

# Important General Science Ques. Asked in Recent Exams Conducted by TCS



1.  $ZnSO_4 \cdot 7H_2O$  is the chemical formula of which substance?

- A. Green Vitriol      B. White Vitriol  
C. Bleaching powder      D. Blue Vitriol

Ans. B  
Sol.

• **Zink Sulphate** has the formula  **$ZnSO_4 \cdot 7H_2O$** .

• It was historically known as "**white vitriol**".

• Vitriol is an archaic name for a sulfate.

• In medicine it is used together with oral rehydration therapy (ORT) and an astringent.

2. Brass is an alloy of \_\_\_\_\_.

- A. Zinc and Iron      B. Lead and Copper  
C. Iron and Lead      D. Copper and Zinc

Ans. D  
Sol.

\* Brass is an **alloy of copper and zinc**.

\* The proportions of the copper and zinc are varied to yield many different kinds of brass.

\* Basic modern brass is **67% copper and 33% zinc**.

\* It is also called a **homogeneous mixture**.

3. Which of the following is used as control rods in Atomic reactor?

- A. Sodium      B. Uranium  
C. Graphite      D. Boron

Ans. D  
Sol.

• Boron is used as control rods in Atomic reactors.

• Control rods are used in nuclear reactors to control the fission rate of uranium and plutonium.

• Boron, Silver, Indium and Cadmium are the control rods that are capable of absorbing many neutrons without themselves fissioning.

4. Which of the following is used for the preparation of dynamite?

- A. Methyl alcohol      B. Iron oxide  
C. Nitro Glycerol      D. Copper sulphate

Ans. C

Sol. Nitro Glycerol is used for the preparation of dynamite for explosion. Dynamite is mainly used in the mining,

quarrying, construction, and demolition industries.

Nitro Glycerol is a heavy, colorless, oily, explosive liquid most commonly produced by nitrating glycerol with white fuming nitric acid under conditions appropriate to the formation of the nitric acid ester.

5. Which of the following elements is not radio-active ?

- A. Radium      B. Plutonium  
C. Zirconium      D. Uranium

Ans. C  
Sol.

• Zirconium is a lustrous, grey-white, strong transition metal that resembles titanium.

• Zirconium is mainly used as a refractory and pacifier, although it is used in small amounts as an alloying agent for its strong resistance to corrosion.

6. The biological decomposition of organic substances in wastes under controlled conditions known as

- A. composting      B. incineration  
C. sanitary landfill      D. pyrolysis

Ans. A  
Sol.

• **Composting** is an aerobic method of decomposing organic solid wastes. It can therefore be used to recycle organic material.

• The process involves decomposition of organic material into a humus-like material, known as *compost*, which is a good fertilizer for plants.

7. Which of the following has least melting point?

- A. Carbon      B. Silver  
C. Mercury      D. Gold

Ans. C

Sol. Mercury has the least melting point from the given options. If we talk about the element which has the lowest melting point then answer will be Helium.

8. The first law of thermodynamics is related to conservation of which one of the following?

- A. Energy      B. Number of molecules  
C. Number of moles



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D. Temperature

Ans. A

Sol. There are four laws of thermodynamics which are mentioned below.

| Law of thermodynamics | Theory  |
|-----------------------|---|
| First law             | Conservation of Energy  |
| Second                | Entropy of an isolated system always increases.   |
| Third                 | The entropy of a perfect crystal is zero when the temperature of the crystal is equal to absolute zero 0 K.       |
| Fourth                | If two systems are in thermal equilibrium with the third system, they are in thermal equilibrium with each other. |

9. Which among the following is added to commercial nitric acid to make it coloured?

- A. Carbon dioxide    B. Sulphur dioxide  
C. Colored impurities    D. Nitrogen dioxide

Ans. D

Sol.

- Nitrogen dioxide is added to commercial nitric acid to make it colored.
- Nitrogen dioxide in reaction with water produces nitric acid. The nitrogen dioxide remains dissolved in the nitric acid coloring it yellow or even red at higher temperatures.

10. Which of the following has the highest penetrating power ?

- A.  $\alpha$ -ray                      B.  $\beta$ -ray  
C.  $\gamma$ -ray                      D.  $\delta$ -ray

Ans. C

Sol. The penetrating power is inversely related to size. Alpha particles, being the largest, penetrate the least. Gamma rays are the most penetrating of the radiations. They are highly energetic waves and are poor at ionizing other atoms molecules.

