

Autumn Holiday Homework

I. One Mark Questions :-

Multiple Choice Questions -

① The branch of science which deals with the different forms of energy e.g. light and sound :

A) Chemistry

B) Physics ✓

C) Biology

② The scientist who formulated the ~~1st~~ Periodic Table :

A) John Dalton

B) Daniel Rutherford

C) Dmitri Mendeleev ✓

③ The intermolecular force is maximum in :

A) Solids ✓

B) Gases

C) liquids

D) None of the above

④ Rapid conversion of water into steam is an example of:

- A) Evaporation
- B) Freezing
- C) Melting
- D) Vaporization

⑤ The temperature at which a liquid gets converted into its vapour state is called its:

- A) ~~Boiling~~ Melting Point
- B) Boiling Point ✓
- C) Dew Point
- D) Freezing Point

⑥ Predecessors to the modern chemist who created the 'Philosopher's Stone'.

- A) Botanists
- B) Alchemists ✓
- C) Physicists

⑦ what is an element?

A) A substance that is made up of one type of atom and can't be reduced to ~~the~~ simpler substances. ✓

B) A substance that is made of two or more different atoms chemically bonded to one another. They can be destroyed by chemical processes

C) A material containing two or more elements or compounds that are in close contact and are mixed in any proportion. They can be separated by physical means.

⑧ A metallic apparatus which supports the wire gauze:

A) A Tripod Stand ✓

B) Retort Stand

C) Test Tube Stand

⑨ A long glass apparatus closed at one end used for collecting gases :

A) Measuring Cylinder

B) Gas Jar ✓

C) Beehive Shelf

⑩ A modern apparatus with an air regulator, used for heating purposes :

A) Spirit lamp

B) Bunsen burner ✓

C) Electric Stove

Fill in the blanks -

⑪ From the elements nitrogen, ~~oxygen~~ chlorine, bromine, the element present in the atmosphere is nitrogen.

⑫ An element is a pure substance which cannot be broken down by physical or chemical methods.

(13) Evaporation takes place at above boiling point temperatures.

(14) Freezing process is just the reverse of melting.

(15) Sublimation is a process that involves direct conversion of solid into its vapour on heating.

II, 2 Mark Questions :-

(16) Preservatives are added to food or beverages. Explain why?

Ans- Preservatives are added to food or beverages for better preservation of food for longer time and to check its spoilage and rotting.

Ex- sodium benzoate, sodium bisulphate and salicylic acid.

(17) Alchemy was considered as a pseudoscience. Give reasons.

Ans- 'Pseudoscience' means 'False Science'.

Alchemy was both scientific and spiritual. Alchemists never separated them. They didn't have any common language for their concepts and practices.

Thus, Alchemy was considered as a pseudoscience.

18) What happens to water if :

a) It is kept in a deep freezer.

Ans- If we keep water in deep freezer, ~~it cools down~~ and the energy of water molecules will reduce and they come closer to each other, hence the intermolecular space reduces and the intermolecular attraction gets stronger. As a result it changes into its solid state, i.e., ice.

b) It is heated.

Ans- If we heat the water, the energy of water molecules will increase and they will start moving faster and get away from each other. Thus, the inter-molecular space increases and the intermolecular attraction gets weaker. As a result it changes into its vapour state, i.e., water vapour.

(19) State two characteristics of water which prove that it is a compound.

Ans- The two characteristics of water which prove that it is a compound are -

→ Its ~~constituents~~ constituents cannot be separated by any ~~chemi~~ physical means.

→ ~~#~~ The properties of its constituents are completely different from its properties i.e., hydrogen ^{gas} burns itself, oxygen gas helps in combustion whereas water is a liquid and it helps in putting off the fire.

III (20) 3 mark Questions:-

(21) Differentiate between the terms - food preservatives and food processing with appropriate examples.

Food Preservatives	Food Processing
<p>→ The substances used for checking the spoilage of food are the called the preservatives.</p>	<p>→ The transformation of raw food materials by physical or chemical means into marketable food is called food processing.</p>

Food Preservatives	Food Processing
→ Ex: Sodium benzoate, Sodium metabisulphate, salicylic acid, etc.	Ex: → cheese, bread, jelly, butter, tinned vegetables, soft drinks, etc.

State contribution of:

a) Dimitri Mendeleev -

He is best known for his discovery of "Periodic law" in 1869 and formulation of "Periodic Table of elements".

b) Antoine Lavoisier -

He revolutionized chemistry and named the elements, carbon, hydrogen and oxygen. He discovered the role of oxygen in combustion and respiration. He even established that water is a compound.

