# INTRODUCTION ON INTELLECTUAL PROPERTY TO ENGINEERS AND TECHNOLOGISTS

Co-ordinator Prof. Debjani Chakraborty

PRE-REQUISITES: Basic knowledge of technology and awareness to law

INDUSTRIES APPLICABLE TO: R &D of MNC

#### COURSE OUTLINE:

Intellectual Property is key driver of economy. The knowledge over intellectual property is essential for individual to take part in economic development. The course aims to provide basics of various forms of intellectual property. Further the course provides insight of registration procedure of various forms of intellectual property.

#### **ABOUT INSTRUCTOR:**

Prof. Tapas Kumar Bandyopadhyay has completed Ph.D in Metallurgical and Materials Engineering from Indian Institute of Technology Kharagpur (IIT-Kharagpur). He is presently working as Assistant Professor at IIT-Kharagpur. He worked with Indian Patent Office and NTPC Ltd before joining IIT-Kharagpur. He has published more than 22 papers in referred journal. He has two Indian Patent (One granted, One applied). He has authored a book on Intellectual Property Right. His research areas of interest include technology-law interface, policy, physical metallurgy of steel etc.

#### **COURSE PLAN:**

Week 1: Introduction to IP.

Week 2: Patent Basic

Week 3: Patent filing procedure

Week 4: Copyright basic, Industrial Design, Emerging issue

Week 5: Trademark basic, GI basic

Week 6: IC Layout Design

Week 7: Trade secret

Week 8: Comparative analysis, IP management

# RESEARCH METHODOLOGY

Co-ordinator Prof.A.Ramesh IIT Madras

**PRE-REQUISITES**: Students who have completed undergraduate studies (in Engineering or Science) will be in a better position to benefit from this course

INTENDED AUDIENCE: Students of ME/MTech/MS/MSc/PhD can benefit.

#### COURSE OUTLINE:

Large numbers of students are actively considering and taking up research and associated higher studies. This course aims to introduce students to the important aspects of research. The intent of the course is to make students aware of the details associated with formal research and to help students overcome common misconceptions that may be present in their minds. By going through this course, students are likely to be able to take up research activities in a more systematic and formal manner right from the beginning.

#### ABOUT INSTRUCTOR:

Prof. E. PRASAD, Professor, Department of Chemistry, Indian Institute of Technology Madras, Chennai 600 036, INDIA Phone: ++91-44-2257 4232; Email: pre@iitm.ac.in. Educational Qualification: BSc., & MSc. From Calicut University, Kerala, India during 1990-1995; Ph.D. from NIIST, Thiruvananthapuram, Kerala, India in Photophysical Chemistry in 2000.Post Doctoral Research Experience: (2001 to 2006) Texas Tech University & Lehigh University, USA and University of Bonn, Germany (Alexander von Humboldt Fellow) .Professional Experience (11 years): Faculty at Department of Chemistry, IIT Madras since 2006; (8 years): Head, Teaching Learning Centre, IIT Madras; (6 years): Core team member, Teaching Learning Centre, IIT Madras (7+ years). Specialization and Expertise: Chemistry: Photophysical Chemistry, Design and Synthesis of organic and hydro gelators for various applications; Education/Teaching: Designing Learning Outcomes for Courses, Conducting Classes using Active and Collaborative Learning Techniques. Awards and Distinctions: AvH Fellowship (2002), Young Faculty Recognition Award (IIT Madras, 2011). Research Publications in Peer Reviewed Journals: 65.Conference Paper: Development of a Teaching Learning Centre and Ongoing Faculty Development Programs - A Case Study, Prasad Edamana, Ajith Kumar Kolar, Pramod S Mehta, Sujatha Srinivasan and Jeffrey Froyd, American Society for Engineering Education, USA, June, 2012.

Prof. Prathap Haridoss is a Professor in the Department of Metallurgical and Materials Engineering at IIT Madras. He works in the areas of Fuel Cell and Carbon nanomaterials. He has a B.Tech in Metallurgical Engineering from IIT Madras, and a PhD in Materials Science and Engineering from the University of Wisconsin-Madison, USA. Before he joined as a faculty at IIT Madras, he served as a Senior Scientist at Plug Power, a Fuel Cell company in New York. He has 3 US patents, several International Journal publications, and has published a book titled "Physics of Materials, Essential Concepts of Solid State Physics"

#### COURSE PLAN:

Week 1: A group discussion on what is research; Overview of research;

Week 2: Literature survey, Experimental skills;

