM915Q INTERNATIONAL MARKETING**

- CO1: Understand the basic concepts of international trade environment.
- CO2: Acquire the knowledge of global consumes and international marketing system.
- CO3: Learn the International product policy, brands, trademarks, packing and labelling.
- CO4: Understand the International promotional policy.
- CO5: Gain overseas marketing channel policy.

## **EPCM33 ADVANCED FINANCIAL SERVICES**

- CO 1: Exhibit the financial service concepts & trends and Recollect about the merchant banking
- CO2: Apply the knowledge of common assets and funding in Mutual funds and Venture Capital.
- CO 3: Provide knowledge on securitization and credit rating.
- CO 4: Understand the basics of Hire Purchase system and Housing Finance
- CO 5: Identify alternative financial services in India.

## **19PCM43 INTERNATIONAL BUSINESS**

- CO1: Understand the basic concepts and recent development of International Business.
- CO2: Distinguish and Outline the International Business environments.
- CO3: Acquiring Knowledge on the theories of International Trade.
- CO4: Analyzing the role of international organizations in International Business.
- CO5: Practice the International Financial management and Negotiations

## **EPCM33A LOGISTICS AND SUPPLY CHAIN MANAGEMENT**

- CO1: Understand the concept and gain the knowledge on Logistics and Supply Chain Management.
- CO2: Familiar with warehouse management.
- CO3: Identity and Analyze the transportations system and fixation of rates for the transportation.
- CO4: Learn the Logistics Information System and Distribution Network and factors transportation.
- CO5: Be Familiar with the Managing Risk, Competition and Future of SCM.

## **PCM42 E-COMMERCE**

- CO1: Understand the knowledge of E-Commerce.
- CO2: Gaining knowledge on E-Marketing.
- CO3: Applying the E-Payment systems.
- CO4: Acquire the Knowledge on Mobile Commerce.
- CO5: Learn the Ethical Issue and Cyber Laws in India.



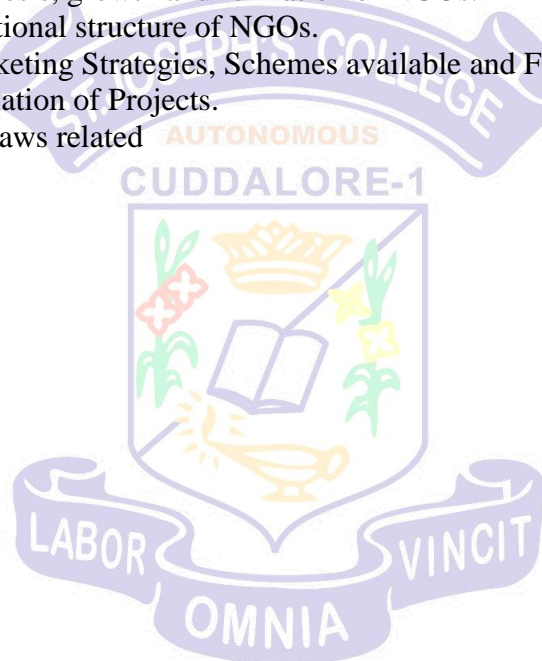


**EPCM41A                      LABOUR AND INDUSTRIAL LAWS**

- CO1: To understand the regulatory aspects and the broader procedural aspects involved in pensions and provident fund processes.
- CO2: To familiarize with the rights and liabilities of trade unions in a factory and to apprise the compensatory benefits available in case of employment injury in accordance with Indian statutes.
- CO3: To acquaint the various compensatory benefits available to workers under state insurance act and understand the administration processes involved in the same.
- CO4: To judge the actual organisational situations in context of industrial disputes and build synthesis via case.
- CO5: To imbibe company processes with the implications of judicial pronouncements with respect to social security of workers via payment of gratuity.

**19EPCM41                      NGO MANAGEMENT**

- CO1: Understand the genesis, growth and formation of NGOs.
- CO2: Learn the organizational structure of NGOs.
- CO3: Determine the marketing Strategies, Schemes available and FCRA Act.
- CO4: Classify the formulation of Projects.
- CO5: Ascertain the Tax laws related





## **M.S.W. SOCIAL WORK**

### **PSW11A SOCIAL WORK PROFESSION**

- CO1: Be familiar with the Social Work and related concept along with social work theories.
- CO2: Know the history, philosophy, and fields of Social Work.
- CO3: Understand the social work profession and relationship with other professions and its problems.
- CO4: Discover Social Work education in India.
- CO5: Be relevant to the skills of Social Work in the major fields of Social Work.

