

UNIT : 3. CHEMISTRY IN EVERYDAY LIFE

CLASS : VI

SUBJECT : SCIENCE

I. Choose the appropriate answer

- Soaps were originally made from _____.
a. proteins
b. animal fats and vegetable oils
c. chemicals extracted from the soil
d. foam booster
- The saponification of a fat or oil is done using _____ solution for hot process.
a. Potassium hydroxide
b. Sodium hydroxide
c. Hydrochloric acid
d. Sodium chloride
- Gypsum is added to the cement for _____.
a. fast setting
b. delayed setting
c. hardening
d. making paste
- Phenol is _____.
a. carbolic acid
b. acetic acid
c. benzoic acid
d. hydrochloric acid
- Natural adhesives are made from _____.
a. Protein
b. fat
c. starch
d. vitamins

II. Fill in the Blanks

- Propanethial s-oxide gas causes tears in our eyes while cutting onions.
- Water, coconut oil and animal fat are necessary for soap preparation.
- Earthworm is called as farmer's best friend.
- Organic fertilizer is ecofriendly.
- Starch dissolved in water is an example for natural adhesive.

III. True or False. If False, give the correct statement

- Concentrated phenol is used as a disinfectant. **False**
- Gypsum is largely used in medical industries. **False**
- Plaster of Paris is obtained from heating gypsum. **True**
- Adhesives are the substances used to separate the components. **False**
- NPK are the primary nutrients for plants. **True**

IV. Match the following

- | | | |
|----------------|---|---|
| 1. Soap | - | NaOH |
| 2. Cement | - | RCC |
| 3. Fertilizers | - | NPK |
| 4. Gypsum | - | $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$ |
| 5. Phenol | - | $\text{C}_6\text{H}_5\text{OH}$ |

V. Arrange the following statements in correct sequence

1. Cover your work area with old newspaper.
2. Take necessary quantity of water in a jar.
3. Add concentrated sodium hydroxide in the jar and allow it to cool.
4. Then add coconut oil drop by drop and stir it well.
5. Pour that solution into an empty match box, soap can be obtained after drying.
6. Try this soap to wash your hand kerchief.

VI. Analogy

1. Urea : Inorganic fertilizer: Vermi compost: Organic fertilizer.
2. Starch dissolved in water : Natural adhesives: Cello tape: Artificial adhesives.

VII. Give very short answer

1. What are the three main constituents of soap?

The three main constituents of soap are Lye (Sodium hydroxide), coconut oil and water.

2. What are the two different types of molecules found in the soap?

- ❖ Loving water molecules.
- ❖ Hating water molecules.

3. Give an example for inorganic fertilizer.

The Inorganic fertilizers are Urea, Ammonium sulphate and Super phosphate.

- ❖ Weak acid
- ❖ High volatile
- ❖ White crystalline powder.

5. Explain the uses of plaster of paris.

Uses of plaster of pairs :

- ❖ In making black board chalks.
- ❖ In surgery for setting fractured bones.
- ❖ For making casts for statues and toys etc.
- ❖ In the construction industry.

6. What are the ingredients of the cement?

- ❖ Limestone
- ❖ Clay
- ❖ Gypsum

7. Why gypsum is used in cement production?

Gypsum is added to control the setting of cement.

VIII. Give short answer

1. Why earthworm is called as farmer's friend?

Earthworms take organic wastes as food and produce compost castings. So earthworms are known as Farmers' Friends because of the multitude of services they provide to improve soil health and consequently plant health.

2. Explain the process of manufacturing cement.

The cement is manufactured by crushing of naturally occurring minerals such as lime stone, clay and gypsum through a milling process.

3. What are uses of Gypsum?

Uses of Gypsum:

- ❖ It is used as fertilizers Acid.
- ❖ It is used in the process of making cement.
- ❖ It is used in the process of making Plaster of Paris.

IX. Answer in detail

1. How are detergents manufactured?

Manufacture of Detergents:-

Materials used:

- ❖ Acid slurry, Soda ash (or) Sodium Carbonate,
- ❖ Trisodium phosphate (TSP),
- ❖ sodium tripolyphosphate (STPP),
- ❖ Carboxy Methyl Chloride (or) Cellulose,
- ❖ Glauber's salt,
- ❖ colour perfume and brightner.

Preparation:

- ❖ slurry is first neutralised.
- ❖ Then neutralised Acid Slurry is mixed with Soda ash and kept for one hour for completion of reaction.
- ❖ Other ingredients such as Trisodium phosphate (TSP), Sodium tripolyphosphate (STPP), Carboxy Methyl Chloride (or) Cellulose, Glauber's salt, colour, perfume, brightner are then blended to the neutralised Acid Slurry with continuous mixing.
- ❖ Then the mixture is dried.
- ❖ Now we get detergent powder.

X. Questions based on Higher Order Thinking Skills

1. Ravi is a farmer; he rears many cattle in his farm. His field has many bio wastes. Advise Ravi how to change this bio waste to compost by using vermin -composting techniques. Explain the benefits of vermi castings.

- ❖ A cement tub is to be constructed to a height of 2' A feet and the breadth 3 feet.
- ❖ Put the Bio-wastes in the cement tub with 5 cm height.
- ❖ Add few earthworms with the Bio-waste.
- ❖ Then add saw dust, or coir waste and husk on the top of Bio-wastes.
- ❖ Then add sand to form a layer of 3 cm.
- ❖ Then add garden waste on the layer of sand.
- ❖ Then spray with water.
- ❖ All layers must be moistened with water.
- ❖ After 10 to 15 days, we get vermicompost manure.

Benefits:

- ❖ It is rich in all essential nutrients.
- ❖ It improves soil structure, texture and prevent soil corrosion.
- ❖ It contains valuable hormones like auxons, gibberellin etc.
- ❖ It neutralizes the soil protection.

