REFSYN SUMMER CRASH COURSE 2015-16

Dear Candidates,

Welcome to REFSYN (www.refsynbio.com & www.refsynjournals.com).

Refsyn Biosciences is a contract research based organization, focus on State-of-Art-Lecture with **Hands-on Industrial Instrumentation training**, Academic projects, Academic sample analysis, Workshop, Contract research lab, Custom synthesis of drug metabolites. The industrial training covered the topics related to Botany, Zoology, Biochemistry, Biotechnology, Microbiology, Chemistry, Pharmacy and Food science students. In our training program, the courses have been designed and implemented keeping in mind to requirement of the students and also to create a platform to bridge the gap between the industry and institution there by introducing professionals and carrier orientation in these courses. Refsyn introduces the summer crash course offer for the beneficial of students, to develop their technical knowledge, as well as to increase their career opportunities. To provide the financial support for the students, we are giving the best offer with good hands-on training with high quality and low in cost.

BENEFITS:

- No registration fee
- ISO recognized certificate & Manual will be provided
- Complete Hands-on training
- 5 & above Students from same college will get 10% discount on course fees.
- Above 10 students from same college will get 20% discount on course fees
- Only limited seats for better focusing

Kindly go through the modules and register you name by prior. Registration will be first cum first basis. Join to take advantage of the discounted offer and to be part of a group of elite participants.

For contact: Mr.M.Arun, **9488232274/75 or mail to refsynbpl@gmail.com**

To improve the basic technical knowledge of Lifesciences and pharma, Refsyn Biosciences introduce the short term programs from the duration of 2-5 days courses.

COURSE CODE	MODULE CODE	TOPICS	DAYS	FEES(₹)
010001	CHEM-01	R&D chemistry	5	3,000
015001	CHEM QC-01	Quality Control(Pharmaceutical) techniques	5	4,000
015005	CHEM QC -05	High Performance Liquid Chromatography (HPLC)	2	2,500
015006	CHEM QC -06	HPLC & UV-Visible spectra photometer	3	3,000
016001	FOODANA-01	Food analysis	5	3,000
016003	FOODANA-03	Water analysis	5	2,000
018001	PHY-01	Phytochemical(Medicinal plant) techniques	5	3,000
018004	PHY-04	Antioxidant studies	5	3,500
018005	PHY-05	Bioactive compound purification techniques	5	5,000
018003	PIM-03	Pigment techniques	5	3,000
011001	MICRO-01	Microbiology techniques	5	2,500
011003	MICRO-03	Fermentation Techniques	5	2,500
011004	MICRO QC-04	Microbial QC techniques	5	3,000
012001	MOL BIO-01	DNA techniques	5	3,000
012003	MOL BIO -03	Blotting techniques	5	3,500
012004	MOL BIO -04	PCR techniques	3	2,000
012005	MOL BIO -05	Electrophoresis Techniques	5	3,000
012006	MOL BIO -06	Recombinant DNA technology	5	5,000
012008	MOL BIO -08	RNA techniques	5	3,500
013001	PROTEIN-01	Protein techniques	5	2,500
013003	PROTEIN -03	Enzyme technology	5	3,000
013005	PROTEIN -05	Chromatography	5	5,000
014001	BIOCHEM-01	Biochemical techniques	5	2,000
014004	CLINBIO -04	Clinical Biochemical techniques	5	3,000

Note: The courses also available for 10-15 days for the internship program training and 30-45 days for the projects oriented training. For details check www.refsynbio.com

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R&D CHEMISTRY
Hands-on training on chemical instruments
Reaction setup for organic synthesis
Monitoring of reactions by TLC
Workup of desired product
Concentration and recrystilization
Analysis of compounds & Report writing
Interpretation of results
COA of final product

PHYTOCHEMICAL (MEDICINAL PLANT) TECHNIQUES
Selection of medicinal plant
Extraction of medicinal compound
Preliminary screening
Estimation of Phytochemical UV-VIS
Antioxidant activity
Antimicrobial activity

ANTIOXIDANT TECHNIQUES
Antioxidant activity of herbals
DPPH
FRAP
Metal chelating
Hydrogen peroxide
Hydroxy radical
SOD

BIOACTIVE COMPOUND PURIFICATION TECHNIQUES
Identification of compound by TLC
Column purification
Concentration of pure compound
Characterization of compound