### **19PSW12 SOCIAL CASE WORK**

- CO1: Acquire knowledge on the foundation of case work.
- CO2: Understand the professional relationship between client and social worker.
- CO3: Know the process of social case work.
- CO4: Gain knowledge on the models and approaches of Social Case Work and its application
- CO5: Apply the Knowledge of case work in different settings.

### **21PSW13 SOCIAL GROUP WORK**

- CO1: Understand Social Group, Stages of Development and its Process.
- CO2: Develop theoretical understanding on Group Work as a method of Social Work .CO3: Demonstrate ethical standards in working with the group
- CO4: Practice Social Group Work as a method of Social Work in the field
- CO5: Utilize programme media in Social Work practice

### **19PSW14 COMMUNITY ORGANIZATION AND SOCIAL ACTION**

- CO1: Develop theoretical understanding on Community Organization as a method Social Work.
- CO2: Be aware of theories, models and approaches of Community Organization.
- CO3: Practice Community Organization as a method of Social Work in the field of Social Work.
- CO4: Extend theoretical understanding on Social Action as a method of Social Work.
- CO5: Apply Social Action as a method of Social Work.

### **EPSW15A PSYCHOLOGY FOR SOCIAL WORKERS**

- CO1: Be exposed to the diverse psychological theories and its role in Social Work
- CO2: Gain Knowledge Psychological Processes in Behaviour.
- CO3: Know about the Reproductive System and Developmental Periods.
- CO4: Realize the importance of self and sustainable motivation
- CO5: Be aware of Abnormal Psychology and mental well being

### **EPSW15B FAMILY AND MARITAL COUNSELING**

- CO1: Be enriched to work with dysfunctional family system and be aware of methods to resolve
- CO2: Be provided with conceptual understanding of family as a system and Changes involved and its reflection on family relationship
- CO3: Be provided with theoretical perception on family welfare management.
- CO4: Be facilitated to develop skills and insight of social worker in resolving issues.
- CO5: Be aware of marital and pre-marital counselling & approach.



**EPSW15C SOCIAL WORK WITH CHILDREN AND YOUTH**

CO1: Be enriched with demographic details of children.

CO2: Be provided with conceptual understanding of health and nutrition factors of youth and children.

CO3: Be provided with theoretical perception on Children and Youth in Difficult Circumstances.

CO4: Be aware of Special problems of child and youth.

CO5: Be familiar with Constitutional Safeguards of child and youth.

**20PSWF1 CONCURRENT FIELD WORK PRACTICUM – I**

CO1: Be exposed to different fields of Social Work

CO2: Understand the role of professional Social Worker in structured agency

CO3: Understand and reflect on diverse needs and problems of the target groups

CO4: Appraise on the theoretical framework, approaches, models and practices

CO5: Develop positive framework about the profession

**19PSWE1 RURAL SOCIAL WORK PERSPECTIVES (RURAL CAMP)**

CO1: Experience to the village setup.

CO2: Understand the social problems and attaining solution.

CO3: Set their leadership qualities.

CO4: Be experienced in organizing programme and create awareness to the people.

CO5: Identify their ability to cope up with the society.

**19PSW21 SOCIAL WORK RESEARCH AND SOCIAL STATISTICS**

CO1: Develop the theoretical understanding of Social Work Research.

CO2: Employ suitable research design and formulate research hypothesis. CO3: Adopt suitable sampling technique, tool and method of data collection.

CO4: Identify appropriate statistical tests for data analysis and gain insights for data interpretation.

CO5: Develop skills to write research proposal and prepare research report.

**21PSW22 SOCIAL WELFARE ADMINISTRATION**

CO1: Gain insight on HSO, NGO.

CO2: Be able to register the human service organizations and can administer it effectively.

CO3: Understand the different administration process.

CO4: Develop an understanding on various social legislations and its implementation.

CO5: Practice social legislations for the betterment of the society.