11. In Aqua Regia which two acids are mixed in ratio of 3 : 1?

- A. HCL and HNO<sub>3</sub>    B. Silver  
C. HNO<sub>3</sub> and H<sub>2</sub>CO<sub>3</sub>    D. HCL and H<sub>2</sub>CO<sub>3</sub>

Ans. A

Sol. Aqua Regia is a mixture of nitric acid and hydrochloric acid which is a yellow-orange fuming liquid. It can dissolve the noble metals gold and platinum, though not all metals. In Aqua Regia, HCL and HNO<sub>3</sub> are mixed in optically molar ratio of 3: 1. The chemical formula of Aqua Regia is HNO<sub>3</sub>+3 HCl.

12. Sodium bicarbonate is chemical name of which of the following?

- A. Baking Soda              B. Washing Powder  
C. Plaster                      D. Fly-Ash

Ans. A

Sol. Sodium bicarbonate is commonly known as baking soda. It's formula is NaHCO<sub>3</sub>. Sodium bicarbonate is a white solid that is crystalline but often appears as a fine powder.

13. What is the common name of CaOCl<sub>2</sub>?

- A. Washing Soda  
B. Bleaching Powder  
C. Baking Powder  
D. Baking Soda

Ans. B

Sol.

• **Bleaching Powder** is the common name of **CaOCl<sub>2</sub>**.

• It is a white solid, although commercial samples appear yellow. It strongly smells of chlorine, owing to its slow decomposition in moist air.

• It is not highly soluble in hard water and is more preferably used in soft to medium-hard water. It has two forms: dry (anhydrous); and hydrated (hydrous).

14. What is the chemical name of quick lime?

- A. Calcium carbonate  
B. Sodium hydroxide  
C. Calcium oxide  
D. Calcium sulphate

Ans. C

Sol.

• Calcium oxide (CaO), commonly known as quicklime or burnt lime, is a widely used chemical compound.

• It is a white, caustic, alkaline, crystalline solid at room temperature. The broadly used term lime connotes calcium-containing inorganic materials, in which carbonates, oxides and hydroxides of calcium, silicon, magnesium, aluminium, and iron predominate.

• By contrast, quicklime specifically applies to the single chemical compound calcium oxide. Calcium oxide that survives processing without reacting in



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building products such as cement is called free lime.

15. Who discovered electromagnetism?

- A. Hans Christian Oersted
- B. Andrey Ampere
- C. James Clerk
- D. Michael Faraday

Ans. A

Sol.

- **Hans Christian Oersted** a Danish physicist and chemist.
- He discovered that electric currents create magnetic fields, which was the **first connection found between electricity and magnetism.**
- The centimetre-gram-second system (CGS) unit of magnetic induction (oersted) is named for his contributions to the field of electromagnetism.

16. Which of the following elements has the highest electrical conductivity?

- A. Copper
- B. Silver
- C. Zinc
- D. Lead

Ans. B

Sol. Silver has the highest electrical conductivity because it contains higher number of movable electrons.

17. \_\_\_\_\_ are used for communication in artificial satellites

- A. Infrared waves
- B. Radio waves
- C. Ultraviolet (UV) rays
- D. Amplitude Modulation (A.M.) waves

Ans. B

Sol.

- Radio waves and microwaves both are used for communication in artificial satellites. Radio waves are used for transmit television programmes while microwaves are used for mobile and wi-fi.
- Note: In question, only radio waves is given in the option. So, option B is the correct answer.

18. The dynamo converts

- A. mechanical energy into electrical energy
- B. electrical energy into mechanical energy

C. mechanical energy into magnetic energy

D. magnetic energy into mechanical energy

Ans. A

Sol. The dynamo converts mechanical energy into electrical energy.

19. According to the law of reflection:

A. Angle of incidence is greater than angle of reflection

B. Angle of incidence is smaller than angle of reflection

C. Angle of incidence is always equal to angle of reflection

D. Both angles are always unequal

Ans. C

Sol. Reflection is the change in direction of a wavefront at an interface between two different media so that the wavefront returns into the medium from which it originated. Common examples include the reflection of light, sound and water waves.

The law of reflection states that the incident ray, the reflected ray, and the normal to the surface of the mirror all lie in the same plane. Furthermore, the angle of reflection is equal to the angle of incidence.

20. Law of Inertia is also known as \_\_\_\_\_.

- A. Newton's first law of motion
- B. Newton's second law of motion
- C. Newton's third law of motion
- D. None of these

Ans. A

Sol.

• **Newton's first law of motion** is also known as Law of Inertia.

