8th Science Lesson 5 Questions in English

5] Changes Around Us

1. Which of the following pillar in Delhi have not rusted even after 1500 years?

a) Char Minar
b) Qutub Minar
c) Mina Mita
d) Fateh Minar

Explanation

Adithya, a standard VIII student once visited **Qutub Minar, Delhi** and wondered about the 1500 years old rust resistant iron-pillar. He was thinking about why the iron pillar has not rusted for more than 1500 years.

2. Which of the following are physical changes?

1) Folding a paper
2) Drying wet clothes
3) Bending of iron rod

a) 1, 2
b) 1, 3
c) 2, 3
d) All the above

Explanation

As you studied earlier in standard VII changes like **folding a paper**, **drying wet clothes, bending of iron rod** are **some examples for physical changes**

3. Which of the following is not a chemical change?

a) Burning of paper
b) Decaying of vegetables
c) Turning of milk into curd
d) Drying wet clothes

Explanation

On the other hand, changes like **burning of paper**, **digestion of food**, **turning of milk into curd** and **decaying of vegetables** are some of the examples for **chemical changes**.

4. Which of the following change is permanent and produces new substances?

a) Physical change

b) Chemical change
c) Either a or b
d) Both a and b

Explanation

We can you define a chemical change. A **chemical change is a permanent, irreversible change** and produces a **new substance**.

5. Assertion(A): Chemical changes are otherwise called as chemical reactions

Reason(R): One or more substances a reaction to form one or more new substances

a) Both (A) and (R) are correct, but (R) does not explain (A)

b) Both (A) and (R) are wrong

c) Both (A) and (R) are correct and (R) explains (A)

d) (A) is Correct and (R) is wrong

Explanation

Chemical changes are otherwise called as chemical reactions, because one or more substances (Reactants)undergo a reaction to form one or more new substances (Products).

Reactant(s)→ Product(s)

6. Which of the following statement is correct?

1) All chemical reaction will not occur at all conditions
2) For every chemical reaction to take place, certain specific condition is required.
    a) 1 alone
    b) 2 alone
    c) 1, 2
    d) None

Explanation

In a society people live in different conditions not under same conditions. Likewise, **all chemical reaction will not occur at all conditions**. For **every chemical reaction to take place**, certain **specific condition is required**.

7. Which of the following conditions can initiate a chemical reaction?

a) Physical contact
b) Heat
c) Catalyst

d) All the above

Explanation

Chemical reactions can be done through;

- **Physical contact**
- Solution of reactants
- Electricity
- **Heat**
- Light
- **Catalyst**

8. In which of the following state the reactant has to be to chemical reaction take place?

a) Solid
b) Liquid
c) Gas
d) All the above

Explanation

Students, these changes are due to chemical reactions by contact in physical state. **Combination of reactants** in their **naturally occurring states (solids, liquids, gases)** is referred as physical contact.

9. Which of the following gas is required for burning of wood?

a) Hydrogen
b) Oxygen
c) Nitrogen
d) Carbon dioxide

Explanation

When **dry wood comes into contact with fire**, it **burns with the help of oxygen** to form carbon dioxide, which is given out as smoke.

10. Burning of matchstick is due to_____

a) Physical change
b) Chemical change
c) Either a or b
d) None

Explanation

When a **matchstick is rubbed on the sides of a matchbox**, a **chemical reaction takes place** to form heat, light and smoke.

11. Quick lime reacts with water to form_____

a) Sodium Hydroxide
b) Sodium chloride
c) Calcium Hydroxide
d) Calcium oxide

Explanation

When **quick lime (calcium oxide) comes in contact with water**, it forms slaked lime (**calcium hydroxide**).

12. The change in colour of milk due mixture of coffee powder is a_____

a) Physical change
b) Chemical change
c) Either a or b
d) None

Explanation

As your mother does, when **milk is mixed with coffee decoction the colour of milk and decoction changes due to chemical reaction**. Your mother adds enough sugar to make it tasty.

