PHYSICS, CHEMISTRY & BIOLOGY PRACTICAL LAB COURSE 2025-26

For Class 11

DREAMZ™
EDUCATION CENTRE
[Unit of DRMZEDU Services Pvt. Ltd.]

DETAILS OF COURSE

- Experiments will be done according to the given specific dates and Time
- Students have to select any one batch between TUESDAY BATCH and FRIDAY BATCH.
- The data sheet of each of the experiment will be given to the students
- The questions of the Viva exam will be given to the students
- All the practical classes will be organized under the guidance of Mr. Subhadip Ray.

DATE & BATCH TIMING

Starting from 10th JUNE 2025

TUESDAY BATCH

10AM-11.30AM: PHYSICS

11.30AM-1PM: CHEMISTRY

1.30PM-3PM: BIOLOGY

OR

FRIDAY BATCH

10AM-11.30AM: PHYSICS

11.30AM-1PM: CHEMISTRY

1.30PM-3PM: BIOLOGY

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PHYSICS SYLLABUS FOR CLASS 11

Exp 1. To find the length, breadth and height of a regular rectangular block by using vernier calipers and hence find its volume

Exp 2. To find the radius of a regular sphere by using vernier calipers and hence find its volume

Exp 3. To find the internal diameter and depth of a regular cylindrical object by using vernier calipers and hence find its volume

Exp 4. To find the diameter of a given wire by using screw gauge

Exp 5. To find the thickness of a given sheet by using screw gauge

Exp 6. To find the radius of curvature of a spherical convex surface by using the sphero-meter

Exp 7. To draw the graph between the normal reaction force and the friction force and hence to find the coefficient of friction between the block and the horizontal surface

Exp 8. To plot the 'l-T' and ' ' graph of a simple pendulum and to find the effective length of a second's pendulum

Exp 9. To find the spring constant of a helical spring by plotting a graph between the load and the extension

Exp 10. To find the coefficient of viscosity of a given fluid of known density

Exp 11. To study the relationship between the temperature of a hot body and time by plotting a
cooling curve.

Exp 12. To find the young's modulus of a given wire [Demonstration only]

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CHEMISTRY SYLLABUS FOR CLASS 11

Quantitative Estimation

i) Using a mechanical balance/electronic balance.
ii) Preparation of standard solution of Oxalic acid.
iii) Determination of strength of a given solution of Sodium Hydroxide by titrating it against standard solution of Oxalic acid.
iv) Preparation of standard solution of Sodium Carbonate.
v) Determination of strength of a given solution of Hydrochloric acid by titrating it against standard Sodium Carbonate solution.
Exp 1. Experiments based on pH
Determination of pH of some solutions obtained from fruit juices, solution of known and varied concentrations of acids, bases and salts using pH paper or universal indicator.
Exp 2. To Determine TheConcentration and Strength of an NaOH Solution of Unknown Concentration Using a 0.1(M) Supplied HCl solution
Exp 3. To Determine The Concentration and Strength of an NaOH Solution of Unknown Concentration Using a 0.1(M) Supplied H_2SO_4 solution
Exp 4. To Determine The Concentration andStrength of an Na_2CO_3 Solution of Unknown Concentration Using a 0.1(M)Supplied HCl solution.

Qualitative Analysis

Determination of one anion and one cation in a given salt
Cation: Pb^{2+}, Cu^{2+} As^{3+}, $Aℓ^{3+}$, Fe^{3+}, Mn^{2+}, Zn^{2+}, Ni^{2+}, Ca^{2+}, Sr^{2+}, Ba^{2+}, Mg^{2+}, NH_4^+
Anions: $(CO_3)^{2-}$, S^{2-}, $(SO_3)^{2-}$, $(NO_2)^-$, $(SO_4)^{2-}$, $Cℓ^-$, Br^-, I^-, $(PO_4)^{3-}$, $(C_2O_4)^{2-}$, CH_3COO^-, NO_3^- (Note: Insoluble salts excluded)
Exp 5. To determine the anion and one cation in a given salt by dry test tube heating.
Exp 6. To determine the anion and one cation in a given salt by flame test.
Exp 7. To determine the anion and one cation in a given salt by Borax bead test.
Exp 8. To determine the anion and one cation in a given salt by dilute Sulphuric acid test.
Exp 9. To determine the anion and one cation in a given salt by $KMnO_4$ test.
Exp 10. To determine the anion and one cation in a given salt by concentrated Sulphuric acid test.

BIOLOGY SYLLABUS FOR CLASS 11

Exp 1. To study and describe the given flowering plant (1. Petunia, 2. Lathyrus, 3. Asparagus,
4. Allium,) and display of whorls and anther and ovary to show number of chambers.
Exp 2. To prepare temporary stained glycerine mount of transverse section of dicot stem/monocot stem/dicot root/monocot root.
Exp 3. To demonstrate osmosis by potato osmometer.
Exp 4. To demonstrate plasmolysis and deplasmolysis in peels of Tradescantia/Rhoeo in hypotonic and hypertonic solutions using sodium chloride and potassium chloride.
Exp 5. To study the distribution of stomata on upper and lower surfaces of leaf and to calculate the stomatal index.
Exp 6. To test for glucose, sucrose, starch, proteins and fats and to show their presence in suitable plant and animal materials (e.g., wheat, potato, groundnunt, milk or other suitable materials).
Exp 7. To separate and study the plant pigments by paper chromatography.
Exp 8. (a) To test the presence of urea in urine.
(b) To detect the presence of sugar (glucose) in urine.
(c) To detect the presence of albumin in urine.
(d) To detect the presence of bile salts in urine.
Exp 9. To study the parts of a compound microscope, its proper use and maintenance.
Exp 10. Study of plant specimens and identification with reasons¬ Bacteria, Oscillatoria, Spirogyra, Rhizopus, Mushroom/ bracket fungi, Yeast, Liver wort, Moss, Fern, Pinus,
one monocotyledon, one dicotyledon and Lichens.
Exp 11. Study of characters of specimens and identification with reasons- Amoeba, Hydra, Liver fluke Ascaris, Leech, Earthworm, Prawn, Silkworm, Honey bee, Snail, Starfish, Shark, Rohu (fish), Frog, Calotes (lizard), Pigeon and Rabbit.
Exp 12. To study various stages of mitosis in animal cells (grasshopper) from permanent slide. ,
Exp 13. To identify and comment upon different types of inflorescence.
Exp 14. To Study and Identify Human Bones and Joints

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INSTRUCTIONS

1. Students have to select the batch at the time of Admission.
2. Seats are limited in the Batch.
3. No students will be admitted if the maximum number of seats is allotted in any batch
4. No students will be allowed to attend the practical without taking the Admission in Lab Course

Batch will be started from 10th JUNE 2025

Barasat Study Centre for Lab Admission

1st Floor, Aarin Tower, Helabottola, Kolkata-125

Location: https://g.co/kgs/6NiY56x

Barasat Practical Lab Campus for Practical

Arabindrapally, Barasat, Kolkata-125

Location: https://g.co/kgs/pWqpfBn

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Dreamz Physics Practical Lab






Dreamz Chemistry Practical Lab






Dreamz Biology Practical Lab






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Location: https://g.co/kgs/6NiY56x

Barasat Practical Lab Campus:
Arabindrapally, Barasat, Kolkata-125
Location: https://g.co/kgs/pWqpfBn

Barrackpore Study Centre:
59, Feeder Road, Mondal para, Kolkata-120
Location: https://g.co/kgs/46rJbWD

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