• It states that an object at rest stays at rest and an object in motion stays in motion with the same speed and in the same direction unless acted upon by an external force.

21. Which scientist gave 'laws of motion'?

- A. Galileo
- B. Newton
- C. Einstein
- D. Boyle

Ans. B

Sol. The three **laws of motion** were first compiled by Isaac Newton in his



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Philosophiæ Naturalis Principia Mathematica (Mathematical Principles of Natural Philosophy), first published in **1687**.

• **The first law of motion:** It states that an object either remains at rest or continues to move at a constant velocity unless acted upon by a force.

• **The second law of motion:** It states that the relationship between an object's mass  $m$ , its acceleration  $a$ , and the applied force  $F$  is  $F = ma$ .

• **Third law of motion:** It states that for every action there is an equal and opposite reaction.

22. The waves used in radar systems are \_\_\_\_\_ waves.

- A. Ultraviolet                      B. Infrared  
C. Micro                                D. Radio

Ans. C

Sol.

a) **Radio waves** are used in Radar systems and Full form of **RADAR** is **Radio Detection And Ranging**.

b) It is a type of a detection system that uses radio waves to determine the range, angle, or velocity of objects.

c) Some other uses of radio waves are broadcasting and television, navigation and air-traffic control and even in remote-controlled toys.

23. What is the chemical name of slaked lime?

- A. Calcium Nitrate  
B. Sodium Chloride  
C. Calcium Oxide  
D. Calcium hydroxide

Ans. D

Sol.

• **Calcium hydroxide** is also called **slaked lime** and the chemical formula **Ca(OH)<sub>2</sub>**.

• It is a colorless crystal or white powder and produced when quicklime is mixed, or slaked with water.

24. The thin layer of living cells just inside the bark of a tree is called \_\_\_\_\_

- A. Pith                                      B. Crown  
C. Xylem                                  D. Cambium

Ans. D

Sol.

a) The thin layer of living cells just inside the bark of a tree is called Cambium.

b) It is a tissue layer that provides partially undifferentiated cells for plant growth and it is found between phloem and xylem.

c) It is also responsible for secondary growth of stems and roots.

25. Tears in the eyes are produced by which of the following glands?

- A. Lacrimal gland  
B. Thyroid gland  
C. Pituitary gland  
D. Hypothalamus gland

Ans. A

Sol.

a) Tears in the eyes are produced by **Lacrimal gland**.

b) These glands are almond-shaped exocrine glands and present in both eyes.

c) Tears contain a complex and clear fluid that is diffused between the eye and the eyelid.

26. Somatotropin is another name for \_\_\_\_\_.

- A. Digestive juice                      B. Laughing gas  
C. Tear gas                                D. Growth hormone

Ans. D

Sol.

• **Somatotropin is also known as Growth Hormone**.

• It is a peptide hormone that stimulates growth, cell reproduction, and cell regeneration in humans and other animals.

27. Which is the largest bone in the human body?

- A. Femur                                      B. Incus  
C. Malleus                                  D. Stapes

Ans. A

Sol.

• **The femur is the largest bone in the human body**.

• It is also the strongest bone in the body.

• The femur is classified structurally as a long bone and is a major component of the appendicular skeleton.



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- All the body's weight is supported by the femurs during many activities, such as running, jumping, walking, and standing.

28. The Bacille Calmette-Guerin vaccine (popularly called BCG vaccine) is a vaccine to prevent which of these diseases?

- A. Jaundice
- B. Typhoid
- C. Tuberculosis
- D. Polio

Ans. C

Sol.

- The Bacille Calmette-Guerin vaccine (popularly called BCG vaccine) is a vaccine to prevent **Tuberculosis**.

- Tuberculosis is caused by bacteria, *Mycobacterium tuberculosis*, that most often affect the lungs. Tuberculosis is **curable and preventable**.

- The current government is committed to ending TB in India by 2025 under National Strategic Plan (NSP) for TB Elimination.

29. \_\_\_\_\_ is the primary acid present in ripe bananas.

- A. Formic Acid
- B. Sulphuric Acid
- C. Malic Acid
- D. Hydrochloric Acid

Ans. C

Sol.

- **Malic acid is the main principal acid present in the ripe banana.**

- Citric and Oxalic acids are also present in the ripe banana.

- Malic acid is a tart-tasting organic dicarboxylic acid that plays a role in many sour or tart foods.

- It is an organic compound with the molecular formula  $C_4H_6O_5$ .

30. Rhodopsin which is also called visual purple, is located in which part of the human body?

- A. Hair
- B. Hand
- C. Nail
- D. Eye

Ans. D

Sol.