PIGMENT TECHNIQUES
Introduction of pigments
Selection of samples
Extraction of pigments
Preliminary screening of pigments by TLC
Estimation of pigments by UV-VIS
Antioxidant activity of pigments

FOOD ANALYSIS
Introduction of food analysis
Organoleptic test
Proximate analysis
- Moisture
- Protein
- Fat
- Carbohydrate
- Crude Fiber
- Ash
- Calorification values

Analysis of vitamin
Analysis of mineral

FERMENTATION TECHNIQUES
Basics in microbiology lab and techniques
Introduction about fermentation techniques
Process of Sterilization & decontamination
Shake flask fermentation
Screening of microbes for fermentation
Production of fermented products
Extraction of compounds
Analysis of fermented product

BASIC QC CHEMICAL TECHNIQUES
Introduction about QC chemical lab
GMP,GLP, GDP & safety aspects
Writing of SOPs &STP
Introduction to pharmacopeia: USP, IP ,BP
QC instruments and principles
Drug analysis

BASICS IN MICROBIOLOGY TECHNIQUES
Introduction &safety aspects of MB lab
Process of Sterilization & decontamination.
Microbial culture media and its importance
Isolation of microorganisms
Serial dilution Method
Viable plate count method
Pour plate method
Screening of desired organism
Morphological behavior of microbes
Staining techniques- Simple, Gram's
Identification by Biochemical test.

MICROBIAL QUALITY CONTROL TECHNIQUES
Introduction about Microbiology lab
GMP, GLP, GDP
Writing of SOP, STPs
Introduction to pharmacopeia-USP, IP, BP
Sterilization techniques-Dry, Heat, Chemical
Water analysis
Drug analysis (MLT)
Milk analysis-MBDRT

BASICS IN PROTEIN TECHNIQUES
Isolation of crude protein from plant & Bacteria
Qualitative analysis of protein
Protein precipitation
Estimation of total protein by Lowry's method
SDS-PAGE gel electrophoresis
Gel documentation & MW determination

BASICS IN ENZYME TECHNIQUES
Introduction to Enzymology.
Extraction of crude enzyme.
Enzyme assay.
Enzyme kinetics.
Effect of ph on enzyme activity.
Effect of temperature on enzyme activity.
Effect of [S] concentration on enzyme activity.
Effect of activator on enzyme activity.
Effect of inhibitor on enzyme activity.

CHROMATOGRAPHY
Thin layer chromatography
Paper chromatography
Column chromatography
Ion exchange/Affinity chromatography
High Performance Liquid Chromatography

BASICS IN DNA TECHNIQUES
Isolation of DNA from Plant & Bacteria
Quantitative estimation of DNA BY UV-VIS
Quantitative estimation of DNA
DNA gel electrophoresis
Southern blotting

BASICS IN RNA TECHNIQUES
Isolation of RNA from plant & bacteria
Quantitative estimation of RNA by UV-VIS
Quantitative estimation of RNA
Gel electrophoresis
Northern blotting

RECOMBINANT DNA TECHNOLOGY
Isolation of DNA
DNA gel electrophoresis
DNA digestion, Mapping & DNA ligation
Isolation of Plasmid/vector
Preparation of competent cells
Transformation of bacteria
Blue/White selection

BLOTTING TECHNIQUES
- Isolation of DNA & RNA
- Agarose gel electrophoresis (DNA & RNA)
- Isolation of protein
- SDS-PAGE gel electrophoresis
- Southern blotting
- Western blotting
- Northern blotting

BASICS IN PCR
PCR handling and programming
PCR Amplification
Agarose gel electrophoresis of PCR product
Gel Documentation

ELECTROPHORESIS TECHNIQUES
Isolation of DNA & RNA
Agarose gel electrophoresis
Isolation of protein
SDS-PAGE gel electrophoresis
Paper electrophoresis
Immuno electrophoresis

BASICS IN BIOCHEMICAL TECHNIQUES
Extraction of crude carbohydrate
Qualitative analysis of carbohydrate
Estimation of total carbohydrate
Isolation of crude protein
Qualitative analysis of protein
Estimation of total protein by Lowry's method
Extraction of lipids
Estimation of lipids

CLINICAL BIOCHEMISTRY
Qualitative analysis of Urine
Estimation of Blood Glucose
Serum Proteins
Albumin/Globulin ratio
Serum Amino Acids
Serum DNA & RNA
Cholesterol
Lipid Profile test
Blood group analysis