Week 3: Data analysis, Modelling skills;

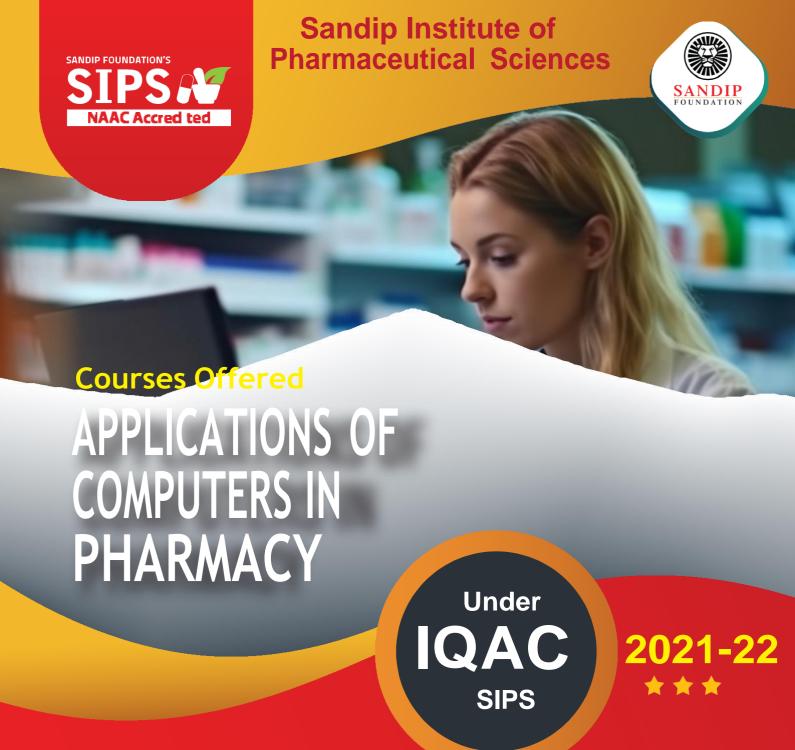
Week 4: Technical writing; Technical Presentations; Creativity in Research

Week 5: Creativity in Research; Group discussion on Ethics in Research

Week 6: Design of Experiments

Week 7: Intellectual Property

Week 8 : Department specific research discussions



# Add on / Value added **Certificate Courses**

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This approach allows students to delve deeper into their areas of interest, diversify their skill set and tailor their learning journey to align with their career aspirations

- Pharmacy Information Systems Management: Develop proficiency in utilizing computer applications for efficient management of pharmacy information systems, including drug inventory and patient records.
- **Electronic Prescription Processing:** Acquire skills to process electronic prescriptions accurately and securely, ensuring timely and error-free dispensing of medications.
- Clinical Decision Support Systems Utilization: Learn how to integrate and utilize clinical decision support systems to enhance pharmaceutical care and optimize medication therapy outcomes.
- **Medication Safety and Screening:** Apply computer programs for medication safety checks, screening for drug interactions, allergies, and dosage errors to prevent adverse effects.

# COURSE OUTCOMES

- Streamlined Pharmacy Operations: Demonstrate efficiency in pharmacy operations through the effective use of computer applications for information management.
- Accurate Electronic Prescription Processing: Process electronic prescriptions accurately, reducing errors and improving the overall quality of patient care.
- Optimized Medication Therapy: Utilize clinical decision support systems to optimize medication therapy, ensuring safe and effective patient outcomes.
- Enhanced Medication Safety: Apply computer-based screening tools to enhance medication safety, minimizing the risk of adverse drug events and improving patient well-being.

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**Prof. Pramod Karole**Academic Facilitator
Sandip Foundation

# **COORDINATOR**

**Dr. L. B. Borse** (Academic Dean)

**REGISTRATION DETAILS** 



# Sandip Institute of Pharmaceutical Sciences







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- **Non-Verbal Communication Proficiency:** Enhance non-verbal communication skills, including body language, gestures, and facial expressions, for effective interpersonal interactions.
- **Active Listening Skills:** Cultivate active listening techniques to better understand and respond empathetically to others.
- **Presentation Skills:** Acquire skills for delivering impactful presentations with clarity, engaging content, and effective use of visual aids.
- **Conflict Resolution Techniques:** Learn strategies for resolving conflicts diplomatically and constructively in personal and professional settings.

