



CHEMISTRY

LIST OF EXPERIMENTS

1. Finding the pH of the following samples by using pH paper / universal indicator:

- a) Dilute Hydrochloric Acid b) Dilute NaOH solution c) Dilute Ethanoic Acid Solution
d) Lemon juice e) Water f) Dilute Hydrogen Carbonate solution

Studying the properties of acids and bases (HCl & NaOH) by their reaction with:

- a) Litmus solution (Blue/Red) b) Zinc metal c) Solid sodium carbonate

2. Performing and observing the following reactions and classifying them into :

- a) Combination reaction b) Decomposition reaction
c) Displacement reaction d) Double displacement reaction
(i) Action of water on quick lime (ii) Action of heat on ferrous sulphate crystals 70
(iii) Iron nails kept in copper sulphate solution (iv) Reaction between sodium sulphate and barium chloride solutions

OR

3. Observing the action of Zn, Fe, Cu and Al metals on the following salt solutions :

- a) ZnSO₄ (aq) b) FeSO₄ (aq) c) CuSO₄ (aq) d) Al₂(SO₄)₃ (aq)

Arranging Zn, Fe, Cu and Al (metals) in the decreasing order of reactivity based on the above result.

4. Study of the following properties of acetic acid (ethanoic acid) : i) odour ii) solubility in water iii) effect on litmus iv) reaction with sodium Hydrogen Carbonate

5. Study of the comparative cleaning capacity of a sample of soap in soft and hard water.

PHYSICS

1. Studying the dependence of potential difference (V) across a resistor on the current (I) passing through it and determine its resistance. Also plotting a graph between V and I.

2. Determination of the equivalent resistance of two resistors when connected in series and parallel.

03. Determination of the focal length of : i) Concave mirror ii) Convex lens by obtaining the image of a distant object.

04. Tracing the path of a ray of light passing through a rectangular glass slab for different angles of incidence. Measure the angle of incidence, angle of refraction, angle of emergence and interpret the result.

05. Tracing the path of the rays of light through a glass prism. 71



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06. Finding the image distance for varying object distances in case of a convex lens and drawing corresponding ray diagrams to show the nature of image formed.

BIOLOGY

01. Preparing a temporary mount of a leaf peel to show stomata.
02. Experimentally show that carbon dioxide is given out during respiration.
03. Studying (a) binary fission in Amoeba, and (b) budding in yeast with the help of prepared slides.
04. Identification of the different parts of an embryo of a dicot seed (Pea, gram or red Kidney bean).

1. PROJECT WORK OF SOCIAL SCIENCE [5 Marks]

Every student has to compulsorily undertake any one project on the following units / topics.

1. Disaster Management (Pertaining to class Xth curriculum of Disaster Management only).
Make a project on Tsunami that occurred on 26th Dec. 2004 under the following heading
 - i) Areas that were affected
 - ii) Causes of the disaster
 - iii) Extent of loss of property and man kind.
 - iv) Measures taken by the government and NGO to reduce the impact of disaster.

OR

2. Popular Struggles and Movements
Name some social movements and collect their pictures from newspaper or magazines. Make a report on them.

OR

3. Money and Credit
Write how can a loan prove to be a boon for some and bane for other.

2. PROJECT WORK OF GEOGRAPHY

On the political map of India, locate the label the following with appropriate symbols :-

- i) Tuticorin port
- ii) Kandla Port
- iii) Hyderabad airport



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3. PROJECT WORK OF HISTORY

Compare how the Indians accepted the English system of Education with the Vietnamese, who protested against the French System of Education

The projects carried out by the students in different topics should subsequently be shared among themselves through interactive sessions such as exhibitions, panel discussions, etc. All documents pertaining to assessment under this activity should be meticulously maintained by concerned schools. A Summary Report should be prepared highlighting:

A . objectives realized through individual or group interactions; B .calendar of activities;

C.innovative ideas generated in this process ; D. list of questions asked in viva voce

It is to be noted here by all the teachers and students that the projects and models prepared should be made from eco-friendly products without incurring too much expenditure. The Project Report should be handwritten by the students themselves and comprise of not more than 15 foolscap pages. Records pertaining to projects (internal 95 assessment) of the students will be maintained for a period of three months from the date of declaration of result for verification at the discretion of Board.



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MATHEMATICS ACTIVITIES

1. To verify that the sum of first n natural numbers is $n(n + 1) / 2$, that is $\Sigma n = n(n + 1) / 2$, by graphical method.
2. To verify that the angle subtended by an arc at the centre of a circle is twice the angle subtended by the same arc at any other point on the remaining part of the circle, using the method of paper cutting, pasting and folding.
3. To verify that the angles in the same segment of a circle are equal, using the method of paper cutting, pasting and folding.
4. To verify using the method of paper cutting, pasting and folding that the lengths of tangents
5. To give a suggestive demonstration of the formula for the volume of a right circular cylinder in terms of its height (h) and radius (r) of the base circle.

PROJECTS OF MATHEMATICS

- Project 01:** Displacement and rotation of a geometrical figure To study the distance between different points of a geometrical figure when it is displaced and / or rotated. Enhances familiarity with co-ordinate geometry.
- Project 02:** Early history of Mathematics

Group Activities

- Group activity 01:** Fourth order Magic Dance The interplay of mathematics and art can be very appealing. This activity makes an attempt to present a versatile form of the fourth order magic square through a dance.
- Group activity 02:** Live Lattice Live lattice is a lattice formed by students placed in square or rectangular formation.

INTERNAL ASSESSMENT 20 Marks

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| • Periodical Test | 10 Marks |
| • Note Book Submission | 05 Marks |
| • Lab Practical (Lab activities to be done from the prescribed books) | 05 Marks |