**21PSW23 SOCIAL POLICY AND SOCIAL LEGISLATIONS**

CO1: Learn about social policy and Indian Constitution. .

CO2: Understand the policies and programmes in India. CO3: Learn about social legislations legal system.

CO4: Know about legislations concerned with family, child, and so on.

CO5: Understand the significance of various Legislations.

**21PSW24 COUNSELING: THEORY AND PRACTICE**

CO1: Understand counseling as a professional practice.

CO2: Acquire knowledge on the process and theories related to counseling.

CO3: Know about the practice of counseling in different setting.



CO4: Gain knowledge on family and marital counseling.

CO5: Learn the ethical principles and professional guidelines for counseling practice.

### **EPSW25A SOCIOLOGY FOR SOCIAL WORKERS**

CO1: Be exposed to the diverse Sociological theories and its role in Social Work

CO2: Demonstrate professional traits in dealing with the context of social stratification in India.

CO3: Gain knowledge on the stages of human development and its influences

CO4: Adopt the effective style of learning; realize the importance of sustainable motivation.

CO5: Be aware of application of Social Work knowledge to enhance the mental well being.

### **EPSW25B DISASTER MANAGEMENT**

CO1: Be exposed to the disaster.

CO2: Learn the process of disaster management.

CO3: Understand the phases of disaster management.

CO4: Learn about Disaster Management Authority and Acts.

CO5: Gain knowledge on Role of Social Workers and Voluntary Agencies in disaster management.

### **EPSW25C ENVIRONMENTAL SOCIAL WORK**

CO1: Be exposed to the disaster management.

CO2: Understand the natural resources.

CO3: Be equipped with knowledge about biodiversity.

CO4: Understand the environmental social issues.

CO5: Be exposed to the field based visit and cause and effects of environment.

### **20PSWF2 CONCURRENT FIELD WORK PRACTICUM – II**

CO1: Be exposed as a social worker in different settings.

CO2: Be exposed to different NGO, agency and company.

CO3: Be known to handle the client as a case worker.

CO4: Understand the group work process.

CO5: Organize Community organization programme.

### **19PSWS1 LIFE SKILLS FOR SOCIAL WORK**

CO1: Be exposed to their personal skills and development.

CO2: Be determined with the communication and writing skill.

CO3: Be capable of understanding human behavior.

CO4: Be equipped with the professional skills for their future development.

CO5: Learn the ethics and role of social worker.

### **19PSW31A RURAL AND TRIBAL COMMUNITY DEVELOPMENT**

CO1: Be exposed to the rural community.

CO2: Be determined to the development of the community.

CO3: Be capable of understanding human behavior.

CO4: Be committed to work with the tribal community.

CO5: Be equipped with skills to work with the community.





## **20PSW31B HUMAN RESOURCE MANAGEMENT**

- CO1: Be exposed to the concept of human resource management.
- CO2: Be determined to the process of human resource planning.
- CO3: Be equipped with the knowledge on training and development.
- CO4: Be capable of handling with administrative structure.
- CO5: Learn the human resource development.

## **PSW31C MEDICAL SOCIAL WORK**

- CO1: Be exposed to the importance of medical social work.
- CO2: Understand health care model and alternative system of health.
- CO3: Be equipped with hospital administration.
- CO4: Understand communicable and non-communicable disease.
- CO5: Be applicable to work in hospital setting.

## **19PSW32A URBAN COMMUNITY DEVELOPMENT**

- CO1: Be exposed to the urban communities.
- CO2: Be aware of slum legislation.
- CO3: Understand urban community development.
- CO4: Be capable of handling urban administrative structure.
- CO5: Learn the role of stake holders in urban community development.

## **20PSW32B LABOUR LEGISLATIONS AND LABOUR WELFARE**

- CO1: Understand labour system.
- CO2: Be aware of working environment and legislations.
- CO3: Learn about the labour classification.
- CO4: Understand the wage legislation.
- CO5: Learn about the social legislation.

## **20W32C MENTAL HEALTH AND SOCIAL WORK**

- CO1: Be exposed to the mental health.
- CO2: Learn about stress and coping mechanism.
- CO3: Gain knowledge about psychiatric assessment.
- CO4: Understand the neurotic and psychotic disorder.
- CO5: Learn about the childhood disorder.

