Infrastructure

Department of BS & HU(Chemistry)

Laboratories:

1. Chemistry-I Laboratory
2. Environmental Engineering Laboratory
3. Biology Laboratory for Civil Engineering

Course Code: BS-CH191/291	**L-T-P** : 0-0-3
Course Title: Chemistry-I Laboratory	**Semester**: B. Tech First/Second

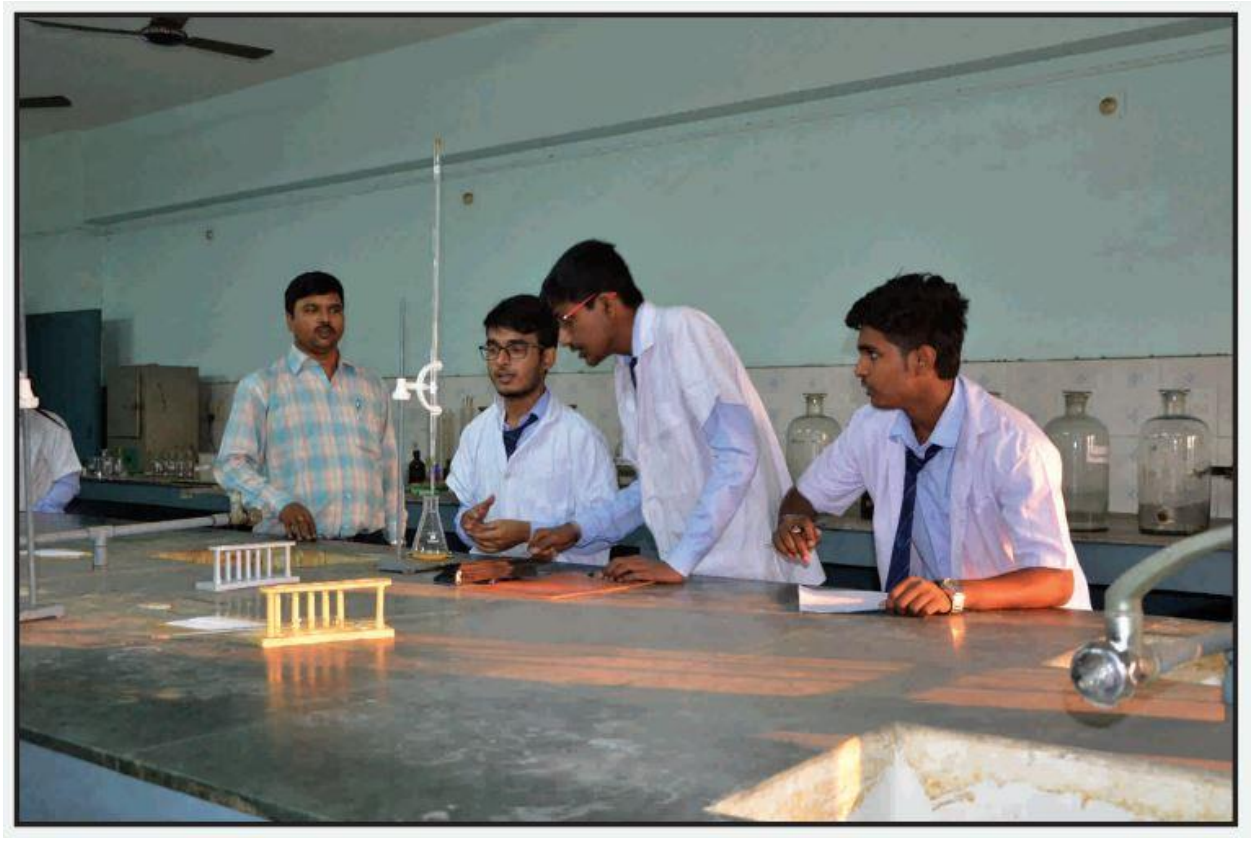
List of Experiment:

1. **Conductometric titration for determination of the strength of a given HClsolution by titration against a standard NaOH solution.**
2. **pH- metric titration for determination of strength of a given HCl solutionagainst a standard NaOH solution.**
3. **Determination of dissolved oxygen present in a given water sample.**
4. **To determine chloride ion in a given water sample by Argentometricmethod (using chromate indicator solution).**
5. **Determination of surface tension and viscosity.**
6. **Determination of cell constant and conductance of solutions.**
7. **Determination of the partition coefficient of a substance between twoimmiscible liquids.**
8. **Adsorption of acetic acid by charcoal.**

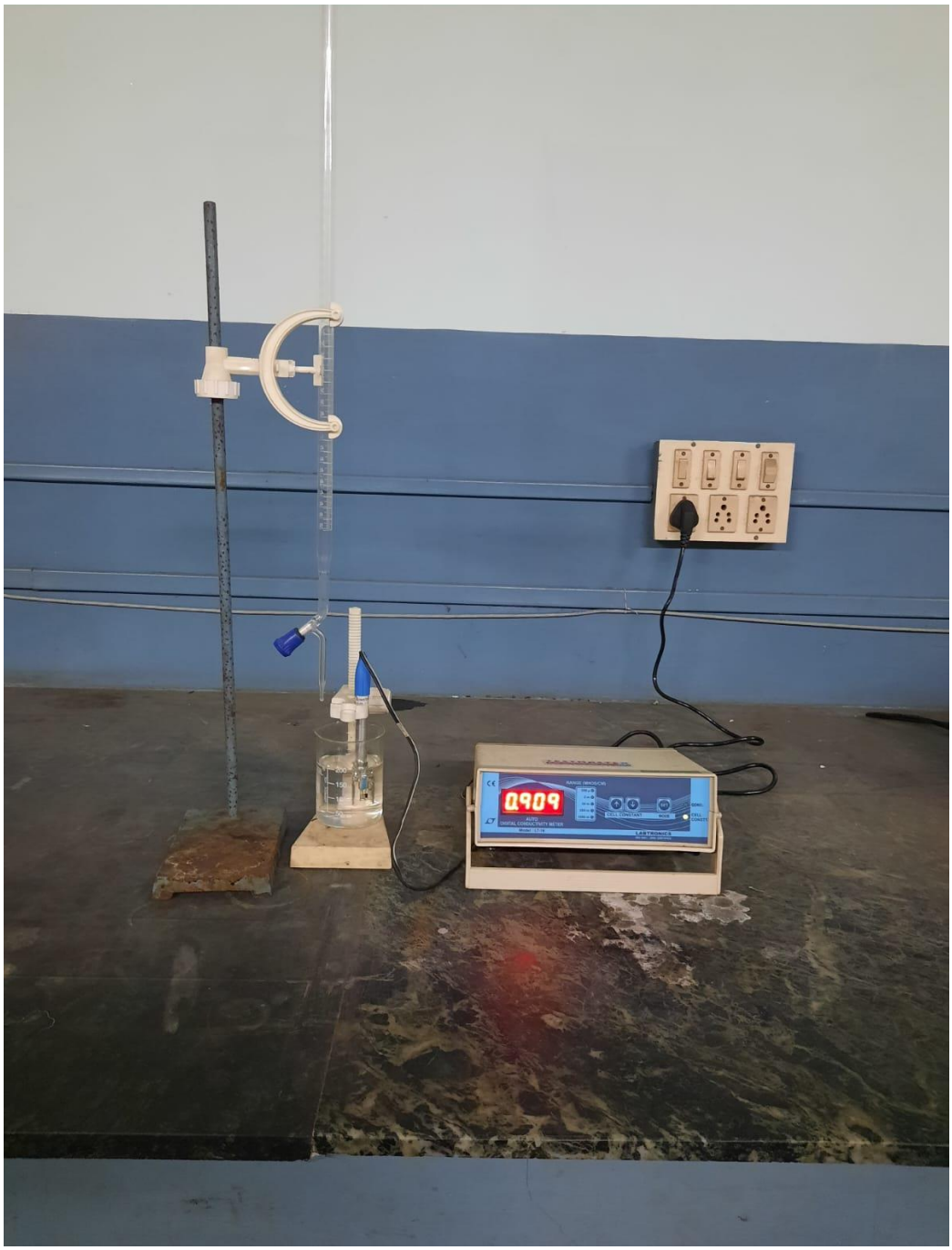
Course Code: CE(PC)595	**Category:** B. Tech in Civil Engineering
Course Title: Environmental Engineering Laboratory	**Semester**: B. Tech Fifth