- \* **Rhodopsin** is the visual pigment of the rod photoreceptor cell in the vertebrate **retina** that has an integral membrane protein.

- \* Two general types of photoreceptor cells exist in the vertebrate retina and are named according to their characteristic shapes: **rods and cones**.

- \* Rod cells are responsible for scotopic or dim-light vision, whereas cone cells are responsible for photopic or bright-light and color vision in vertebrates.

31. Binomial Nomenclature was founded by\_\_\_\_\_.

- A. Charles Darwin
- B. Robert Nucleus
- C. Carl Linnaeus
- D. Lamarck

Ans. C

Sol.

- Binomial nomenclature, introduced by Carolus Linnaeus also known as Carl Linnaeus is the method of naming an organism with the genus name first and species name later.

32. The terms systolic and diastolic are used in the context of \_\_\_\_\_

- A. Detecting problems in eye sight
- B. Counting blood platelets
- C. Measuring blood pressure
- D. Finding blood vessels

Ans. C

Sol.

- The terms systolic and diastolic are used in the context of measuring blood pressure.**

- \* Blood pressure is measured using two numbers. For ex. "120/80 mmHg."

- \* The first number is called systolic blood pressure which measures the pressure in your blood vessels when your heart beats.

- \* The second number is called diastolic blood pressure which measures the pressure in your blood vessels when your heart rests between beats.

33. Which of the following metals has an ore named 'Galena'?

- A. Nickel
- B. Copper
- C. Iron
- D. Lead

Ans. D

Sol.

- **Galena** is the main ore of **lead**.

- It is used since ancient times.

- It typically forms in low-temperature sedimentary deposits.



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- Galena is the natural mineral form of lead(II) sulfide (PbS).
- It is the most important ore of lead and an important source of silver

34. Who discovered benzene?

- A. Hal Anger                      B. Michael Faraday  
C. Bruce Ames                    D. Nicolas Appert

Ans. B

Sol.

• **Benzene** is an organic chemical compound with the chemical formula  $C_6H_6$ .

• It is a natural constituent of crude oil and is one of the elementary petrochemicals.

• Benzene was first **discovered by the English scientist Michael Faraday** in 1825 in illuminating gas.

35. Which among the following is false about acids?

- A. They give  $H^+$  ions in aqueous solution  
B. Most acids contain hydrogen  
C. They turn blue litmus red  
D. They are bad conductor of electricity in aqueous solution

Ans. D

Sol. An acid which strongly conducts electricity contains a large number of ions and is called a strong acid. Acids in aqueous solutions will conduct electricity because they contain dissolved ions. Thus, acids are good conductor of electricity in aqueous solution. So, Option D is false about acids amongst above given options.

36. Bauxite is an ore/mineral of?

- A. Aluminium                    B. Beryllium  
C. Lead                            D. Tin

Ans. A

Sol.

• Bauxite ore is the world's primary source of aluminum.

• The ore must first be chemically processed to produce alumina (aluminum oxide)

• Alumina is then smelted using an electrolysis process to produce pure aluminum metal

37. \_\_\_\_\_ fiber is used in making bulletproof vests.

- A. Nylon-66                      B. Terylene  
C. Kevlar                            D. Lexan

Ans. C

Sol. Kevlar fibre is used in making bullet proof vests. Bulletproof vests are light armor made up of Kevlar and designed to protect the human's vital organs from injury caused by firearm projectiles. Kevlar is a type of plastic having a high tensile strength and molecules aligned parallel to each other and tightly bound, making the material bulletproof.

38. Which junction connects the small intestine and the large intestine?

- A. Ileocecal valve                B. Mitral valve  
C. Aortic valve                    D. Pulmonary valve

Ans. A

Sol.

• **The ileocecal valve is a muscle valve that connects the small intestine and the large intestine.**

• It is located between the ileum, the last portion of the small intestine, and the cecum, the first portion of the large intestine.

• Its function is to allow digested food to pass from the small intestine into the large intestine. Approximately two liters of fluid enters the colon daily through this valve.

• The ileocecal valve is distinctive because it is the only site in the gastrointestinal tract that is used for vitamin  $B_{12}$  and bile acid absorption.

39. Which one of the following does not contain silver?

- A. Horn silver                    B. German silver  
C. Ruby silver                    D. Lunar caustic

Ans. B

Sol. Except German silver, all alloys given in question contain silver. There are some important alloys and their components are given below:

(i) Horn silver It is also called silver chloride ( $AgCl$ ). Its components are Ag and Cl.

