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Ayesha Nadeem

10<sup>th</sup> A

Roll No: 9

Subject: Chemistry

Presented to:

Sir. Majid Ali

Abdul Aziz High

School Yazman

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Assignment

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PAST PAPER

MULTAN BOARD

PAPER NO. 18

ANNUAL PAPER

2023

CHEMISTRY GROUP-II

PAPER CODE = 3487

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## MCQs

1- About 99% atmosphere's mass

lies within:

a) 35 kilometer

b) 30 kilometer

c) 15 kilometer

d) 11 kilometer

2- Temperature range of stratosphere

is:

a)  $7^{\circ}\text{C} - (-93^{\circ}\text{C})$

b)  $2^{\circ}\text{C} - (-93^{\circ}\text{C})$

c)  $17^{\circ}\text{C} - (-58^{\circ}\text{C})$

d)  $-58^{\circ}\text{C} - 2^{\circ}\text{C}$

~~Ex (12 - Solm)~~

3- Disease causes liver inflammation:

a) Typhoid

b) Jaundice

c) Cholera

d) Hepatitis

4- Density of water at  $4^{\circ}\text{C}$  is:

a)  $1.2\text{gcm}^{-3}$

b)  $1\text{gcm}^{-3}$

c)  $0.98\text{gcm}^{-3}$

d)  $4.2\text{gcm}^{-3}$

5- On heating  $\text{NaHCO}_3$  forms:

a)  $\text{CO}_2$

b)  $\text{Ca}(\text{OH})_2$

c)  $\text{CaCO}_3$

d)  $\text{CaO}$

6- Froth floatation process is used to concentrate the ore on:

a) Density basis

b) Concentration basis

c) Wetting basis

d) Magnetic basis

7- The colour of hydrogen iodine

is:

a) Red

b) Orange

c) Blue

d) Colourless

8- To dry a gas which one of the salt will be used?

a)  $\text{CaCl}_2$

b)  $\text{NaCl}$

c)  $\text{CaO}$

d)  $\text{Na}_2\text{SiO}_3$

9- The conjugate acid of  $\text{HPO}_4^{2-}$  is:

a)  $\text{PO}_4^{3-}$

b)  $\text{H}_2\text{PO}_4^-$

c)  $\text{H}_3\text{PO}_4^{2-}$

d)  $\text{H}_3\text{PO}_4$

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10- One of the following is a synthetic fiber:

- a) Cotton
- b) Wool
- c) Nylon
- d) Silk

11- Dehalogenation of tetrahalides produces acetylene. This reaction takes place in the presence of,

- a) Sodium metal
- b) Zinc metal
- c) Magnesium metal
- d) Potassium metal

12- Deficiency of vitamin D causes:

- a) Rickets
- b) Scurvy
- c) Anemia in babies
- d) Night blindness

## SHORT QUESTIONS

(i)

Difference b/w active mass and rate of reaction.

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## Active mass      Rate of Reaction Relationship

The relationship between active mass and rate of reaction is directly proportional.

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## Law of mass action

The rate at which a substance reacts is directly proportional to its active mass and the rate of reaction is directly proportional to the product of active masses of the reacting substances.

The rate at which a substance reacts is directly proportional to its active masses and the rate of reaction is directly proportional to the product of active masses of reacting substances.

(ii)

- Define law of mass action.

Law of mass action:

The rate at which a substance reacts is directly proportional to its active mass and the rate of reaction is directly proportional to the product of the active masses of the reacting substances.

(iii)

- What is destructive distillation.

Destructive distillation:

The strong heating of coal in the absence of air is called destructive distillation.

Explanation:

Destructive distillation of coal produces:

- Coal gas
- Ammonical liquor
- Coal tar
- Coke

(iv)

- Name the gases which are found in coal gas:

Gases:

- Hydrogen
- Methane
- Carbon monoxide

(v)

- Define petroleum.

Petroleum:

Petroleum means rock oil. It is a complex mixture of several gaseous, liquid and solid hydrocarbons having water, salts and earth particles with it.

(vi)

- CNG stands for what?

CNG:

CNG stands for compressed natural gas.

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(vii)

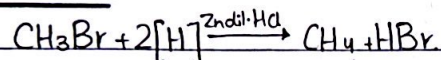
- How are alkyl halides reduced?

Reduction means addition of nascent hydrogen.

Catalyst:

Zn/HCl.

Reaction:



(viii)

- Why are alkene called "olefins"?

Alkenes called olefins.

Alkenes are known as olefins because first members forms oily products when react with halogens

Q. NO. 03

(i)

Where are proteins found:

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- Proteins are found.

Proteins are found in muscles, skin, hairs, nails, wool, feathers etc.

(ii)

- What is meant by "genetic code of life"?

