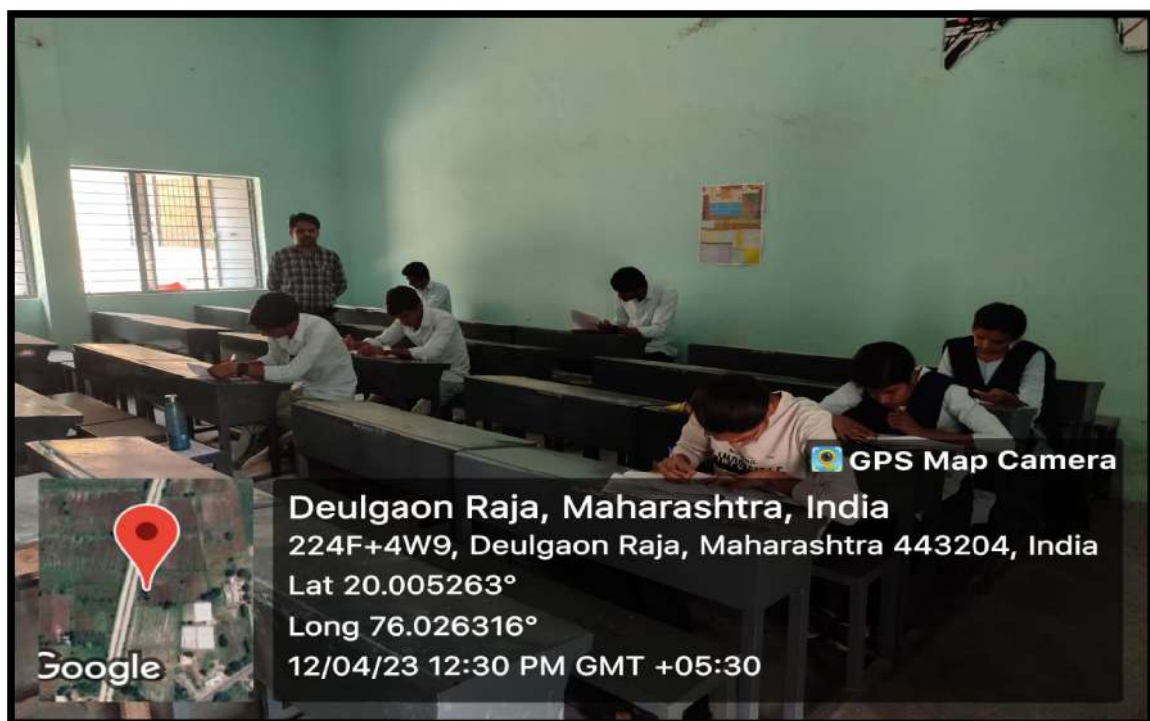


Department programmes 2022-23

Department has conducted General Aptitude Test (GAT- 2023) organized by Amravati University Chemistry Teachers' Association (AUCTA) on 12/04/2023.



Department of Chemistry has conducted a Guest Lecture on “Spectroscopy” delivered by Dr. S. P. More sir from LKDK Banmeru Science College, Lonar.



B. Sc. Students have participated in the program, “Hands on Chemical Structure Making.”



B. Sc. Students have participated in the program, "Magical Chemistry."



Wall Magazine prepared by B.Sc. I yr student **Sunanda U. Kuhire** on "Chemical of the Week".

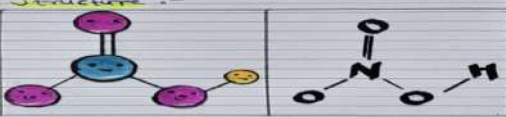
CHEMICAL OF THE WEEK

Nitric Acid

HNO_3

Name: Sunanda U. Kuhire
B.Sc - I

1) Structure :-



2) Physical Properties :-

Molecular Mass	63.01 g/mol
Density	1.51 g/cm ³
Boiling Point	83°C
Freezing Point	-41°C

