

6. Physical and Chemical changes.

A. Very Short Answer - Questions

1. Is a physical change reversible or irreversible change?

⇒ Reversible change

2. What kind of change is the germination of seeds?

⇒ Chemical change is the germination of seeds.

3. What change does take place during digestion of food?

⇒ Chemical change takes place during digestion of food.

4. A metal when deposited on the surface of an iron object prevents its rusting. Identify the metal.

⇒ Zinc

5. Give an example illustrating the use of crystallization in industry.

⇒ Sugar from concentrated sugar cane juice

Teacher's Signature: _____

EXPT.
NO.

NAME

Page No.:

YOUVA

Date:

B. Short answer questions.

1. LPG is stored in a cylinder as a liquid. When you burn it in the stove, it is in gaseous form. What kind of changes occur during the use of L.P.G.?

⇒ When L.P.G. comes out from the cylinder, it becomes a gas from its liquid state. It is a chemical change because it cannot be liquified again. When the gas burns in the stove it produces heat and light. So, it is a chemical change.

2. Distinguish between physical and chemical change.

⇒ Physical change	Chemical change.
-------------------	------------------

1) In a physical change, only physical properties such as colour, physical state, volume etc. are changed. Chemical properties remain unchanged.

1) In a chemical change, the chemical composition and chemical properties of the reacting substances are changed.

2) No new substance is formed.

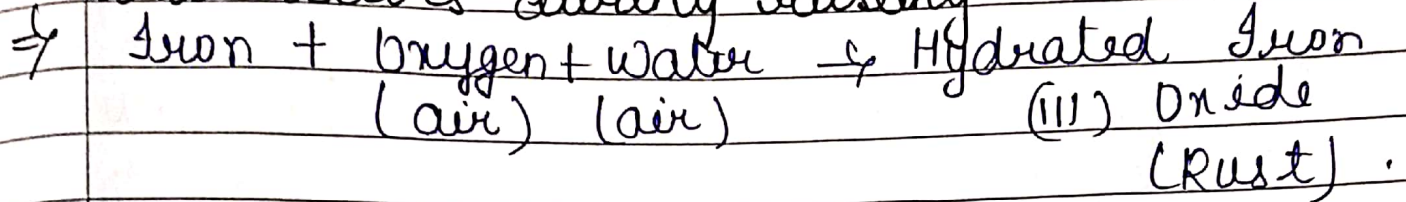
2) One or more new substances are formed.

Teacher's Signature: _____

EXPT. NO.	NAME	Physical	Chemical	Page No.:	YOUVA
				Date:	

11/7 Physical change is a temporary change 11/7 Chemical change is a permanent change.

3. Write the correct word chemical reaction that occurs during rusting.



4. Describe tinning of iron sheets.

Tin is a corrosion resistant and non-toxic metal. Therefore, tin is used for making containers or utensils of iron, brass and copper, safe for storing food stuffs. The cans used for packaging ghee, oil, milk, powder etc., are also made from tinned iron sheet.

5. Iron rusts, whereas stainless steel which contains large quantity of iron does not. Explain.

Stainless is an alloy of iron, nickel and chromium. Alloying makes iron, corrosion-resistant. Hence, it does not rust.

C. Long Answer Questions (in one-word).

1. Define a physical and a chemical change. Give one example of each.

Teacher's Signature: _____

EXPT.
NO.

NAME

Page No.:

YOUVA

Date:

⇒ **Physical change**:- A change, in which only the physical properties of any substance get changed and no new ~~substance~~ substance is formed, is called a physical change.
 ex-7 Tearing of paper

Chemical change:- A change in which composition and chemical properties of the substance get changed is called a chemical change.
 ex-7 Burning a candle

2. Classify the following into physical and chemical change.

- (a) Melting of wax - Physical Change
 (b) Burning of agarbatti - Chemical Change
 (c) Tearing of cloth - Physical Change
 (d) Cooking of food - ^{Chemical} Physical Change
 (e) Growth of tree - ^{Chemical} Physical Change
 (f) Burning of paper - Chemical Change
 (g) Weathering of rock - Chemical Change
 (h) Making ice-cream from milk - Physical change

3. Why is the sublimation of physical change?

⇒ During sublimation, a solid substance when heated changes into vapour form, and the vapour on cooling gives

Teacher's Signature: _____

back the substance in solid form. During the change of state, there is no change in the composition and chemical properties of the substance. The change can be easily reversed by changing ^{the} temperature. Therefore sublimation is a physical change.

4° What are the characteristics of a chemical change?

⇒ The following characteristics of a chemical change are:-

- (I) During a chemical change new substance with different properties are formed.
- (II) Chemical changes are permanent. Thus, a chemical change cannot be reversed by simple physical methods.
- (III) Larger amount of heat is either absorbed or ~~involved~~ ^{evolved} during a chemical change.
- (IV) Chemical changes occur only ^{under} proper conditions.
- (V) Energy in the form of light, sound may also be produced.

EXPT. NO.

NAME

M T W T F S S
Page No.:
Date:
YOUVA

5. What is crystallisation? Describe the crystallisation of copper sulphate.

→ The method used for obtaining a substance in solid geometrically shaped crystals is called crystallisation.

(i) Prepare the given sample of impure copper sulphate in a pestle and mortar. Dissolve it in the minimum quantity of water. Add a few drops of dilute sulphuric acid. Filter the solution into a china dish.

(ii) Place the china dish containing copper sulphate solution on a heated sand bath. This is done to evaporate some of the water so that the solution reaches the crystallisation point.

(iii) Now place the china dish containing thick concentrated solution over a beaker full of cold water and keep it side undisturbed.

(iv) After the crystallization is complete, decant off the mother liquor carefully without disturbing the crystals. Dry the crystals by pressing them gently between the folds of filter paper or porous plate and filter paper.

Teacher's Signature: _____

Q. Tick the odd one out:-

1. Burning of wood, Ageing of living beings, Stretching of rubber band, Rusting of iron.
 ⇒ Stretching of rubber band - others are chemical change.

2. Change in colour, Change in temperature, physical change, Breaking of a stick, Curding of milk.
 ⇒ Curding of milk - others are related with physical change.

3. Sublimation, Ammonium chloride, Sublimate, Evaporation, Melting of a solid.
 ⇒ Evaporation :- Others are related with sublimation process.

4. Crystallization, Magnesium ribbon, Dazzling light, Chemical change.
 ⇒ Crystallization :- Others are related with burning of magnesium ribbon.

5. Iron, Moist air, Brown powdery substance, Galvanisation, Lustrous.
 ⇒ Lustrous - others are related with rusting of iron and its prevention.

Teacher's Signature: _____

E. Define the following.

1. Reversible and Irreversible change

:- The change which can be reversed by reversing the conditions is called a reversible change. Ex → Glowing of an electric bulb.

The change which cannot be reversed even by changing the conditions is called an irreversible change. Ex - Burning of paper

2. Physical change :- A change, in which only the physical properties of any substance get changed and no new substance is formed, is called a physical change. Ex - Tearing of paper.

3. Chemical change :- A change in which composition and chemical properties of the substance get changed is called a chemical change. Ex → Burning of a candle.

4. Rusting of Iron :- The formation of brown powdery material on the surface of iron in the presence of moist air is called rusting of iron. Ex → Iron

5. Crystallisation :- The method used for obtaining a substance in pure solid geometrically-shaped crystals is called crystallisation. Ex → Sugar

Teacher's Signature: _____