Genetic code of life:

It passes these information as instructions from generation to generation how to synthesize particular proteins from amino acids. These instructions are "genetic code of life."

(iii)

What is acute lead poisoning?

- Acute lead poisoning:

Acute lead poisoning causes dysfunction of kidneys, liver, brain, central nervous system and reproductive system.

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(iv)

How does scum formed?

Insoluble precipitate of calcium and magnesium salts of fatty acids called scum. As a result, a large amount of soap is wasted in scum formation.

(v)

• What is hookworm?

Hookworm:

Hookworm is a parasite worm that infects the small intestine. Severe cases can result in anemia and stunted growth in children.

(vii)

• What is autoionization?

Autoionization:

Autoionization is a process by which an atom or a molecule in an excited state spontaneously emits one of the outer shell electrons, thus going from a state with charge  $Z$  to a state with charge  $Z+1$ . for example:

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from an electrically neutral state to a singly ionized state.

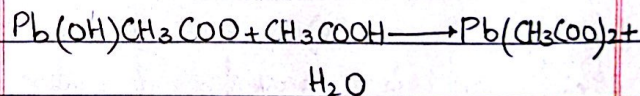
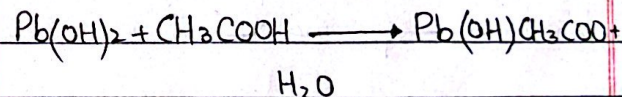
(vi)

• Write any two uses of sodium tetraborate.

Uses of sodium tetraborate:

It is used for the manufacture of heat resistant glass, glazes and enamels, in leather industry for soaking and cleaning hides.

(viii)

How can you justify that  $Pb(OH)$  $NO_3$  is a basic salt?Q. NO. 04

(i)

- Point out two properties of water that makes it an excellent solvent.

↳ It is neutral to litmas.

- The freezing point of water is  $0^{\circ}\text{C}$  and the boiling point is  $100^{\circ}\text{C}$  at sea level. → Rewrite

(ii)

- Which salt are responsible for hardness of water?

Lime stone and calcium bicarbonate are responsible for the hardness of water.

(i)

- Point out two properties of water that makes it an excellent solvent.

- Polarity of water molecules.
- Exceptional hydrogen bonding ability.

(iii)

- What is hepatitis?

Hepatitis:

It is a liver inflammation commonly caused by one of five viruses called hepatitis A, B, C, D and E. Hepatitis A and E can be transmitted by contaminated water.

(iv)

- Which bacteria cause the cholera?

Cholera is an acute infection caused by the bacteria *Vibrios cholerae*.

(v)

- Write the names of two chemicals that use in our daily life.

- NaCl (Sodium chloride)
- $\text{H}_2\text{SO}_4$  (Sulphuric acid)



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(vi)

• Froth floatation process:

Froth floatation process is based on wetting characteristics of the ore and the gangue particles with oil and water respectively.

(vii)

• How many urea manufacturing unit in Pakistan? Name two urea manufacturing unit:

There are about six urea manufacturing units in Pakistan. The major four are Fauji fertilizer company; Engro chemicals; Fauji fertilizer, Bin Qasim and Daud Hercules company.

(viii)

• Two uses of gasoline:

Used as fuel in motor

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cycles, motor cars and other light vehicles.

It is more volatile than kerosene oil. It is also used for dry cleaning.

## LONG QUESTIONS

### Q. NO. 05

(i)

• Explain two methods of removing water permanent hardness.

The removal of  $Mg^{2+}$  and  $Ca^{2+}$  ions which are responsible for the hardness is called water softening.

• Removal of permanent hardness:

Washing Soda:

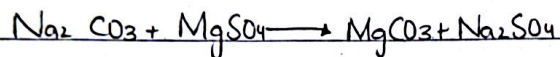
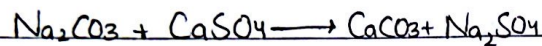
By using water soda:

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The addition of washing soda removes the calcium and magnesium ions as the insoluble calcium salts by adding washing soda  $\text{Na}_2\text{CO}_3$  and magnesium carbonates, respectively.

### Reactions:



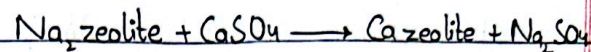
### Sodium zeolite:

Sodium zeolite is a naturally occurring resin of sodium aluminium silicate  $\text{NaAl}(\text{SiO}_3)_2$  which can also be prepared artificially. It is used for softening of water at domestic as well as on industrial scale. When water is passed through resin, sodium ions of the resin are exchanged with the unwanted calcium and magnesium ions of the hard water.

### Reaction:

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When resin is fully used up it can be regenerated by flushing it with concentrated solution of  $\text{NaCl}$ . The reverse process takes place because of high concentration of sodium ions.