## **ECHR901T HUMAN RIGHTS**

- CO1: Gain Knowledge about Emergence of Human Rights.
- CO2: Knowledge relating to various Declaration on Human Rights.
- CO3: To know the various Covenants for protecting Human Rights.
- CO4: To know the various Covenants for protecting Human Rights.
- CO5: To Evaluate Certain issues on Human Rights.

## **19EPS33A COMPUTER APPLICATION IN SOCIAL WORK**

- CO1: Be exposed to the fundamentals of computer.
- CO2: Gain Knowledge on office applications.
- CO3: Understand the usage of SPSS in the field of Social Work research.
- CO4: Be capable of creating data file and to develop practical knowledge.
- CO5: Be aware of applications of Statistical Calculation.



## **19EPS33B CORPORATE SOCIAL RESPONSIBILITY**

- CO1: Understand the concept of CSR.
- CO2: Be exposed to the CSR implementation.
- CO3: Understand CSR in different settings.
- CO4: Learn the models in CSR.
- CO5: Gain the CSR guidelines.

## **22EPS33B MANAGEMENT OF ORGANIZATIONS**

- CO1: Understand the concept of Fundamentals of Management.
- CO2: Be exposed to the Evolution of Management Thought.
- CO3: Understand Basics of Organization.
- CO4: Learn the basic skills of management.
- CO5: Gain the knowledge on empowering and personal skills.

## **19PSWF3 CONCURRENT FIELD WORK PRACTICUM – III**

- CO1: Gain social workers professional knowledge on different settings.
- CO2: Learn about human resource management.
- CO3: Be exposed on role of medical social worker in hospital settings.
- CO4: Understand the community problem.
- CO5: Organize group work and community organization programme.

## **19PSWE2 NATIONAL SOCIAL WORK PERSPECTIVES – AN ACADEMIC VISIT**

- CO1: Experience group dynamics.
- CO2: Be exposed to the various socio-cultural patterns.
- CO3: Understand the functioning of successful organizations.
- CO4: Gain awareness on implementation and execution of asks.
- CO5: Be exposed to different atmosphere.

## **19PSW41A PROJECT MANAGEMENT**

- CO1: Learn the concept of project cycle management.
- CO2: Understand the project identification and implementation.
- CO3: Be aware of project design.
- CO4: Understand the CSR.
- CO5: Determine the role of central and state governments in advocacy.

## **19PSW41B ORGANIZATIONAL BEHAVIOUR**

- CO1: Understand the concept of organizational behaviour.
- CO2: Learn the process of organizational development.
- CO3: Be exposed to organization and personal behaviour.
- CO4: Understand the group behavior at work place.
- CO5: Be aware of role of behavioral scientist in industry.

## **PSW41C PSYCHIATRIC SOCIAL WORK**

- CO1: Learn the psychiatric social work.
- CO2: Be equipped with clinical setting.
- CO3: Be exposed to methods of psychological treatments.
- CO4: Understand the children mentality.
- CO5: Be aware of the role of social worker in rehabilitation Centre.



## **19PSW42A COMMUNITY DEVELOPMENT MANAGEMENT**

CO1: Understand the concept of NGO.

CO2: Learn the strategies to develop the community.

CO3: Be exposed to self-help groups and panchayat system.

CO4: Understand about the structure of NGOs and their management aspects.

CO5: Be aware of entrepreneurship Training and Development of Entrepreneurs.

## **PSW42B INDUSTRIAL RELATIONS**

CO1: Understand the concept of industrial relation.

CO2: Understand the relationship between the industries.

CO3: Be exposed trade union and bargaining system.

CO4: Understand the industrial disputes.

CO5: Gain knowledge on industrial legislations.

## **PSW42C COMMUNITY HEALTH**

CO1: Gain knowledge on health and hygiene.

CO2: Enlighten with occupational health disease.

CO3: Be exposed to health care delivery system.

CO4: Be aware on health education.

CO5: Understand the community health and its work process.

## **19PSWF4 CONCURRENT FIELD WORK PRACTICUM – IV**

CO1: Be applicable of practical knowledge in different settings.

CO2: Learn the role of HR manager in industries.

