CODON BIOTECH

B- 38, SECTOR-64, NOIDA – 201301

Website : www.codonbiotech.com

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A DSIR Approved R&D Org.

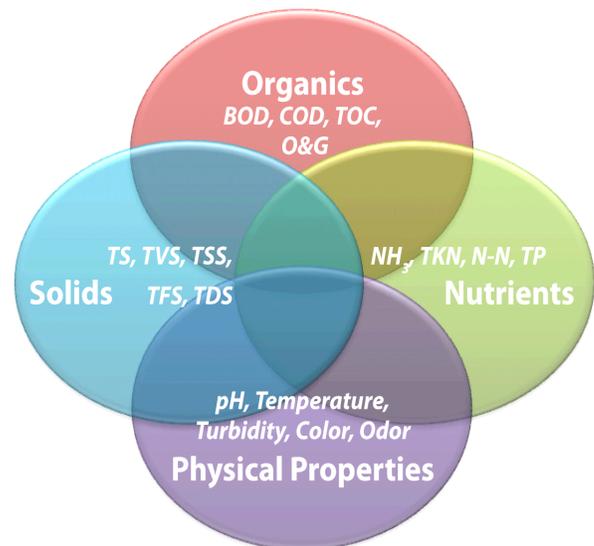# Industrial Job oriented Training Module:

MODULE 1- For Food/Fermentation QA/QC Industry

- **pH & Moisture content**

- **Ash , Fiber & Fat Content**

- **Shelf Life of food products**

- **Protein content**

- **Estimation of Reducing sugar & Total carbohydrates**

- **Food & dairy products adulteration test.**

- **Alkalinity/acidity test from Beverages**

- **Calcium estimation**

- **Estimation of Ethanol from different beverages by preliminary biochemical test**

- **Quantitative estimation of Ethanol by Gas Chromatography**

- **Production of beverages by fermentation**

- **QA/QC roles in Industry**

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MODULE 2- For Environment & Waste water Industry job

- **Determination of the concentration of wastewater (e.g. Biochemical Oxygen Demand (BOD), Chemical Oxygen Demand (COD), and Oil and Grease (O&G).**

- **Measurement of the concentration of particulate solids that can dissolve or suspend in wastewater (e.g., Total Solids (TS), Total Suspended Solids (TSS), Total Dissolved Solids (TDS),**

- **Measurement of the concentration of nutrients (e.g., Nitrate, Sulphate and phosphorus)**

- **Analytical tests designed to measure a varied group of constituents directly impacting wastewater treatability (e.g, temperature, color, pH, turbidity, odor).**

- **Isolation & Characterization of Bacteria involved in Bioremediation of wastewater.**

- **Comparative analysis of different parameters between wastewater & treated water.**

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MODULE 3 - Food/ Beverage Microbiology Testing

- **Sterilization Techniques**

- **Preparation of Simple & Selective media.**

- **Isolation & Culturing of microbes by different methods**

- **Study of morphology of bacteria & fungi through simple & differential staining**

- **Study of morphology fungi through staining**

- **Identification of bacteria by selective Media & Biochemical test**

- **Aerobic Plate count**

- **Total Colliform Test**

- **Yeast & Mold Test**

- **Salmonella**

- **Listeria Monocytogenes**

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- **Isolation & CFU of microorganisms from cloth, plastic surfaces, ceramics, metals surfaces etc**

MODULE 4- Bioinformatic related Jobs

1. Protein homology modeling.

2. Sequence analysis for human disease targets.

3. Structure analysis for human disease targets.

4. Phylogenetic analysis for human disease targets.

5. Study and In- silico analysis of variable region of human immunoglobulin.

6. Compositional and structural analysis of human Immunoglobin related to tumors or viral diseases

7. Classification and phylogenetic analysis of protein sequences & Domain based protein families

8. Molecular docking studies and repurposing drug identification of various protein targets and drugs (For different diseases and cancer)

9. Molecular modelling studies of various drugs

10. Analysis of target molecule for disease & identifying drug candidate by using in silico tools.

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MODULE 5 - Molecular Biology & Biochemical Techniques (Industrial Focus)

- **DNA extraction (manual & kit-based)**

- **RNA extraction (manual & kit-based)**

- **PCR & troubleshooting**

- **PCR optimization exercise**

- **Protein extraction, estimation & purification**

- **SDS-PAGE,**

- **Western blot**

- **ELISA & rapid diagnostic assays**

- **Nanoparticle development**

- **Documentation of experimental data (batch record style)**

For more information contact us- **CODON BIOTECH LLP**

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