

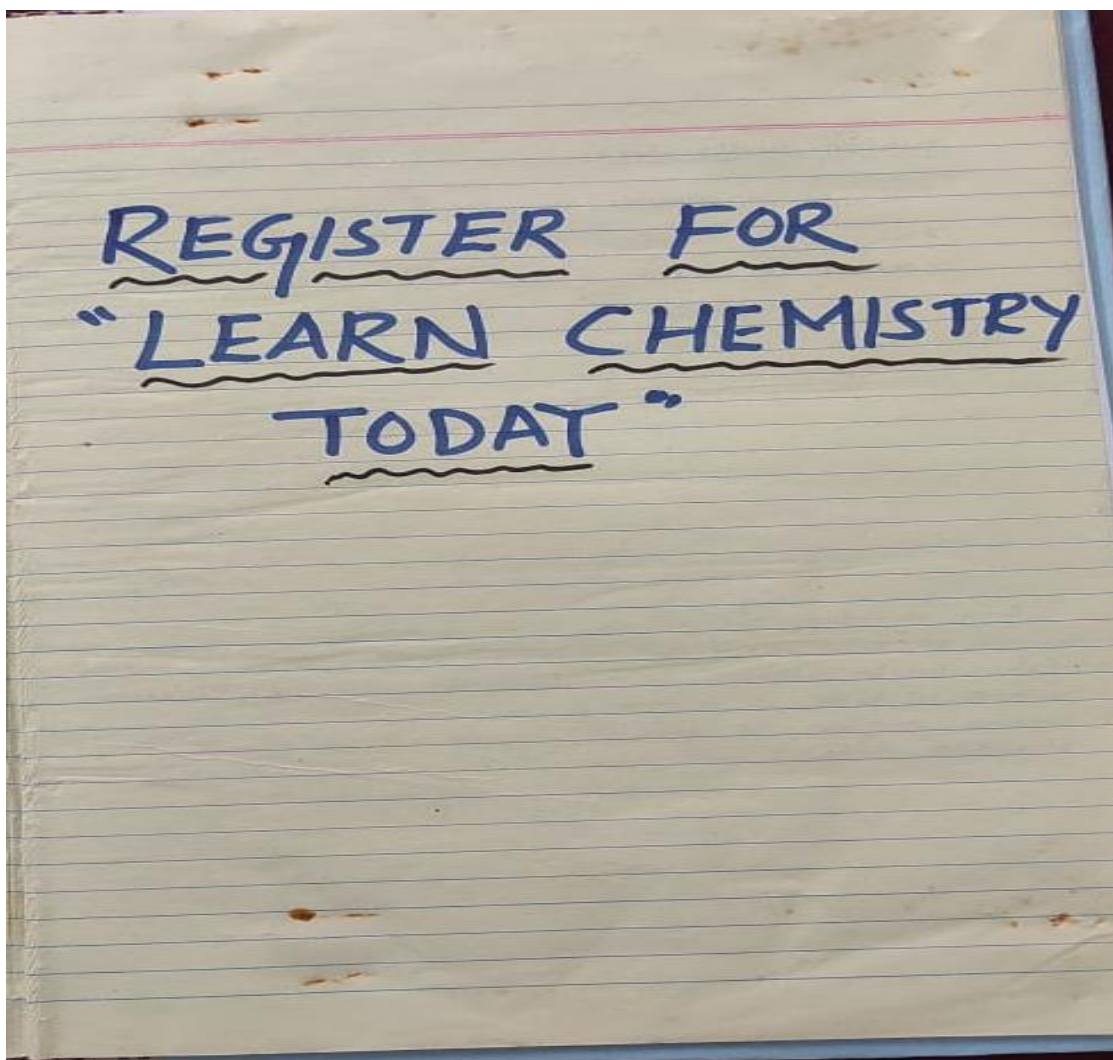
NTR GOVT DEGREE COLLEGE FOR WOMEN

DEPARTMENT OF CHEMISTRY

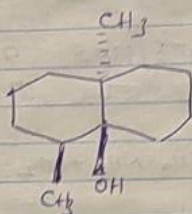
INNOVATIONS AND BEST PRACTICES BY THE DEPT -2020-2021

Learn Chemistry Today

Everyday chemistry related knowledge will be written on the notice board by the faculty as "LEARN CHEMISTRY TODAY". Every Monday one Chemistry question written on the board and the early bird student with best answer will be rewarded



2020-2021

Date: 01/02/2021  
MondayGeosmin :-

Geosmin is an Organic Compound with a distinct earthy flavor and aroma produced by certain bacteria. Contributor to the strong scent that occurs in the air when rain falls after a dry spell of weather.