13. Which of the following chemical are contained in head of matchstick?

1) Potassium chlorate
2) Antimony tri sulphide
3) Red phosphorous

a) 1, 2
b) 1, 3
c) 2, 3
d) All the above

Explanation

The **head of a matchstick contains potassium chlorate and antimony tri sulphide**. The sides of the matchbox contain red phosphorous.

14. What happens when solid silver nitrate and sodium chloride mixed in a test tube?

a) White precipitate is formed
b) Red precipitate is formed
c) Bluish yellow precipitate is formed

d) No reaction takes place

Explanation

Take small amount of solid silver nitrate and sodium chloride in a test tube. No, the reactants in solid state have **no reactions**.

15. What happens when solution of Silver nitrate solution reacts with sodium chloride solution?

a) White precipitate is formed
b) Red precipitate is formed
c) Bluish yellow precipitate is formed
d) No reaction takes place

Explanation

Silver nitrate solution reacts with sodium chloride solution to form a **white precipitate of silver chloride and sodium nitrate solution**. From the above reaction, we infer that some chemical reactions proceed only in solution form not in solid form.

16. Which of the following presence in water makes it to liberate H_2 and O_2 when current is passed?

a) Sulphur dioxide
b) Sulphuric acid
c) Nitric acid
d) Nitrous acid

Explanation

As you know, water is made of hydrogen and oxygen molecules. When **electricity is passed through water containing small amounts of sulphuric acid, hydrogen and oxygen gases are liberated.**

17. Which of the following solution is called as BRINE?

a) Conc. Solution of NaCl
b) Conc. Solution of NaOH
c) Conc. HCl
d) Diluted HCl

Explanation

A **concentrated solution of sodium chloride called BRINE** is electrolysed to produce chlorine and hydrogen gases along with sodium hydroxide. This is a very important reaction to produce chlorine industrially.

18. Which of the following statement is incorrect?

1) Some chemical reactions proceed only by the passage of electricity
2) Such reactions are called as electrochemical reaction or electrolysis.
    a) 1 alone
    b) 2 alone
    c) 1, 2
    d) None

Explanation

We infer that some **chemical reactions proceed only by the passage of electricity**. Hence, such reactions are called as **electrochemical reaction or electrolysis.**

19. The term electrolysis was introduced by_____

a) Einstein
b) Newton
c) Faraday
d) Tesla

Explanation

The term **electrolysis** was **introduced by Michael Faraday** in the 19th century. Electrolysis is a combination of electron + lysis. Electron is related to electricity and lysis means decomposition.

20. Assertion(A): When enough heating is given some chemical reactions take place to convert the raw food (uncooked) items into cooked ones.

Reason(R): Some chemical reactions take place only in presence of heat

a) Both (A) and (R) are correct, but (R) does not explain (A)
b) Both (A) and (R) are wrong
c) Both (A) and (R) are correct and (R) explains (A)
d) (A) is Correct and (R) is wrong

Explanation

As you know food is very important for our survival and also many other living beings. Have you closely watched your mother cooks food for you? She boils rice, cooks vegetables, and prepares kuzhambu and rasam etc by heating them over stove. **When enough heating is given some chemical reactions take place to convert the raw food (uncooked) items into cooked ones**

21. What happens when lead nitrate is heated_____

a) Yellow coloured gas is liberated

b) Reddish brown gas is liberated
c) Reddish gas is liberated
d) Brownish blue gas is liberated

Explanation

Take small amount of **lead nitrate** in a dry test tube and heat it gently over a flame. Observe the changes closely. You will hear cracking sound and an evolution of **reddish-brown coloured gas** (nitrogen dioxide).

22. Which of the following is heated to get quicklime?

a) Sandstone
b) Limestone
c) Shale
d) All the above

Explanation

In industries **limestone rocks are heated to get quicklime** (calcium oxide). Hence, some of the chemical reactions can be achieved by the supply of heat only. These reactions are called thermo chemical reactions or thermolysis.

23. Which of the following can be obtained from limestone?

a) Quicklime
b) Slaked lime
c) Mortar
d) All the above

Explanation

Limestone is the raw material for quicklime, slaked lime, cement and mortar. Chemical reactions accompanying evolution of heat are called exothermic reactions whereas reactions involving absorption of heat are called endothermic reactions.