(ii) German silver Cu-50%,Zn-35%,Ni-15%.

(iii) Ruby silver It is also called red silver.



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(iv) Lunar caustic It is also called silver nitrate ( $\text{AgNO}_3$ ).

40. What is the covering of roots of the tooth called?

- A. Enamel
- B. Periodontal Ligament
- C. Larynx
- D. Cementum

Ans. D

Sol.

- The enamel, which is the shell that covers the visible part of the tooth.
- The cementum, which covers the roots. the dentin, a bone-like substance which makes up most of the tooth. The pulp and pulp cavity, which contains the blood vessels.

41. Plants reproducing by spores such as mosses and ferns are grouped under the general term \_\_\_\_\_.

- A. Bryophytes
- B. Cycads
- C. Sporophytes
- D. Cryptogams

Ans. D

Sol.

- The word cryptogam came from the Greek word cryptos - hidden and gamos - marriage.
- Cryptogamae is the sub-kingdom of the Kingdom Plantae which includes plants which do not flower in their life time.
- Plant body is not well differentiated into stem, leaves etc. Reproductive organs are hidden.
- These are less evolved plants and these plants do not bear seeds. Cryptogams can reproduce through spores.
- Cryptogams are further divided into three groups: Thallophyta, Bryophyta and Pteridophyta. Mosses, Ferns, Liverworts are few examples of cryptogams.

42. The lightning and thunder are the characteristic features of

- A. Troposphere
- B. Stratosphere
- C. Mesosphere
- D. Ionosphere

Ans. A

Sol. The troposphere is the lowest layer of Earth's atmosphere. The troposphere starts at Earth's surface and goes up to a height of 7 to 20 km (4 to 12 miles, or 23,000 to 65,000 feet) above sea level. Most of the mass (about 75-80%) of the

atmosphere is in the troposphere. Almost all weather occurs within this layer.

43. **Directions:** Answer the following questions by selecting the **most appropriate** option.

Lightning is seen before thunder is heard.

It is due to

- A. thundering effect is minimized by the action of lightning
- B. speed of light in air is more than that of sound
- C. electric discharge is more in clouds
- D. None of these

Ans. B

Sol. The speed of light is much faster than the speed of sound. Sound moves at 343 meters per second (that is about 770 miles per hour). The speed of light is a little trickier. In a vacuum, it is roughly 300 000 000 meters per second (so nearly 900 000 times faster than sound). This is the reason lightning is seen before thunder is heard.

44. Ruby and sapphire are oxides of \_\_\_\_\_.

- A. Copper
- B. Tin
- C. Iron
- D. Aluminium

Ans. D

Sol.

- Ruby and sapphire are the identical mineral species. Both are the mineral species corundum, which is **aluminium oxide** in a specific trigonal crystal form.
- It is this combination of the aluminum oxide and the specific crystal form that imparts the durability and outstanding optical properties of corundum.

45. Which disease is caused by the deficiency of Vitamin D?

- A. Anemia
- B. beriberi
- C. Rickets
- D. night-blindness

Ans. C

Sol.

Rickets is a skeletal disorder leading to weak and soft bones or stunted growth. It is caused by the deficiency of Vitamin D in the body.

Therefore, C is the correct option.



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46. The work done by the string of a simple pendulum during one complete oscillation is equal to\_\_\_\_\_

- A. Total energy of the pendulum
- B. Kinetic energy of the pendulum
- C. Potential energy of the pendulum
- D. Zero

Ans. D

Sol.

• Work done by the string of the simple pendulum during one complete oscillation is zero.

• Tension in the string exactly cancels the component parallel to the string. This leaves a net restoring force back toward the equilibrium position as equal to zero.

47. The blood vessel that carries the deoxygenated blood from the heart to lungs is called

- A. Pulmonary vein
- B. Pulmonary artery
- C. Capillaries
- D. None of these

Ans. B

Sol.

Arteries carry the oxygen rich blood from our heart to the various parts of the body. Pulmonary artery is the exception because it carries the deoxygenated blood (carbon dioxide rich blood) from the heart to lungs.

48. Which of these is the male part of a flower?

- A. Sepals
- B. Petals
- C. Stamens
- D. Pistil

Ans. C

Sol.

The **stamen** is a male reproductive organ of a flower. It produces the pollen. The stamen has two parts: anther and stalk. The stalk is also called a filament.



Fig. 7.23 Parts of a stamen

49. The part of a leaf by which it is attached to the stem is called \_\_\_\_\_

- A. Lamina
- B. Petiole
- C. Veins
- D. Reticulate

Ans. B

Sol.