# **COURSE OUTCOMES**

- **Clear and Confident Communication:** Demonstrate clear and confident verbal communication, contributing to effective interpersonal relationships.
- **Non-Verbal Communication Mastery:** Exhibit proficiency in non-verbal communication, enhancing the overall impact of interpersonal interactions.
- **Active Listening Competence:** Apply active listening skills to understand others' perspectives and respond empathetically.
- **Dynamic Presentation Abilities:** Deliver dynamic and engaging presentations, effectively conveying ideas to diverse audiences.

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RAP Analytical, Nashik

# Courses Offered

# **Analytical Instruments Handling Techniques**











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- Instrument Familiarity: Gain a comprehensive understanding of various analytical instruments commonly used in laboratory settings, including spectroscopy, chromatography, and mass spectrometry.
- **Calibration and Maintenance:** Develop skills in the calibration and routine maintenance of analytical instruments to ensure accurate and reliable results.
- Sample Preparation Techniques: Learn effective sample preparation techniques compatible with different analytical instruments, ensuring optimal data quality.
- **Data Acquisition and Analysis:** Acquire proficiency in the proper handling of analytical instrument data, including data acquisition, processing, and interpretation.

# **COURSE OUTCOMES**

- **Competent Instrument Operation:** Demonstrate competence in operating a range of analytical instruments, ensuring precision and accuracy in experimental results.
- **Reliable Calibration and Maintenance:** Perform accurate instrument calibration and routine maintenance, contributing to the reliability and longevity of analytical equipment.
- **Effective Sample Preparation:** Execute sample preparation techniques effectively, ensuring the integrity of samples and the reliability of analytical results.
- Accurate Data Acquisition and Analysis: Proficiently handle analytical instrument data, including acquisition, processing, and analysis, leading to accurate and meaningful results.

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Sandip Foundation

#### CONVENER

Prof. Dr. Anil G. Jadhav Principal SIPS, Nashik

# **REGISTRATION DETAILS**

Dr. V. T. Pathan 9766294041

# **PATRON**

**Prof. Pramod Karole Academic Facilitator**Sandip Foundation

#### COORDINATOR

**Dr. L. B. Borse** (Academic Dean)



# **Courses Offered Basic principles in** Cosmetic **Technology**

Add on / Value added Certificate Courses



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- Understanding Cosmetic Ingredients: Develop a foundational understanding of cosmetic ingredients, including their properties, functions, and compatibility.
- Formulation Techniques: Acquire skills in formulating cosmetic products, considering factors such as stability, texture, and sensory attributes.
- Quality Control and Safety Standards: Learn principles of quality control and adherence to safety standards in cosmetic manufacturing to ensure product safety and efficacy.
- Packaging and Preservation: Understand the principles of appropriate packaging and preservation methods to maintain product integrity and shelf life.

# **COURSE OUTCOMES**

- In-depth Ingredient Knowledge: Demonstrate an in-depth understanding of cosmetic ingredients and their roles in formulation.
- Effective Formulation Skills: Develop proficiency in formulating cosmetic products with attention to stability, aesthetics, and performance.
- Quality Assurance: Implement quality control measures to ensure consistency, safety, and efficacy of cosmetic products.
- Optimal Packaging and Preservation: Apply principles of appropriate packaging and preservation techniques for cosmetic products to maintain their quality.

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Prof. Dr. Anil G. Jadhav Principal SIPS, Nashik

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**COURSES OFFERED** 

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# FIRST AID TRAINING

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# Emergency Assessment

Develop the ability to quickly and accurately assess emergency situations, prioritizing actions based on the severity of injuries or illnesses.

# Basic Life Support (BLS) Skills

Acquire essential skills in Basic Life Support, including cardiopulmonary resuscitation (CPR) and the use of automated external defibrillators (AEDs).

# Wound Care and Injury Management

Learn effective techniques for wound care, injury stabilization, and the prevention of further harm in various emergency scenarios.

# Recognition of Medical Emergencies

Recognize common medical emergencies such as heart attacks, strokes, and allergic reactions, and implement appropriate first aid measures.

# **COURSE OUTCOMES**

#### Rapid Emergency Response

Demonstrate the ability to respond rapidly and efficiently to emergency situations, initiating appropriate first aid measures.