24. Which of the following statement is correct?

1) Sunlight is important not only for us but also for plants as well
2) All the human activities will be affected and there will be no food for us to survive.
    a) 1 alone
    b) 2 alone
    c) 1, 2
    d) None

Explanation

All the **human activities will be affected** and there will be no food for us to survive. Sunlight is important not only for us but also for plants as well. As you know **photosynthesis is a process in which light energy from the sun** is used by the plants to prepare starch from carbon dioxide and water.

25. Which of the following are reactants in photosynthesis?

1) Carbon dioxide
2) Oxygen
3) Water

a) 1, 2
b) 1, 3
c) 2, 3
d) All the above

Explanation

The **sunlight in uses the chemical reactions between caron dioxide and water, which finally ends up in the production of starch** (photo means light and synthesis means production). These chemical reactions in used by light are called as photochemical reactions.

26. O_3 is present in which layer of atmosphere?

a) Troposphere
b) Stratosphere
c) Thermosphere
d) Stratopause

Explanation

The **ultraviolet rays from the sun break Ozone (O3) molecules in the stratosphere** into oxygen and atomic oxygen. This atomic oxygen again combines with molecular oxygen to form Ozone.

27. Which branch of chemistry deals with chemical reactions involving light?

a) Thermochemistry
b) Photochemistry
c) Photo-volti
d) None

Explanation

Photochemistry is the branch of chemistry that **deals with chemical reactions involving light**. If there is no light, all the human activities will be affected and there will be no food for us to survive.

28. What is the reason for sour taste of idly batter?

a) Pasteurization
b) Fermentation
c) Mutation
d) All the above

Explanation

Have you ever questioned about why idly batter prepared by your mother turns into sour taste after few hours? The answer for your question is **fermentation**.

29. Which of the following is responsible for fermentation?

a) Yeast
b) Bacteria
c) Virus
d) Either a or b

Explanation

Fermentation is a chemical reaction in which a **substance is decomposed with the help of yeast or bacteria** to give simpler products.

30. Which of the following statement is incorrect?

1) In the case of yeasts, the enzymes released by the yeast makes the reaction faster
2) In industries some chemical substances are used to alter the speed of a chemical reaction called as inhibitors
    a) 1 alone
    b) 2 alone
    c) 1, 2
    d) None

Explanation

In the case of yeasts, the enzymes released by the yeast makes the reaction faster. Like this, in industries **some chemical substances are used to alter the speed of a chemical reaction**. These substances are called **catalysts**. Inhibitors slows down the reaction.

31. Which of the following is used in Haber's process as a catalyst?

a) Copper
b) Iron
c) Nickel
d) Bromide

Explanation

Metallic iron is used as **a catalyst in the manufacture of ammonia using Haber process**. This ammonia is the basic material for the production of urea, an important fertilizer in agriculture.

32. Which of the following is used as catalyst in Vanaspati ghee (dalda) preparation?

a) Finely divided Iron
b) Bromide
c) Finely divided Nickel
d) Finely divided Copper

Explanation

In **Vanaspati ghee** (dalda) preparation **finely divided nickel is used as a catalyst**. Thus, speed of the certain reactions is influenced by the catalysts and such reactions are called catalytic reactions.

33. Alcoholic beverages are produced by_____ process

a) Fermentation
b) Brominization
c) Pasteurization
d) None

Explanation

Alcoholic beverages like beer, wine etc are produced by **fermentation process** in industries. The beer making industries are called BREWERIES.