List of Experiment:

1. **Determination of electrical conductivity for a given sample of water.**
2. **Determination of Total Solids, Suspended Solids, Dissolved Solids andVolatile Solids in a given sample of water.**
3. **Determination of pH for a given sample of water.**
4. **Determination of carbonate, bi-carbonate and hydroxide alkalinity for agiven sample of water.**
5. **Determination of hardness for a given sample of water.**
6. **Determination of concentration of Iron in a given sample of water.**
7. **Determination of concentration of Chlorides in a given sample of water.**
8. **Determination of amount of Dissolved Oxygen (DO) in a given sample ofwater.**
9. **Determination of the Biochemical Oxygen Demand (BOD) for a givensample of wastewater.**
10. **Determination of the Chemical Oxygen Demand (COD) for a given sampleof wastewater.**



Chemistry laboratory Instruments:



Conductivity Meter

Digital Weighing Machine

Ultrasonic Bath

BOD Incubator

COD Analyzer

UV-Visible Spectrophotometer

Distillation Plant

HOT Oven Cum Mechanical Stirrer

Distilled Water Unit

BS&HU(PHYSICS) LABORATORY

Subject Name: Physics-I

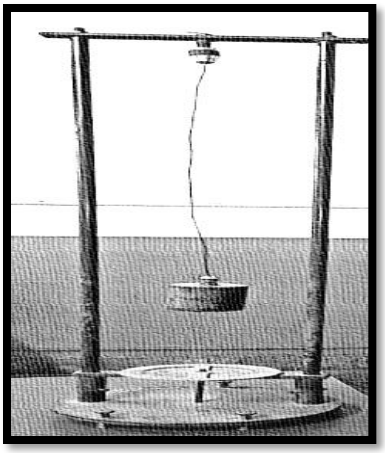
Subject Code: BS-PH101/201

LIST OF EXPERIMENTS FOR PHYSICS -I LABORATORY

1. To determine the modulus of rigidity of a material of the given rod using static method.
2. To determine the modulus of rigidity of a material of the given wire using dynamic method.
3. To determine the Young's modulus of a material of the given bar using Flexure method.
4. Determination of wavelength of "Laser Light" using plane transmission diffraction grating.
5. Determination of unknown resistance using Carrey Foster's bridge method.
6. Determination of specific charge of an electron by J.J. Thomson method.
7. Determination of Plank's constant using photocell.
8. Verification of Bohr's atomic orbital theory by Frank Hertz experiment.
9. Determination of Hall coefficient & carrier concentration of a given semiconductor.
10. To study current voltage characteristics, load response & areal characteristics of a solar cell.