• The part of a leaf by which it is attached to the stem is called **petiole**.

• The broad, green part of the leaf is called **lamina**.

• The lines on the leaf are called **veins**.

50. Radio waves, microwaves, infra-red spectrum, ultraviolet rays, X-rays and gamma rays are classified as\_\_\_\_\_.

- A. light waves
- B. electromagnetic waves
- C. electric waves
- D. magnetic waves

Ans. B

Sol. **Electromagnetic radiation** is the radiant energy released by certain electromagnetic processes. It consists of **electromagnetic waves** which are synchronized **oscillations** of electric and magnetic fields that propagate at the **speed of light** through a vacuum.

51. Which of the following instruments measures infra-red radiation?

- A. Phonograph
- B. Pyrheliometer
- C. Cathetometer
- D. Bolometer

Ans. D

Sol.

• **A bolometer** is a device for measuring the power of incident electromagnetic radiation via the heating of a material with a temperature-dependent electrical resistance.

• It was invented in **1878** by the **American astronomer Samuel Pierpont Langley**.

52. On venus planet, yellowish clouds are present due to presence of which chemical

- A.  $H_2SO_4$
- B.  $CH_3COOH$
- C.  $CaOCl_2$
- D.  $HCOOH$

Ans. A

Sol. Yellow clouds on venus is present due to sulphuric acid ( $H_2SO_4$ ). The clouds of Venus, according to the astronomers consists of large amounts of dust, crystals of frozen carbon dioxide and poisonous sulfur-containing gases (sulphuric acid).



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53. Due to water scarcity, which hormones cause formation of concentrated urine?

- A. Adrenaline B. Antidiuretic hormone  
C. Thyroxine D. Oxytocine

Ans. B

Sol.

- Antidiuretic hormone is a hormone that helps our kidneys manage the amount of water in our body.
- It's a hormone made by the hypothalamus in the brain and stored in the posterior pituitary gland.
- It tells our kidneys how much water to conserve.
- Due to water scarcity antidiuretic hormone cause formation of concentrated urine.

54. Water gas is the mixture of

- A. carbon dioxide and hydrogen  
B. carbon monoxide and nitrogen  
C. carbon monoxide and hydrogen  
D. carbon dioxide and nitrogen

Ans. C

Sol. Water gas is a synthetic gas, containing carbon monoxide and hydrogen. It is a useful product but requires careful handling due to its flammability and the risk of carbon monoxide poisoning.

55. Which of the following is aldehyde?

- A. Propine B. Propanone  
C. Propenal D. Propanol

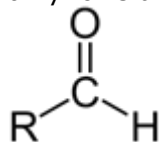
Ans. C

Sol.

\* **Propenal is an aldehyde.**

\* The name of aldehyde groups is generally ends with 'al'.

\* An aldehyde is a compound containing a functional group with the structure -CHO, consisting of a carbonyl center (a carbon double-bonded to oxygen) with the carbon atom also bonded to hydrogen and to an R group, which is any generic alkyl or side chain. Such as



56. Which one of the following elements is a metalloid?

- A. Tin B. Silicon  
C. Phosphorus D. Bismuth

Ans. B

Sol.

\* A metalloid is a chemical element that exhibits some properties of metals and some of non metals.

\* **Boron, silicon, germanium, arsenic, antimony, tellurium, and polonium are metalloids.**

\* Metalloids tend to be semiconductors and silicon is the best known example of a semiconductor.

\* Most microchips and microprocessors are made with silicon.

57. Pulmonary Artery carries \_\_\_\_\_.

- A. Oxygenated blood from lungs  
B. Deoxygenated blood from lungs  
C. Oxygenated blood to lungs  
D. Deoxygenated blood to lungs

Ans. D

Sol.

• A pulmonary artery is an artery that **carries deoxygenated blood** to the lungs.

• The largest pulmonary artery is the main pulmonary artery from the heart.

• The smallest ones are the arterioles, which lead to the capillaries that surround the pulmonary alveoli.

58. Which of the following gases reduces the oxygen carrying capacity of the blood?

- A. Nitric oxide B. Nitrous oxide  
C. Carbon monoxide D. Carbon dioxide

Ans. C

Sol.

• **Carbon Monoxide is also known as Silent Killer.**

• It reacts with blood multiple times faster than oxygen to form a stable product carboxyhaemoglobin. Hence reducing the oxygen carrying capacity of blood.