Date: 02/02/2021  
Tuesday

- Acetyl Salicylic acid is commonly used as a pain killer
- Iron is commonly used for making an electromagnet
- Carbon dioxide ( $\text{CO}_2$ ) is responsible for global warming.
- Halite is the source of common salt
- Methane is the main constituent of coal gas.
- Lithium-ion batteries needed to power electric cars use lithium carbonate or lithium hydroxide.

Date: 03/02/2021  
Wednesday

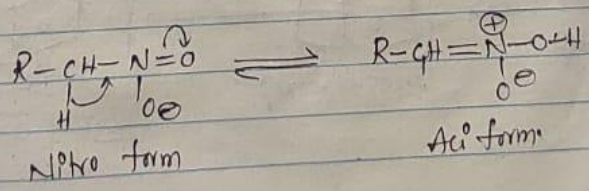
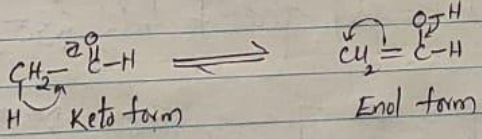
- Green chemistry is the design of chemical products and processes that reduce or eliminate the use or generation of hazardous substances.
- Green chemistry applies across the life cycle of a chemical product, including its design, manufacture, use and ultimate disposal.

Date: 04/02/2021  
Thursday

అంశపాఠకం సాధనం:-

ఇది అంశపాఠకం. ఇది అంశపాఠకం ఉత్పత్తి చేసే విధానం  
వివరించే పుస్తక విధానం ఈ పాఠ సాధనం.

eg:- సైటో క్రోమ, కార్బో క్రోమ సమీక్షణం, ఉత్తర విభాగ సమీక్షణం వివరం





Hydrogen Bomb is based on the principle of Nuclear Fusion.

Date: 08/02/2021

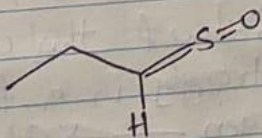
Monday.

- Nuclear fusion is a reaction in which two or more atomic nuclei are combined to form one or more different atomic nuclei and subatomic particles.
- The difference in mass between the reactants and products is manifested as either the release or absorption of energy.

Date: 09/02/2021

Tuesday.

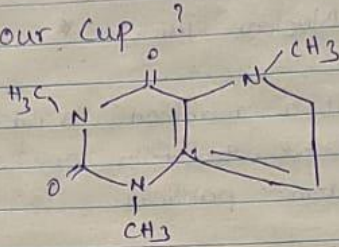
Grab a knife and slice into an onion, and you'd quickly feel a stinging sensation and tears starting to flow. You're suffering from the effects of a chemical known as 'lachrymatory factor', or propanethial-S-oxide, an airborne sulfur-containing organic chemical that is similar to tear gas. Compounds that make you cry are known as lachrymators, from lacrima, the Latin word for tears. When propanethial-S-oxide comes into contact with the surface of the eye, it reacts with water to create an acid that stimulates a nervous response, triggering tears to wash the irritant away.



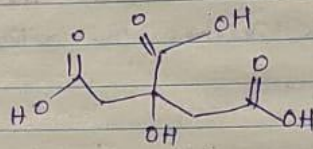
Date: 10/02/2021  
Friday Wed.

What's In your cup?

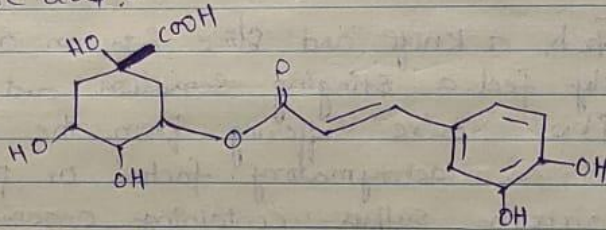
Caffeine :-



Citric acid :-



Chlorogenic acid :-



Phenols :-



11/02/2021 Thursday  
~~Friday~~

Smelting :-

- \* 80% of copper is produced this way
- + Heat copper ore strongly in a furnace with air  
copper sulphide + oxygen  $\longrightarrow$  Copper + Sulphur dioxide
- \* Then use Electrolysis to Purify the Copper
- \* Expensive as needs lots of heat & Electricity.

13/02/2021  
Monday  
Friday

Mars is red because its surface contains iron oxide ( $\text{Fe}_2\text{O}_3$ ).

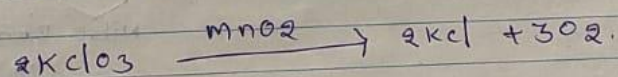
Iron oxide is also known as rust.

15/2/21  
Monday.