34. Which of the following are called as biocatalyst?

1) Enzymes
2) Iron
3) Yeast
    a) 1, 2
    b) 1, 3
    c) 3 alone
    d) All the above

Explanation

35. Which of the following statement is correct?

1) Chemical reaction requires a specific condition to occur.
2) When chemical reactions take place there will be production of heat, light, sound, pressure
    a) 1 alone
    b) 2 alone
    c) 1, 2
    d) None

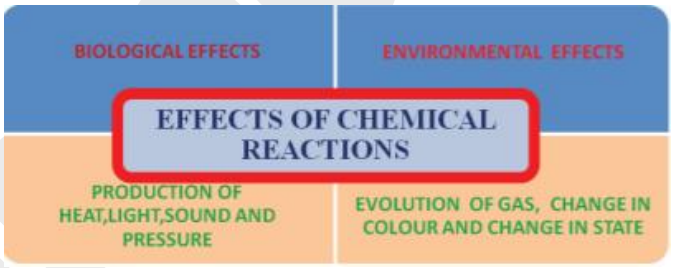
Explanation

We know that every chemical reaction requires a specific condition to occur. When chemical reactions take place there will be production of heat, light, sound, pressure etc. Let us discuss these effects elaborately.

36. Which of the following is a biological effect of chemical reaction?

a) Heat
b) Change in colour
c) Sound
d) Pressure

Explanation



37. Which of the following statement is correct?

1) Food spoilage may be defined as any change that causes food unfit for human consumption.
2) The chemical reactions catalyzed by the enzymes result in the degradation of food quality such as development of bad tastes.
    a) 1 alone
    b) 2 alone
    c) 1, 2
    d) None

Explanation

Food spoilage may be defined as any change that **causes food unfit for human consumption**. The chemical reactions catalyzed by the enzymes result in the degradation of food quality such as **development of bad tastes and odour, deterioration and loss of nutrients**.

38. Rotten eggs develop a bad smell due to formation of_____

a) Hydrogen gas
b) Hydrogen sulphide gas
c) Nitrous oxide gas
d) Carbon dioxide gas

Explanation

Rotten eggs develop a bad smell due to formation of hydrogen sulphide gas. Decaying of vegetables and fruits due to microbes.

39. Fishes and meat containing high levels of_____

a) Saturated fatty acids
b) Polyunsaturated fatty acids
c) Polysaturated fatty acids
d) Salinity

Explanation

Fishes and meat containing high levels of polyunsaturated fatty acids that undergo oxidation causes bad odour when exposed to air or light. This process is called Rancidity.

40. Cut piece of apple left from some time changes into____ in colour

a) Yellow
b) Brown
c) Orange
d) Green

Explanation

Apples and some fruits turn **brown** due to chemical reaction with oxygen in air. Th is chemical reaction is called browning.

41. Th e cells of apples, fruits and other vegetables contain an enzyme called_____

a) Polyphenol oxidase
b) Polyunsaturated fatty acid
c) Tyrosinase
d) Either a or c

Explanation

The **cells of apples, fruits and other vegetables contain an enzyme called polyphenol oxidase or tyrosinase** that when in contact with oxygen catalyses a biochemical reaction of plants' phenolic compounds to brown pigments known as melanin.

42. Which of the following statement is correct?

1) There is an unwanted change in physical, chemical and biological properties of the environment termed as pollution
2) The substances which cause these changes are called pollutants.
    a) 1 alone
    b) 2 alone
    c) 1, 2
    d) None

Explanation

Our environment provides air to breathe, water to drink and the land to produce food. Due to human activities like industries, increasing number of automobiles etc our environment is badly aff ected now-a-days. So, there is an **unwanted change in physical, chemical and biological properties of the environment**. This is termed as **pollution**. Th e substances which cause these changes are called **pollutants**.

43. Which of the following are the effects of Air pollution?

1) Acid rain
2) Decrease in quality of water
3) Global warming
    a) 1, 2
    b) 1, 3
    c) 2, 3
    d) All the above

Explanation

Air pollution	Carbon di oxide, Carbon monoxide, oxides of sulphur, oxides of nitrogen, Chlorofluorocarbons, methane etc	Acid rain, Global warming, respiratory problems etc.

44. Which of the following causes water pollution?

1) Detergents
2) Oil spills
3) Dyeing industries

a) 1, 2
b) 1, 3
c) 2, 3
d) All the above

Explanation

Water pollution	Waste water containing chemical substances (e.g dyeing industries), detergents, oil spillage etc	Decrease in quality of water, skin diseases etc

45. Which of the following causes land pollution?

1) Urea
2) Pesticides
3) Herbicides

a) 1, 2
b) 1, 3
c) 2, 3
d) All the above

Explanation

Land pollution	Fertilizers like urea, various pesticides, herbicides etc.	Spoilage of land, cancer, respiratory diseases etc.