### Reaction:



(ii)

Explain reversible reaction and irreversible reaction.

### Reversible reaction:

Those reactions in which the products can recombine to form reactants are called reversible reactions.

### Characteristics:

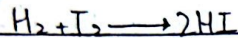
- Reversible reactions proceed in both direction.
- Reversible reactions are represented by double arrow.

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- Reversible reactions are also known as incomplete reactions.

Example:



- Irreversible reactions:

Most of the reactions in which products do not recombine to form reactants is called irreversible reactions.

Characteristics:

- Irreversible reaction proceed in one direction.
- Irreversible reactions are represented by single arrow.
- It is also known as complete reaction.

Example:



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Q.No. 06

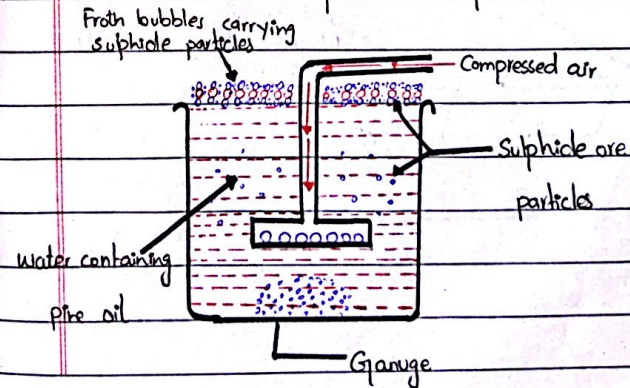
(1)

- Write a note on froth floatation process and electromagnetic separation.
- Froth floatation process:

Froth floatation process is based on the wetting characteristics of the ore and the gangue particles with oil and water respectively.

- Role of pine oil:

The ore particles are wetted by oil. Hence oil coated ore particles being lighter come to the surface and ore is separated from mineral.



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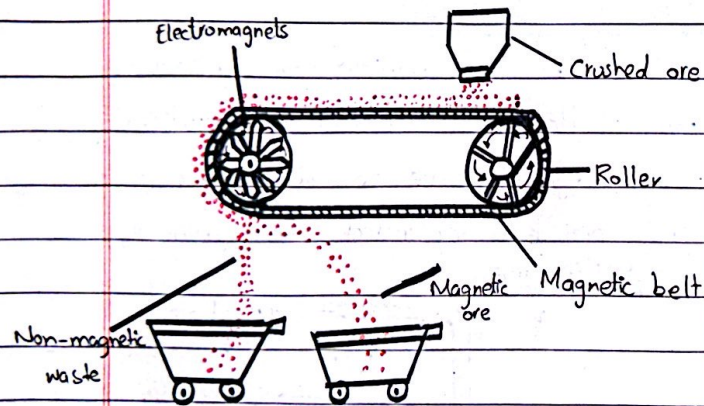
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## • Electromagnetic separation.

Electromagnetic separation is based on the separation of magnetic ores from the non-magnetic impurities by means of electromagnets.

### Explanation:

The powdered ore is dropped over a leather belt and non-magnetic impurities drop first and then magnetic ore drop.



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(ii)

• Write down four uses of acetylene.

### Uses of acetylene:

- i- Acetylene produces oxy-acetylene flame with oxygen. It is highly exothermic reaction. Heat released is used for welding purposes.
- ii- Acetylene is used to prepare other chemicals such as alcohols, acetaldehydes, acids.
- iii- It is used for ripening of fruits.
- iv- It is polymerized to form benzene, which is used as a raw material to form a variety of organic compounds.

Q. NO. 07

(i)

• Write name and formulas of five salts.

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### iii- Plants lipids:

Plants synthesize oils and store them in seeds, such as sunflower oils, coconut oil, groundnut oil and corn oil. These oils are used as vegetable oils or ghee for cooking and other purposes.

### iv- Marine lipids:

Marine animals like salmon and whales are also source of oils. These oils are used as medicines.  
e.g. cod liver oil.

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Names and formulas of salts:

	Names	Formulas
i-	Sodium chloride	NaCl
ii-	Potassium nitrate	KNO <sub>3</sub>
iii-	Zinc sulphate	ZnSO <sub>4</sub>
iv-	Calcium phosphate	Ca <sub>3</sub> (PO <sub>4</sub> ) <sub>2</sub>
v-	Silver acetate	(CH <sub>3</sub> COOAg)

(ii)

Sources and uses of lipids:i- Animal fat:

Animal fats are found in adipose tissue cells. Animals secrete milk from which butter and ghee is obtained. Butter and ghee are used for cooking and frying of food, for preparing bakery products and sweets.

ii- Soap industry:

Animal fats are used in soap industry

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