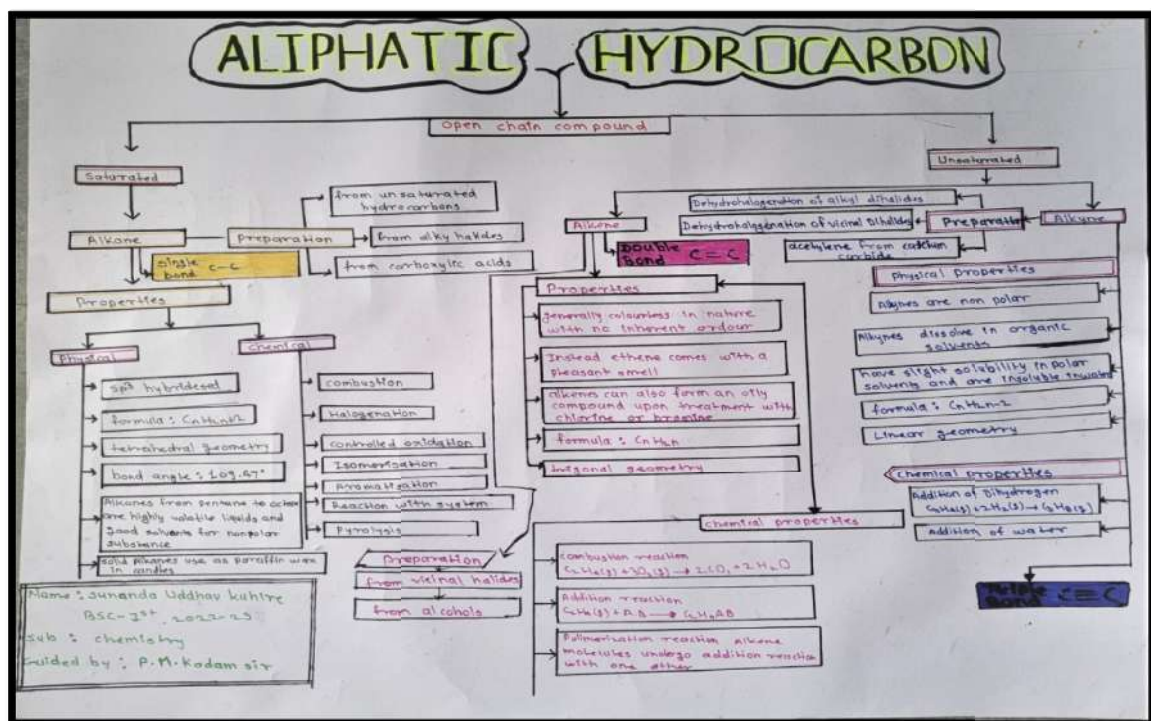
3) Chemical Properties :-

- Nitric Acid is a strong acid. It is also known as the spirit of niter and aqua fortis. It is colourless but as it gets older it turns into a yellow cast.
- This colour appears due to the decomposition of Nitric acid to oxides of nitrogen and water.
- It is highly corrosive and toxic. It causes severe skin burns. It reacts with hydroxides, metals, and oxides to form nitrate salts.
- Nitric acid liberates hydrogen gas with metals.
- Nitric acid is a very strong oxidising agent.
- Nitric acid decomposes on standing to form brownish nitrogen dioxide.
- It becomes brownish on time through break nitric acid is colourless.