# Proficiency in BLS Techniques

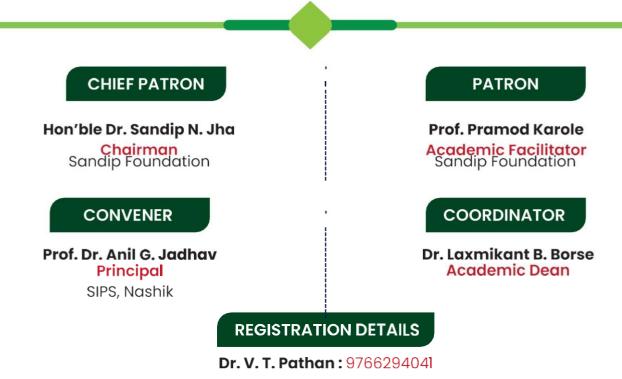
Apply Basic Life Support techniques confidently, including CPR and the use of AEDs, to support individuals experiencing cardiac arrest.

# Skilled Wound and Injury Management

Effectively manage wounds and injuries, minimizing complications and promoting recovery.

# Prompt Recognition of Medical Emergencies

Recognize and respond promptly to common medical emergencies, contributing to positive outcomes for the affected individuals.





# Add on / Value added Certificate Courses

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- Lab Safety Practices: Develop a thorough understanding of laboratory safety protocols, including proper handling of chemicals, equipment, and emergency procedures.
- Instrumentation Familiarity: Gain proficiency in using common laboratory instruments such as microscopes, spectrophotometers, and centrifuges.
- Precision and Accuracy in Measurements: Acquire skills for precise measurement techniques, including pipetting, dilution, and calibration of laboratory instruments.
- Experimental Design and Planning: Learn the principles of experimental design and planning, including hypothesis formulation, protocol development, and data collection strategies.

# COURSE OUTCOMES

- Safety-Conscious Lab Practices: Demonstrate a commitment to safety through the consistent application of lab safety practices, minimizing risks and promoting a secure work environment.
- Proficient Instrumentation Use: Operate laboratory instruments proficiently, ensuring accurate and reliable experimental outcomes.
- Accurate Measurement Skills: Execute precise measurement techniques, contributing to the accuracy of experimental procedures and data.
- Effective Experimental Planning: Design and plan experiments effectively, considering variables, controls, and ethical considerations for robust scientific investigations.

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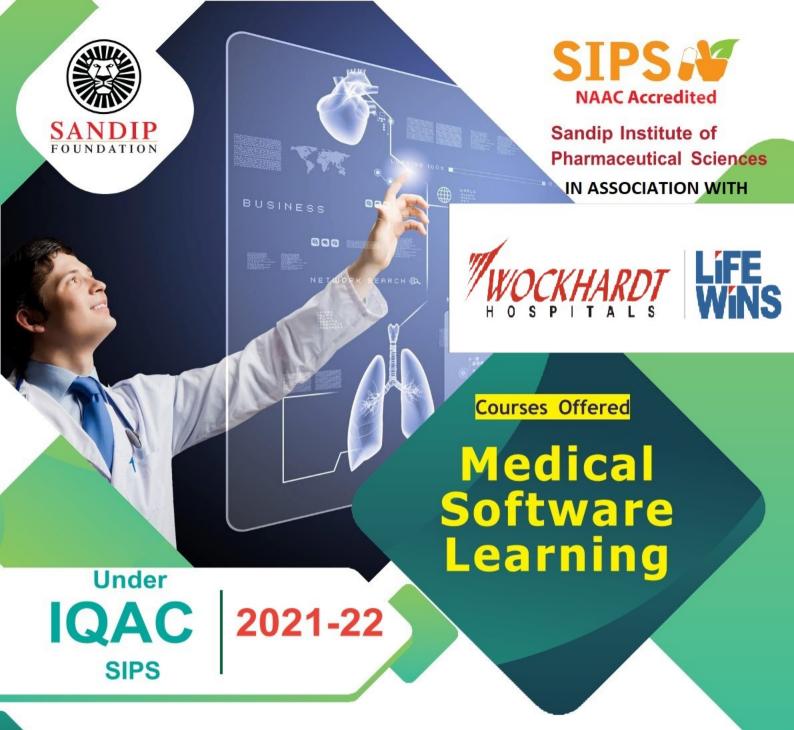
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# **REGISTRATION DETAILS**



# Add on / Value added **Certificate Courses**

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- Understanding Medical Software: Develop a foundational understanding of medical software applications, including Electronic Health Records (EHR), medical imaging software, and clinical decision support systems.
- **Usage and Navigation:** Acquire skills in navigating and utilizing medical software interfaces efficiently, ensuring seamless integration into healthcare workflows.
- Data Entry and Retrieval: Learn accurate data entry techniques and efficient retrieval methods within medical software systems to maintain comprehensive patient records.
- Interoperability: Understand the concept of interoperability and the integration of medical software with other healthcare systems, fostering seamless information exchange.