John Dalton -

He proved that matter consists of small indivisible particles called 'atoms',

(22) Explain the term compounds. Give the example of a compound containing:

a) hydrogen and oxygen - Water (H_2O)

b) carbon and oxygen - Carbon Dioxide (CO_2)

c) nitrogen and oxygen - Nitrogen oxide (NO)

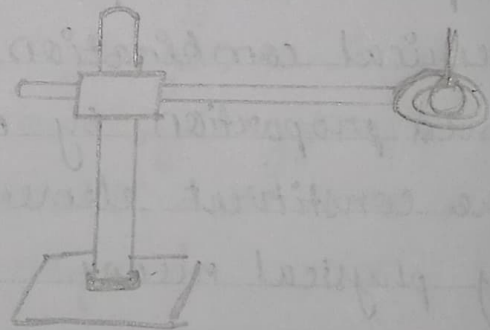
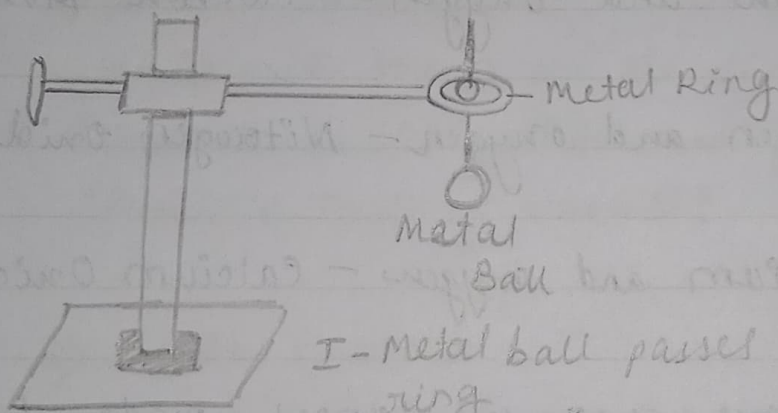
d) calcium and oxygen - Calcium Oxide (CaO)

Ans - Compounds are pure substances made by the chemical combination of two or more elements in fixed proportion by mass.

The constituent elements ~~can be~~ cannot be separated by physical means.

(23) with the help of a simple diagram how would you show that - Solids expand on heating.

Ans - Take a metallic ring and ball. Try to pass the metal ball through the ring. The ball is able to pass through the ring. Now, heat the metal ball for 5-6 mins. The hot ball is not able to pass through the ring. This shows that solid expands on heating.



(24) All medicines must be taken under proper doctors supervision and in the correct dose. Give reason.

Ans - All medicines must be taken under proper doctors supervision and in the correct dose. This is because doctors have knowledge about the right medicine we have to take. We should take medicines in right dose because, on the severity of sickness doctors give us the specific dose of medicines. ~~We~~ If we take a wrong dose, it might make us more sick.

(25) Write the uses of following elements and compounds.

a) Gold, platinum, silver -

As these elements are lustrous, they are used to make ornaments and jewellery.

b) Copper and Aluminium -

As these elements are good conductors of heat and electricity, they are used to make wires and thin sheets.

c) Plastic:

They are used to make many plastic materials like, shoes, balls, pipes, unbreakable utensil.

26) Give reason why,

a) Wet clothes dry more quickly on a warm day than on a cold humid day. Explain.

Ans- Wet clothes dry more quickly on a warm day because the warmth converts the water present in wet clothes into vapour and there is no water left in the clothes, i.e., it dries fast.

But on a cold humid day, no warmth is there it evaporate the water out of the clothes, so it takes much longer to dry.

27) Water in a dish evaporates faster than in a bottle. Give reason

Ans- In a dish there is a large surface area for evaporation. But in a bottle, the surface area for evaporation is only the size of the rim of the bottle. So, water in a dish evaporates faster than in a bottle.

Q) Why are volatile liquids such as alcohol and spirit stored in tightly closed bottles?

Ans- Volatile liquids evaporate very ~~qu~~ fast and to ~~p~~ keep it ~~evaporated~~ in its liquid state they are closed stored in tightly closed bottles.

Q7) Give Reason -

a) A philosopher's stone is not exactly a stone.

Ans- Alchemists believed that even if the substance was named Philosopher's 'stone', it was wax, liquid or powder but not exactly a stone.

b) Food processing is an important procedure for obtaining marketable food products

Food processing is the process of transformation of raw food materials by physical and chemical means into marketable food materials that can be easily prepared and kept fresh for a long time.

Ex - Bread, Cheese, Jams, Jellies, etc.