59. Small Pox is caused by which virus?

- A. Varicella zoster virus  
B. Avian virus C. Ebola virus  
D. Variola Virus



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Ans. D  
Sol.

- **Small pox is caused by two variola virus**- Major Variola and Minor Variola.
- It is a viral disease.
- World Health Organization (WHO) certified the global eradication of the disease in 1980.
- Vaccination for small pox is discovered by Edward Jenner in 1798.

60. On which law, a hydraulic press is based?

- A. Stoke's Law                      B. Dalton's Law  
C. Newton's Law                    D. Pascal's Law

Ans. D  
Sol.

- \* The principle behind a hydraulic press is **Pascal's principle**.
- \* It states that the pressure throughout a closed system is constant.
- \* This pressure is applied with an equal force on equal areas and at right angles to the container wall.

61. The process of change from liquid to gas is called \_\_\_\_\_.

- A. Vaporization                    B. Decantation  
C. Condensation                    D. Precipitation

Ans. A  
Sol.

- **Vaporization** is the process in which element is converted from a liquid or a solid to a gas.
- **Decantation** is a process for the separation of mixtures of immiscible liquids.
- **Condensation** is a process of the conversion of a vapour or gas to a liquid.
- **Precipitation** is the creation of a solid from a solution.

62. Which part of brain controls the maintenance of posture, balance and equilibrium?

- A. Brainstem                        B. Diencephalon  
C. Cerebrum                         D. Cerebellum

Ans. D  
Sol.

- The **cerebellum** is at the back of the brain, below the cerebrum.
- It's a lot smaller than the cerebrum.
- It is a very important part of the brain.

- Its function is to coordinate voluntary muscle movements and to maintain posture balance, and equilibrium.

63. Natural magnet is also called \_\_\_\_\_.

- A. Lodestone                        B. Magnetite  
C. Magnesia                         D. Ferromagnet

Ans. A  
Sol.

• **Natural magnet is also called Lodestone.**

- A lodestone is a naturally magnetized piece of the mineral magnetite.
- Lodestone a permanent magnet mineral.

64. TV remote controls work on the principle of \_\_\_\_\_.

- A. Ultrasonic waves  
B. Laser technology  
C. Bluetooth technology  
D. Infrared waves

Ans. D  
Sol.

• TV remote control works on the principle of **Infrared Technology**.

- The IR LED is connected to end of the circuit board and emits infrared light which is sensed by the sensor placed at the receiver of the TV.
- The receiver at the TV end generally consists of a TSOP receiver, which receives the IR signal at 38 KHz.

65. Which of following is used to focus light inside the ears, mouth and throat?

- A. Plane Mirror                    B. Convex Mirror  
C. Concave Mirror                D. Concave lens

Ans. C  
Sol.

• **Concave mirror** is used by the doctors to examine ear,nose and throat .

- It is used because **it can concentrate light** coming from a lamp on to the body part of a patient.
- Concave mirror is used because it magnifies every minute part.

66. Who had proposed the model of an atom?

- A. Dalton                              B. Rutherford  
C. J.J. Thomson                    D. Neils Bohr

Ans. D



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Sol.

- In 1913, Neils Bohr proposed model of an atom.
- He proposed that electrons are arranged in concentric circular orbits around the nucleus.
- This model is patterned on the solar system and is known as the planetary model.

67. Which gas is known as Marsh gas?

- A. Butane
- B. Propane
- C. Ethane
- D. Methane

Ans. D

Sol.

\* Marsh gas is a **mixture of methane, hydrogen sulfide, and carbon dioxide** produced naturally within some geographical [marshes](#), [swamps](#), and [bogs](#).

\* The surface prevents [oxygen](#) from reaching the organic material trapped below and due to [anaerobic digestion](#) and [fermentation](#) of any [plant](#) or [animal](#) material, methane is produced.

68. What is transfer of information through RNA to DNA called?

- A. Transduction
- B. Transcription
- C. Reverse Translation
- D. Reverse transcription

Ans. D

Sol.

- The transfer of information from DNA to RNA is called **transcription**.
- During the process of transcription, the information stored in a gene's DNA is transferred to a similar molecule called RNA (ribonucleic acid) in the cell nucleus.
- Whereas the transfer of information from RNA to DNA is called **Reverse transcription**.

69. Islets of Langerhans are part of which organ?

- A. Liver
- B. Gall bladder
- C. Pancreas
- D. Intestine

Ans. C

Sol.

\* Islets of Langerhans are part of **Pancreas**.

\* They are the regions of the pancreas that contain its hormone-producing cells.