46. What colour is developed on copper and bronze metals?

a) Blue
b) Green
c) Red
d) Pink

Explanation

Brass vessels which contain **copper as one of constituents develop a greenish layer** on exposure to air for a long time. This is due to a chemical reaction between copper and moist air to form basic copper carbonate and copper hydroxide.

47. Which of the following statement is incorrect?

1) Iron metal comes into contact with water and oxygen, it undergoes a chemical reaction called RUSTING
2) Shiny metal surfaces and other articles lose their shining appearance due to chemical reactions on the surface

a) 1 alone
b) 2 alone
c) 1, 2
d) None

Explanation

Shiny metal surfaces and other articles lose their shining appearance due to chemical reactions on the surface. Iron metal comes into contact with water and oxygen, it undergoes a chemical reaction called **RUSTING**.

48. Which of the following produce heat on reaction with water?

a) Quick lime
b) Slaked lime
c) Gypsum
d) Calamite

Explanation

Chemical reactions also produce heat energy. Such reactions are called EXOTHERMIC REACTIONS. For example, when you add water to **quicklime (Calcium oxide), lot of heat is released to produce slaked lime (Calcium hydroxide)**.

49. Which of the following gas burning produce heat and light?

a) Ethane
b) Methane
c) Nitrogen
d) Sulphur

Explanation

when a piece of magnesium ribbon is burnt in a flame, bright light is produced with heat. Even the fireworks during festival times produce different coloured lights which are all due to chemical reactions. Similarly, **when we ignite methane gas, it produces heat and light. So, we can say that light is produced during the chemical reactions**.

50. Which of the following metal produce sound when hit?

1. Iron
2. Graphite
3. Copper

a) 1, 2
b) 1, 3
c) 2, 3

d) All the above

Explanation

We produce sound when we speak. When you hit metals like iron, copper etc sound is heard. Some chemical reactions do produce sound when they take place. So, sound will be produced in certain chemical reactions.

51. Which of the following metal on reaction with Hydrogen gas produce sound?

1) Iron
2) Zinc
3) Magnesium

a) 1, 2
b) 1, 3
c) 2, 3
d) All the above

Explanation

When a metal like **zinc or magnesium reacts with diluted acids hydrogen gas is produced.** Since hydrogen gas is highly flammable it reacts with oxygen in air to produce POP sound.

52. Which of the following statement is correct?

1) Some chemical reactions produce gases which build up the pressure when the reaction takes place in a closed container
2) If the pressure level goes beyond the limit, we get the explosion.
3) Explosives, fireworks work on this basis

a) 1, 2
b) 1, 3
c) 2, 3
d) All the above

Explanation

Some chemical reactions produce gases which build up the pressure when the reaction takes place in a closed container. **If the pressure level goes beyond the limit, we get the explosion**. Explosives, **fireworks work on this basis**. When they are ignited, they explode due to pressure generated by gases from the chemical reactions. Thus, you hear a huge sound.

53. when dilute hydrochloric acid is added to a solution of sodium carbonate, _____ gas is evolved

a) Oxygen
b) Carbon dioxide

c) Carbon monoxide
d) Nitrogen

Explanation

You can see air bubbles coming out of soda water. Similarly, gas evolution may take place as a result of chemical reactions. For example, when **dilute hydrochloric acid is added to a solution of sodium carbonate or sodium bicarbonate carbon dioxide gas is evolved**.

54. When iron is placed in copper sulphate solution colour changes to?

a) Green
b) Blue
c) Yellow
d) Orange

Explanation

when you place a **iron nail in a solution of copper sulphate, the blue colour of copper sulphate** slowly **changes into green** due to chemical reaction between iron copper sulphate solution.

55. Which of the following solid directly convert into gas?

a) Camphor
b) Tomato
c) Phenopthalene
d) All the above

Explanation

when you burn a **piece of camphor, smoke comes out as result of chemical reaction** between solid camphor and oxygen. Here, there is a **change of state from solid to gas**.