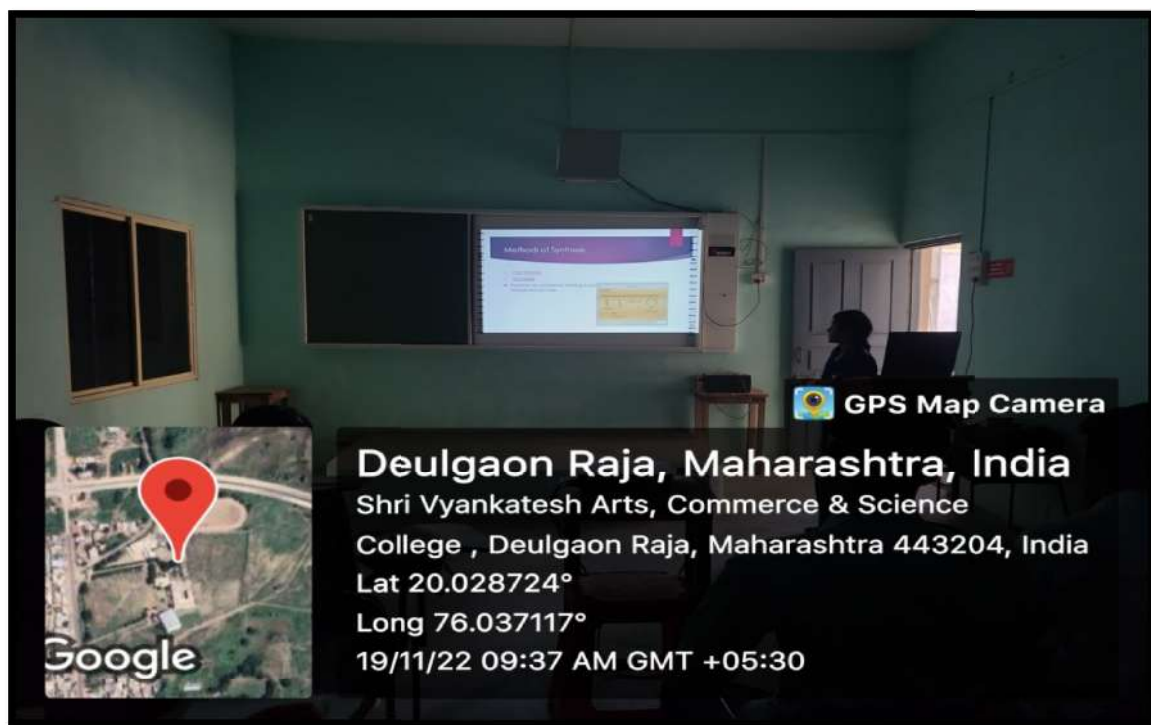
4) Uses of Nitric Acid

- It is used in making explosives such as TNT.
- It is used in liquid rocket as an oxidiser.
- In the pure form, it is used in the removal of the scale.
- It is used to produce ammonium nitrate to manufacture plastic, dye, and fertiliser.
- It is used as a chemical doping agent in electrochemistry.

B. Sc. Students have participated in the program, "Mind Map for Aliphatic Hydrocarbons."



Seminar Presentation



B. Sc. Students have participated in the wall paper presentation on “Inductive Effect”.

INDUCTIVE EFFECT

Carbon Carbon Carbon H⁺

Applications

Relative strength of chloroacetic acid & acetic acid.

$$\text{ClCH}_2\text{COOH} \rightleftharpoons \text{ClCH}_2\text{COO}^- + \text{H}^+$$

$$\text{CH}_3\text{COOH} \rightleftharpoons \text{CH}_3\text{COO}^- + \text{H}^+$$

Chloroacetic acid $K_a = 1.4 \times 10^{-3}$

Acetic acid $K_a = 1.8 \times 10^{-5}$

Strength of an acid depends on its tendency to release H^+ ion in aqueous solution in the form of H_3O^+ ions.

In chloroacetic acid the electron withdrawing effect of chlorine facilitates release of proton in the form of H^+ ion in aqueous solⁿ.

Hence chloroacetic acid is a stronger acid than acetic acid.

Electron Shift towards more electronegative Atom.
It operates on (Sigma) or bonded electron.
It is a permanent effect.

$\delta\delta\delta^+ \quad \delta\delta^+ \quad \delta^+ \quad \delta^-$
 $\text{H}_3\text{C}-\text{CH}_2-\text{CH}_2-\text{Cl}$

+I Groups	-I Groups
-O, -COO, -CH₃, -CH₂R -CHR₂, -CR₃	-F, -Cl, Br, -I, -NH₂, -NHR, -NR₂ -NO₂, -CN, -C₆H₅, -OH, -SO₃H, -CHO, -COR, -COOH etc
Electron donating group. Less electronegative. Alkyl group more the stability of carbocation.	Electron Withdrawing group. More electronegative.

Name: Anandha Lakshmi Kulkarni
class - 12th