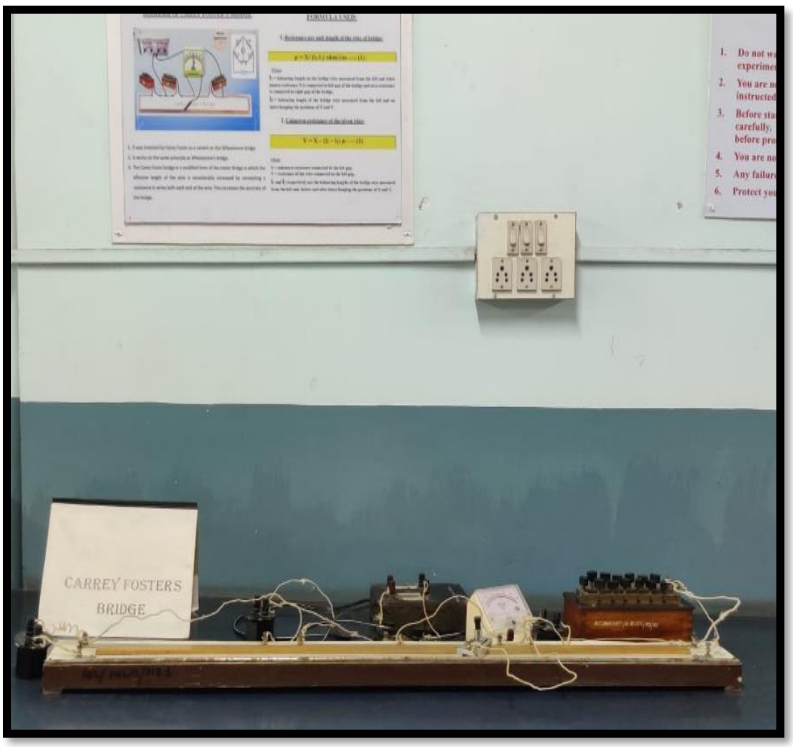
EXPERIMENTAL SET UP

Name of the experiment: To determine the modulus of rigidity of a material of the given rod using static method.



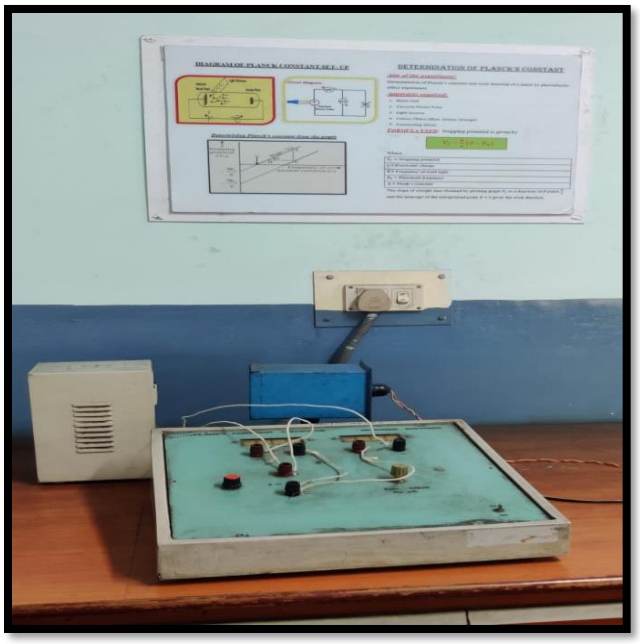
Name of the experiment: To determine the modulus of rigidity of a material of the given wire using dynamic method.

Name of the experiment: To determine the Young modulus of a material of the given bar using Flexure method.



Name of the experiment: Determination of unknown resistance using Carrey Floster's bridge method.

Name of the experiment: Determination of Hall coefficient & carrier concentration of a given semiconductor.



Name of the experiment: Determination of Plank's constant using photocell.

Name of the experiment: Verification of Bohr's atomic orbital theory by Frank Hertz experiment.

Name of the experiment: To study current voltage characteristics, load response & areal characteristics of a solar cell

Name of the experiment: Determination of wavelength of "Laser Light" using plane transmission diffraction grating.