CO3: Learn the role of social worker in NGO settings.

CO4: Understand the role of medical social worker.

CO5: Be aware of organizing programme.

## **JPSW1016 RESEARCH PROJECT**

CO1: Understand the importance of research.

CO2: Determine the factors in collecting reviews for the research projects.

CO3: Be aware of writing research proposal

CO4: Determine the findings for chosen topic.

CO5: Finds suggestion and conclusion for the research projects.

## **19PSWF5 BLOCK FIELD WORK PRACTICUM (INTERNSHIP)**

CO1: Be applicable of practical knowledge in different settings.

CO2: Learn the role of HR manager in industries.

CO3: Learn the role of social worker in NGO settings.

CO4: Understand the role of medical social worker.

CO5: Be exposed to various skills in different settings.

## **VASW02 NGO MANAGEMENT (VALUE ADDED COURSE)**

CO1: NGO Management

CO2: Project Management Dimensions, Planning and its implementation

CO3: Skills and Techniques of Project management Evaluation or Resource Mobilization.

CO4: Starting a Nongovernmental Organization of their own.

CO5: Knowledge on function of NGO through Field based visit to NGOs.



**VASW03 FOLK ARTS (VALUE ADDED COURSE)**

- CO1: Verbal and non-verbal communication
- CO2: Culture and tradition of India and Tamilnadu.
- CO3: Folk arts and its historical evolution.
- CO4: Skills of Kargattam and Kummi
- CO5: Skills of Kollattam and oyillattam.

**VASW04 STEET PLAY (VALUE ADDED COURSE)**

- CO1: Importance of communication.
- CO2: Analysis of the self and the society.
- CO3: Concept and story development.
- CO4: Acting skills.
- CO5: Concept of street and its relevance.

**19SPS34A CHILD WELFARE AND SOCIAL WORK (SELF-STUDY PAPER)**

- CO1: Understand basic theoretical knowledge on child welfare concepts and Institution working for child Welfare
- CO2: Equip them with the knowledge on welfare services of children
- CO3: Be enabled to work in the different field based legislations related to children
- CO4: Create knowledge on various issues related to children
- CO5: Address the problems of women and children

**19SPS34B CARING THE PERSONS WITH DISABILITIES (SELF-STUDY PAPER)**

- CO1: Identify forms of disabilities.
- CO2: Learn to diagnose and assess the functional abilities.
- CO3: Be exposed to rehabilitative measure.
- CO4: Understand the approaches in rehabilitation.
- CO5: Be determined to the role of the social worker in this setting.

**19SPS34C HOSPITAL ADMINISTRATION (SELF-STUDY PAPER)**

- CO1: Be clear about the hospital and its classification.
- CO2: Be exposed to planning and process.
- CO3: Understand the hospital administration.
- CO4: Understand the staffing and recruitment process.
- CO5: Gain knowledge on hospital budgeting.

**19SPS34D WORKING WITH ELDERLY PEOPLE (SELF-STUDY PAPER)**

- CO1: Understand the functions and theories of ageing.
- CO2: Learn about the policies and Programme for the elder people.
- CO3: Be exposed to family context and relationship.
- CO4: Understand the kinds of service rendered to the aged people.
- CO5: Be determined to the family intervention techniques.

**19SPS34E WOMEN AND DEVELOPMENT (SELF-STUDY PAPER)**

- CO1: Understand the functions of women development.
- CO2: Learn the importance of women education.





CO3: Be exposed to gender analysis and relationship.

CO4: Understand the women problems and circumstances.

CO5: Be aware of the role of state and national level commission in women's development.

**19SPS34F                      COMPENSATION MANAGEMENT (SELF-STUDY PAPER)**

CO1: Understand the meaning of compensation.

CO2: Learn the managing compensation and its structure.

CO3: Be exposed to employer compensation and bonus.

CO4: Understand to manage the employee benefits.

CO5: Be aware of the employee benefits.

**19SPS34G                      SUMMER PLACEMENT (SELF-STUDY PAPER)**

CO1: Be exposed to the industry and social welfare organization.

CO2: Be experienced with management operation and work settings.

CO3: Be applying theoretical knowledge into practical.

CO4: Carry out research project.

CO5: Learn the ethics and role of social worker.

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