Examples of Catalysis :-

The decomposition of  $\text{KClO}_3$  is accelerated several times by the presence of a small quantity of  $\text{MnO}_2$ .

When granular  $\text{MnO}_2$  is used, at the end of the reaction it appeared to be amorphous.



17/2/2021  
Wed.

What is an Element?

- \* Element is a chemical substance
- \* Element is a simplest substance.
- \* Cannot be decomposed to a simpler substance
- \* Builtup from one type of atoms only.

18/2/2021, Thursday

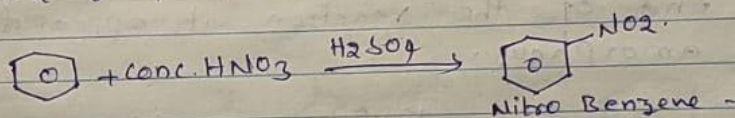
Hemoglobin is the Iron-Containing Oxygen-Transport metalloprotein in the red blood cells of almost all vertebrates as well as the tissues of some invertebrates.

Hemoglobin in blood carries oxygen from the lungs or gills to the rest of the body.

19/2/2021

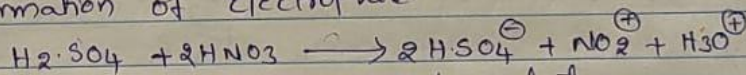
### \* Nitration reaction:-

Benzene reacts with conc.  $\text{HNO}_3$  in the presence of  $\text{H}_2\text{SO}_4$  to form Nitro Benzene. This reaction is called Nitration reaction. In this reaction  $\text{NO}_2^+$  group is Electrophile.

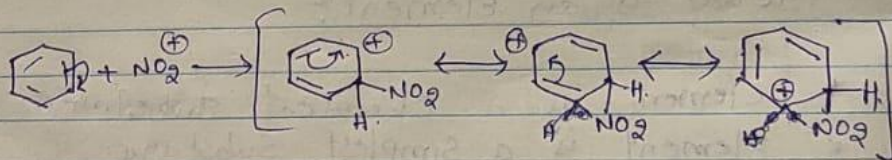


Mech:-

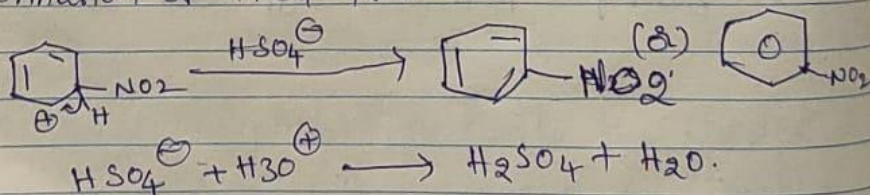
→ Formation of Electrophile:-



→ Formation of Carbonium ion Intermediate:-



→ Formation of Final Product:-

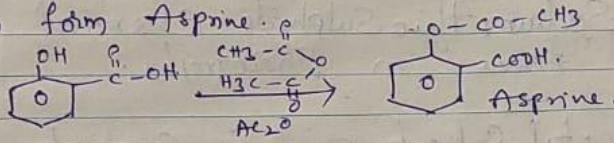




22/02/2021.

Aspirine (ortho Acetyl Salisili acid).

Synthesis :- Salisili acid react with Acetic anhydride to form Aspirine.



23/2/2021.

Karat is basically a unit used to measure the purity of gold. The higher the karatage the purer the gold.

23/02/2021.

\* which variety of glass is heat resistant?  
ans: Pyrex glass.

\* which Synthetic fibre is known as Artificial silk?  
ans: Rayon

\* which fertilizer has more nitrogen content?  
Ans: Urea.

24/02/2021

- ⇒ Silica is used in the Preparation of different types of Glasses.
- ⇒ Silver metal that is present in photo films.
- ⇒ Sodium thio Sulphate chemical used as a "fixer" in Photography.
- ⇒ Acetyl Salicylic acid is commonly used as a Pain Killer.

25/02/2021

Uses of chromatography:-

Pharmaceutical Company:- Determine amount of each chemical found in new product.

Hospital :- Detect blood (or) alcohol levels in a patient's blood stream -

Law Enforcement:- To compare a sample found at a crime scene to samples from suspects.

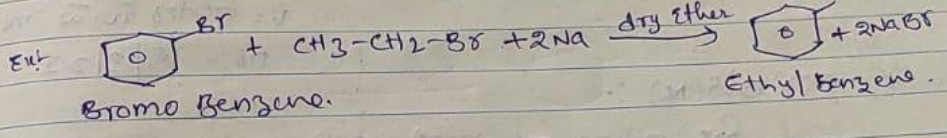
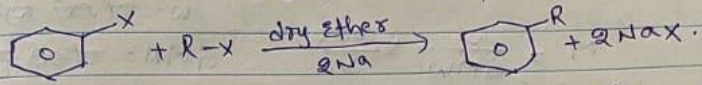
26/02/2021

- \* Reinforced glass is used in bullet proof screens.
- \* Red Phosphorus is used in preparing match sticks.
- \* Cooker glass can cut off ultraviolet rays.