BS&HU(PHYSICS) R&D LABORATORY

Details of Project carried out in R&D laboratory:

Project Funded by: DST, West Bengal

Sanction Order No. 122(sanc)/ ST/P/S7T/4G-6/2014 Date: 06/06/2014

1. **Title of the project** : Synthesis and characterization of iron oxide nanoparticle and its application in wastewater treatment.
2. **Broad area (please mark)** : S & T Studies (Basic and applied)
3. **Duration (number of months)** : 36 months
4. **Total cost** : Rs. 911300/-

List of instruments/equipments

1) Hind HiVac Vacuum Coating Unit (Model 12A4D)

Specifications

Resistive heating evaporation system, which has a diffusion pump backed by rotary pump to achieve chamber base vacuum of 1x10 6mbar Digital Thickness Monitor: Manual quartz crystal thickness monitor with a resolution of 0.1A/sec rate of evaporation Sequential or Simultaneous evaporation of metals

Process Capabilities: Substrates Used: Silicon, Glass, Polymers Substrate

Size: Two 2" substrates can be used simultaneously Substrate

Temperature: Room temperature to 250oC

Materials deposited: Chromium and gold Chamber base vacuum: 1x10-6mbar

2) Remi centriguge machine

3) Oscar ultrasonic bath

4) Vacuum desiccator

5) Citizen digital weight machine

6) Vacuum pump with filtration unit

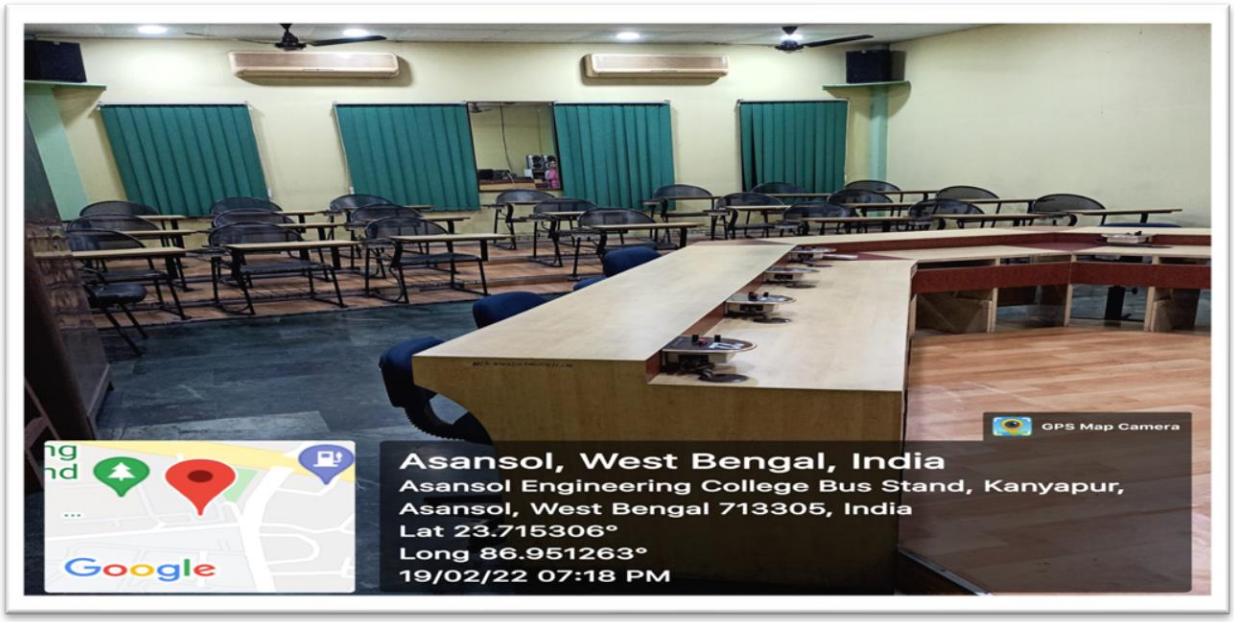




Humanities Laboratories

Language Laboratory:

Situated in the C – Block of Asansol Engineering College, the Language Laboratory is designed in order to provide a dedicated space for learning English language through audio visual aids. The students are trained in accent drilling and non verbal communication skills through a wide range of activities in accordance with the course curriculum, which serves as the first step towards becoming industry ready.

