PHYSICS, CHEMISTRY & BIOLOGY PRACTICAL LAB COURSE 2026-27

For Class 12

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 9th JUNE 2026

TUESDAY 1st BATCH

10AM-11.30AM: BIOLOGY, 11.30AM-1PM: PHYSICS, 1.30PM-3PM: CHEMISTRY

OR

TUESDAY 2nd BATCH [SUITABLE FOR THE STUDENTS WITH BIOLOGY]

10AM-11.30AM: CHEMISTRY, 11.30AM-1PM: BIOLOGY, 1.30PM-3PM: PHYSICS

OR

FRIDAY 1st BATCH

10AM-11.30AM: BIOLOGY, 11.30AM-1PM: PHYSICS, 1.30PM-3PM: CHEMISTRY

OR

FRIDAY 2nd BATCH [SUITABLE FOR THE STUDENTS WITH BIOLOGY]

10AM-11.30AM: CHEMISTRY, 11.30AM-1PM: BIOLOGY, 1.30PM-3PM: PHYSICS

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PHYSICS SYLLABUS FOR CLASS 12

Exp 1.To establish current-voltage relationship (Ohm's law) for a metallic conductor and find its resistance of the wire per unit length.
Exp 2.To find the specific resistance of a given wire by using meter bridge
Exp 3.Verify the combination of resistance in series by using meter bridge
Exp 4.Verify the combination of resistance in parallel by using meter bridge
Exp 5.To find the resistance of a galvanometer and its figure of merit by the half deflection method
Exp 6.To convert a galvanometer of known resistance and known figure of merit in to a voltmeter
Exp 7.To convert a galvanometer of known resistance and known figure of merit in to a Ammeter
Exp 8.To find the values of ‘v’ for different values of ‘u’ for a concave mirror and hence to find its focal length
Exp 9.To find the values of ‘v’ for different values of ‘u’ for a Convex Lens and hence to find its focal length by plotting the graph between ‘u’ and ‘v’
Exp 10.To find the refractive index of a glass slab by using travelling microscope
Exp 11.To find the refractive index of a liquid by using convex lens and plane mirror
Exp 12.To determine angle of minimum deviation for a given prism by plotting a graph between angle of incidence and the angle of deviation.
Exp 13.To draw the V-I characteristic graph of the p-n junction diode in forward and reverse bias and hence to find the resistance in forward and reverse bias

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CHEMISTRY SYLLABUS FOR CLASS 12

Determination of concentration/ molarity of $KMnO_4$ solution by titrating it against a standard solution of: i) Oxalic acid

ii) Ferrous Ammonium Sulphate

Exp 1: To Determine the Concentration and Strength of $KMnO_4$ Solution Using (M/20) Standard Mohr's Salt Solution.

Qualitative analysis

Determination of one cation and one anion in a given salt.

Cation - Pb^{2+}, Cu^{2+}, Al^{3+}, Fe^{3+}, Mn^{2+}, Zn^{2+}, Cu^{2+}, Co^{2+}, Ni^{2+}, Ca^{2+}, Sr^{2+}, Ba^{2+}, Mg^{2+}, $[NH_4]^+$

Anions – $[CO_3]^{2-}$, S^{2-}, $[SO_3]^{2-}$, $[SO_4]^{2-}$, $[NO_2]^-$, Cl^-, Br^-, I^-, $[PO_4]^{3-}$, $[C_2O_4]^{2-}$, CH_3COO^-

Exp 2: To confirm the basic (cation) radicals in a given sample

Exp 3: To confirm the acidic (anion) radicals in a given sample.

Exp 4: To separate the basic (cation) and acidic (anion) radicals [Group Separation] for a given sample

Exp 5: To perform the salt analysis of

Exp 6: To perform the salt analysis of

Exp 7: To perform the salt analysis of

Exp 8: To perform the salt analysis of

Exp 9: To perform the salt analysis of $(CH_3COO)_2Ca$

Exp 10: To perform the salt analysis of

Exp 11: To perform the salt analysis of $Sr(NO_3)_2$

Tests for the functional groups present in organic compounds:

Unsaturation, alcoholic, phenolic, aldehydic, ketonic, carboxylic and amino (Primary) groups.

Exp 12a: Identification of organic compound present in given organic compound

Exp 12b: Identification of unsaturation in a given sample of organic compound.

Exp 12c:Identification of alcoholic group in a given sample of organic compound.

Exp 12d: Identification of kitone and aldehyde groups in an given sample of organic compound.

Exp 12e: Identification of phenol in an given sample of organic compound.

Exp 12f: Identification of amine group in an given sample of organic compound.

Exp 12g: Identification of carboxylic acid group in an given sample of organic compound.

Exp 13: Characteristic tests of carbohydrates and proteins

• Carbohydrates – glucose • Proteins – powdered milk

Identification should be of 'Carbohydrate' and 'Protein' not of individual substances.

BIOLOGY SYLLABUS FOR CLASS 12

Exp 1.To study the pollen germination on a slide
Exp 2.To study the moisture content of different soils
Exp 2.To study pH of different types of soil
Exp 4.To study the water holding capacity of garden soil and roadside soil
Exp 5.Collect water from two different water bodies around you and study them for pH
Exp 6.To study different water samples for the presence of living organisms
Exp 7.To study population density and percentage frequency of different plant species of a given area
Exp 8.To prepare temporary acetocarmine stained mount of onion root tip to study various stages of mitosis
Exp 9.To study the action of salivary amylase on starch
Exp 10.To study the effect of different temperatures on the activity of salivary amylase on starch
Exp 11.To study the effect of different pH on the activity of salivary amylase on starch
Exp 12.To isolate DNA from available plant material such as spinach leaves, green pea seeds, papaya etc.
Exp 13.To study the flowers adapted to pollination by different agencies • (wind, insect and birds)
Exp 14.To study the pollen germination and growth of pollen tube in a pollinated pistil (in Portulaca/grass or any other suitable flower)
Exp 15.To study and identify the stages of gamete development in mouse (mammal) i.e., T.S. of testis and L.S. of ovary through permanent slide
Exp 16.To study meiosis in grasshopper testis through permanent slide
Exp 17.To study T.S. of blastula through permanent slide
Exp 18.To study Mendelian inheritance using seeds of different colour/size of any plant
Exp 19.To study the prepared pedigree charts of genetic traits such as rolling of tongue, blood groups, widow's peak, colour blindness etc. .
Exp 20.To comment on the exercises of hybridization (emasculation, tagging and bagging) through models/charts
Exp 21.Study of Common Disease -Causing Organisms
Exp 22.Study of two plants and two animals found in xerophytic conditions and comment upon their adaptations/morphological features
Exp 23.Study of two plants and two animals found in aquatic conditions and comment upon their adaptations/morphological features

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 9th JUNE 2026

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

PH: 9230527415, 8961945614, 9230419505
EMAIL: DREAMZEDUCATION07@GMAIL.COM
WWW.DREAMZKOLKATA.COM