ఉద్భవ-ఫ్రాక్టింగ్ చర్య:-

27/02/2021

పొడి ఈథర్‌లలో ఆక్సిజన్ వోల్టేజీ, ఎర్రల వోల్టేజీల మిశ్రమాన్ని సాదీయం లోపాంతో చర్య జరిపించినప్పుడు ఆక్సిజన్ యజ్జీనం విరవడం చర్యన ఉద్భవ-ఫ్రాక్టింగ్ చర్య అందుతుంది.



Date:- 2/3/21.

ఆదర్శ వాహకాలు:-

ఆది ఉత్పాదకాలకు వాడే వాహకాలలో వాటికి యెక్కువ ఆది సాధారణంగా వాడే కార్బన్ పరిమాణం పెరిగితే వాహకాలకు ఆదర్శ వాహకాలు అంటారు.

- Ex:- Ethyl chloride - Ethyl Bromide
- n-Hexane, n-Heptane
- CCl<sub>4</sub> - Silicon tetrachloride.
- Benzene - methyl Benzene.

Date:- 3/3/21

ఆదర్శ వాహకాలు:-

ఆదర్శ వాహకాలకు వాడే కార్బన్ పరిమాణం పెరిగితే వాహకాలకు "ఆదర్శ వాహకాలు" అంటారు.

Date:- 4/3/21

కార్బన్ పరిమాణం పూరిత పరిమాణం చూపే వాహకాలకు ఉదాహరణలు :-

- Acetone + Ethanol, Acetone + Benzene.
- H<sub>2</sub>O + methanol, H<sub>2</sub>O + Ethanol.

Date:- 5/3/21

కార్బన్ పరిమాణం పూరిత యింకా వాహకాలకు ఉదాహరణలు:-

- Acetone + Aniline, Chloroform + diethyl ether
- chloroform + Benzene, H<sub>2</sub>O + HCl



dt:- 6/3/21

\* మొలకల (M) :-

1 లిటర్ దావణాలి 388 ఫుజ్ దావణం ఎంకో-  
మోల్ నొక్కను "మొలకల" అంటారు.

$$M = \frac{W}{GMW} \times \frac{1000}{V}$$

W = దావణం ద్రవ్యరాశి (g)

GMW = దావణం గ్రామీ అణుభారం

V = దావణం ఘ.పె 'ml'

dt:- 8/3/21

\* నాణ్యత (N) :-

ఓక లిటరు దావణాలి 388 ఫుజ్ దావణం గ్రామీ  
తుల్యత భారాల నొక్కను నాణ్యత (N) అంటారు.

$$N = \frac{W}{GEW} \times \frac{1000}{V}$$

W = దావణం ద్రవ్యరాశి (g)

GEW = దావణం గ్రామీ తుల్యత భారం

V = దావణం ఘ.పె ml

dt:- 9/3/21

\* మొలకల (m) :-

ఓక కిలోగ్రామ్ దావణాలి 388 ఫుజ్ దావణం మోల్  
నొక్కను మొలకల అంటారు.

$$m = \frac{W}{GMW} \times \frac{1000}{W}$$

W = దావణం భారం

W = దావణం భారం

$$m = \frac{P}{GMW} \times \frac{1000}{(100-P)}$$

here, P = దావణం  $\left(\frac{W}{W}\right)$

(100-P) = దావణం భారం.

dt:- 10/3/21



## LEARN CHEMISTRY TODAY

date: 14-03-2019

### Acid Rain:-

Much of  $\text{NO}_x$  and  $\text{SO}_x$  entering the atmosphere are converted into  $\text{HNO}_3$  and  $\text{H}_2\text{SO}_4$  which are acidic. This is known as acid rain. It causes damage to buildings, crops, and forests. It is also harmful to aquatic life. The pH of acid rain is less than 5.6. It is caused by factories and motor vehicles.

### Question of the week

Ans: Nuclear fusion  
winner of the week: K Divya  
19C 7M III Year

→ Hydrogen bomb is based on the principle of

ಪ್ರತಿಕ್ರಿಯೆ ಮತ್ತು ಸಂಯೋಜನೆ

ಪ್ರತಿಕ್ರಿಯೆ ಮತ್ತು ಸಂಯೋಜನೆ