Practical Syllabus for Class XII (Non-Medical & Medical) 2026-27

Physics

Sec-A

1. To determine resistivity of two / three wires by plotting a graph for potential difference Versus current.
2. To find resistance of a given wire / standard resistor using metre bridge.
3. To determine resistance of a galvanometer by half-deflection method and to find its Figure of merit.
4. To convert the given galvanometer (of known resistance and figure of merit) into an ammeter of desired range and to verify the same.

Activities

1. To assemble a household circuit comprising three bulbs, three (on/off) switches, a fuse and a power source.
2. To assemble the components of a given electrical circuit

Section B

1. To find the value of v for different values of u in case of a concave mirror and to find the Focal length.
2. To find the focal length of a convex mirror, using a convex lens.
3. To find the focal length of a convex lens by plotting graphs between u and v or between 1/u and 1/v.
4. To determine angle of minimum deviation for a given prism by plotting a graph between Angle of incidence and angle of deviation.
5. To draw the I-V characteristic curve for a p-n junction diode in forward and reverse Bias

Activities

1. To identify a diode, an LED, a resistor and a capacitor from a mixed collection of such items.
2. To study the nature and size of the image formed by a convex lens on a screen by using a candle and a screen.

Chemistry

1. Surface chemistry (any one).
2. Chemical kinetics (All).
3. Thermochemistry (Enthalpy of neutralization of HCl and NaOH)
4. Electrochemistry.
5. Chromatography (All).
6. Preparation of Inorganic compounds (Ferrous Ammonium sulphate and Potash Alum).
7. Preparation of organic compounds (any one).
8. Test for functional group.
9. Test for carbohydrate, fat, protein.
10. Volumetric Analysis($KMnO_4$ with oxalic acid and Mohr's salt)
11. Inorganic Salt Analysis.

Activities

1. Study of digestion of starch by salivary amylase and effect of pH and temperature on it.
2. Study of the presence of oxalate ions in guava fruit at different stages of ripening.
3. Study of quantity of casein present in different samples of milk.

Physical Education

1. .Fitness tests administration
2. Procedure for Asanas, Benefits and contradictions for any two Asanas for each lifestyle disease.

3. Procedure for administering senior citizen fitness test for 5 elderly family members.
4. Any one game of your choice out of the following list with labelled diagram of the field and equipment. (Rules, Terminologies and skills)
    - Athletics
    - Basket Ball
    - Cricket
    - Hockey
    - Football
    - Volley Ball
    - Hand Ball
    - Badminton
    - Kabaddi Kho-Kho

Biology

List of Experiments

Section-A

A1. Study of Pollengermination on a slide.

A2 Study the plant population density by quadrat method.

A3 Study the plant population frequency by quadrat method.

A4 Isolate DNA from available plant material such as spinach, green pea seeds, papaya etc.

A5. To prepare a temporary mount of onion root tip of study mitosis.

Section-B

B1. Study of flower adapted to pollination by different agencies (Wind, insect)

B2. Pollen germination on stigma though permanent slide on scanning electron micrograph.

B3. Study the identify stage of gamete development i.e. T.S. testis and T.S. ovary through permanent slides.

B4. To study meiosis in onion bud cell or grasshopper testis through permanent slides.

B5. Study of T.S. of blastula through permanent slides.

B6. Mendelian inheritance using seeds of different color/sizes of any plant.

B7. To study prepared pedigree charts of any one of the genetic traits such as rolling of tongue, blood group, ear lobes, widows peak and colour blindness.

B8. Exercise on controlled pollination emasculation, tagging and baggaing

B9. To identify common disease causing organisms likes Ascaris, Entameoba, Plasmodium, Ringworm through permanent slides or specimens. Comment on symptoms of diseases that they cause.

B10. Model specimen showing symbiotic association in root modules of leguminous plant cuscuta on host, lichens.

B11. Flash card models showing example of Homologs and analogous organs.

Computer

Python Programming

C1.Read a text file line by and display each word separated by a #.

C2.Read a text file and display the number of vowels/consonants/uppercase/lowercase character in the file.

C3.Remove all the lines that contain the character ‘a’ in a file and write it to another file.

C4.Create a binary file with name and roll number. Search for a given roll number and display the name, if not found display appropriate message.

C5. Create a binary file with roll number, name and marks. Input a roll number and update the marks.

C6.Write a random number generator that generates random numbers between 1 and 6 (simulates a dice).

C7. Write a Python program to implement a stack using list.