# **COURSE OUTCOMES**

- **Competent Medical Software Utilization:** Demonstrate competence in using various medical software applications, contributing to efficient healthcare service delivery.
- **Efficient Navigation:** Navigate and utilize medical software interfaces efficiently, improving overall productivity in healthcare settings.
- Accurate Data Management: Execute precise data entry and retrieval within medical software systems, ensuring the integrity of patient records.
- Interconnected Healthcare Systems: Contribute to the development of an interconnected healthcare system by understanding and promoting interoperability among medical software platforms.

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Sandip Foundation

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# Sandip Institute of **Pharmaceutical Sciences**





# Add on / Value added **Certificate Courses**

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- **Understanding Herbal Drugs:** Develop a comprehensive understanding of herbal drugs, including their sources, chemical constituents, and therapeutic properties.
- **Extraction Techniques Knowledge:** Acquire knowledge of various extraction techniques used for obtaining active compounds from medicinal plants, including maceration, percolation, and distillation.
- Solvent Selection and Properties: Understand the selection and properties of solvents used in herbal drug extraction, considering factors such as polarity, toxicity, and efficiency.
- Optimization of Extraction Parameters: Learn methods for optimizing extraction parameters, including time, temperature, and solvent-to-material ratio, to enhance the yield and quality of extracted compounds.

# COURSE OUTCOMES

- **Comprehensive Herbal Drug Knowledge:** Demonstrate a comprehensive understanding of herbal drugs, including their sources, constituents, and therapeutic applications.
- **Proficient in Extraction Techniques:** Apply various extraction techniques proficiently, selecting the most suitable method for different types of plant materials.
- **Effective Solvent Utilization:** Utilize solvents effectively, considering their properties to achieve optimal extraction of bioactive compounds.
- Optimized Extraction Processes: Implement optimized extraction processes, maximizing the yield and quality of herbal extracts through parameter adjustments.

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Sandip Foundation

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# PATIENT COUNSELLING

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# Medication Understanding

Gain a deep understanding of prescribed medications, including their uses, potential side effects, and administration instructions.

#### Patient Education

Learn to educate patients about their health conditions, treatment options, and the importance of medication adherence.

# Addressing Patient Concerns

Acquire skills to identify and address patient concerns, questions, or misconceptions about their medications or treatment plans.

# Cultural Competence

Foster cultural competence to adapt counseling approaches based on the diverse backgrounds and preferences of patients.

# **COURSE OUTCOMES**

# Enhanced Patient Understanding

Demonstrate the ability to effectively communicate complex medical information, leading to improved patient understanding

# Improved Medication Adherence

Contribute to improved medication adherence through comprehensive patient education and counseling

## Patient-Centered Care

Implement patient-centered care approaches, considering individual preferences and values in treatment plans.

#### Addressed Patient Concerns

Effectively address patient concerns, contributing to increased patient satisfaction and confidence in their healthcare.

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Chairman
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Prof. Dr. Anil G. Jadhav
Principal
SIPS, Nashik

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Prof. Pramod Karole
Academic Facilitator
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Academic Dean

**REGISTRATION DETAILS** 



# **Sandip Institute of Pharmaceutical Sciences**



**Courses Offered** Introduction to ANIMAL HANDLING



**Under** 

# Add on / Value added **Certificate Courses**

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- Understanding Animal Behavior: Develop a fundamental understanding of animal behavior, including species-specific characteristics, body language, and communication cues.
- Safety Protocols: Learn and implement safety protocols for both handlers and animals, minimizing risks and ensuring the well-being of all parties involved.
- Appropriate Handling Techniques: Acquire skills in using appropriate and gentle handling techniques, considering the species, size, and temperament of the animals.
- Restraint Methods: Understand and apply safe and humane restraint methods for various animals, ensuring minimal stress and discomfort.

# COURSE OUTCOMES

- Safe and Respectful Animal Handling: Demonstrate the ability to handle animals safely and respectfully, considering their well-being as a top priority.
- Effective Communication with Animals: Establish effective communication with animals, recognizing and responding appropriately to their behavioral cues.
- Appropriate Restraint Techniques: Apply appropriate restraint techniques, minimizing stress and ensuring the safety of both handlers and animals.
- Reduced Animal Stress during Handling: Implement strategies to reduce stress and anxiety in animals during handling procedures, contributing to their overall welfare.

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