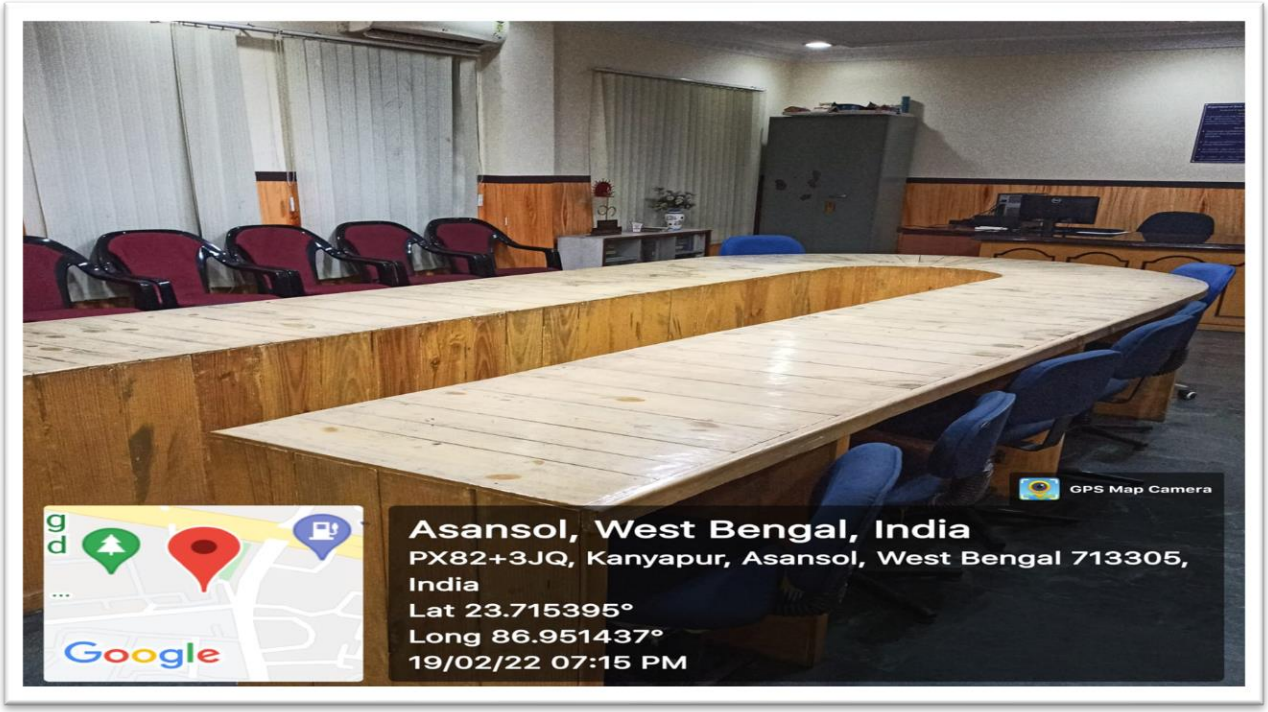


Personality Development Laboratory:

Situated in the Mechanical Block of Asansol Engineering College, the Personality Development Laboratory tries to enhance the effective communication and interpersonal communication skills among the students. Through various interactive sessions and activities the students are provided with the opportunity to develop their personality and upgrade their communication and presentation skills.

Group Discussion Laboratory:

Situated in the C – Block of Asansol Engineering College, the Group Discussion Laboratory provides the facility of group discussions to the students. Through various sessions on Group Discussions students gain the power of oration which gradually helps them to participate in a group. Along with the oration skills they also learn the art of team management and leadership skills through group discussions which help them to become successful in their future endeavors.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