\* They are named after physician Paul Langerhans, who first described them in 1869.

70. Vitamin containing metal atom is\_\_\_\_\_.

- A. Vitamin C
- B. Vitamin B<sub>6</sub>
- C. Vitamin B<sub>12</sub>
- D. Vitamin A

Ans. C

Sol. Vitamin B<sub>12</sub> is the only, metal containing vitamin. It is also a Water-soluble vitamin that is stored in the liver and must come from the diet. It has a key role in the normal functioning of the brain and nervous system, and the formation of red blood cells. It is one of eight B vitamins.

71. Niacin is the chemical name of which Vitamin?

- A. Vitamin B2
- B. Vitamin K
- C. Vitamin B3
- D. Vitamin C

Ans. C

Sol.

• The chemical name of Vitamin B3 is **Niacin**.

• It is a **water soluble** vitamin.

• Niacin is also known as **nicotinic acid**.

• It is an organic compound and a form of **vitamin B3**.

• It is an essential human nutrient.

• It belongs to the group of the **pyridine carboxylic acid**.

• Whereas of Vitamin K is **Phyllo Quinone**, Vitamin B2 is **Riboflavin** and Vitamin C is **Ascorbic acid**.

72. Haber Process is used for production of which of following?

- A. Sulphur dioxide
- B. Ammonia
- C. Nitrous Oxide
- D. Hydrogen Chloride

Ans. B

Sol.

\* Haber process is an industrial process **to produce ammonia** from nitrogen and hydrogen.

\* It uses iron as catalyst at high temperature, it is a reversible reaction and production of ammonia is exothermic.



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73. When iron rusts, its weight .....
- A. decreases
  - B. increases
  - C. remains the same
  - D. first increases and then decreases

Ans. B

Sol. Corrosion or rusting is the deterioration of a **metal**. When the **metal** corrode, an oxide will form on the surface exposed to the corrosive medium (water, air). The **weight** of iron rust increases, due to the increased **weight** of oxygen which has combined with the **iron**.

**For example:** iron + oxygen  $Fe_2O_3$  or  $Fe_3O_4$  that **weight** more than Fe.

**Note:** The oxides are not so adherent to the metal surface and so maybe at first there is an increase in weight but the final result is a loss of metal and weight.

74. Which of following is used in making unbreakable crockery?

- A. Melamine
- B. Bakelite
- C. PVC
- D. Isoprene

Ans. A

Sol.

- **Melamine** is used in making unbreakable crockery.
- It is a thermosetting polymer.
- It is also used in the production of laminates, glues, adhesives, moulding compounds, coatings and flame retardants.

**Other Options:**

PVC is a polymer of Vinyl chloride used in building and construction, health care, electronics, automobile materials.

Isoprene is monomer of natural rubber.

Bakelite was the first plastic made from synthetic components.

75. Which of these metals can be cut with a knife?

- A. Sodium and Potassium
- B. Sodium and Mercury
- C. Calcium and Potassium
- D. None of the above

Ans. A

Sol.

- **Sodium and Potassium** are soft metals, they can be easily cut with a knife.

- It is due to the presence of weak metallic bonding of these alkali metals.
- In these, potassium is more reactive than sodium.

76. Sodium tetraborate decahydrate is the Chemical name of

- A. Sodium Sulphate
- B. Calcium sulphate hemihydrates
- C. Potassium Nitrate
- D. Borex

Ans. D

Sol. Borex

- Borax, also known as sodium borate, sodium tetra borate, or disodium tetra borate

- It is used to make buffer solutions in biochemistry, as a fire retardant, as an anti-fungal compound, in the manufacture of fiberglass.

- Borax is generally described as  $Na_2B_4O_7 \cdot 10H_2O$ .

- By the repeated evaporation of seasonal lakes, borax occurs naturally

77. The head of the matchstick contains \_\_\_\_\_ and small amount of \_\_\_\_\_?

- A. Antimony trisulphide, potassium chlorate
- B. Antimony trisulphide, red phosphorus
- C. Potassium chlorate, red phosphorus
- D. Potassium chlorate, antimony trisulphide

Ans. A

Sol. The head of the safety matchstick contains antimony trisulphide and the small amount of potassium chlorate. The ignition temperature of antimony trisulphide is higher than room temperature and hence it does not burn by itself. The rubbing surface of matchbox has little red phosphorus.

78. Pulmonary Artery carries \_\_\_\_\_.

- A. Oxygenated blood from lungs
- B. Deoxygenated blood from lungs
- C. Oxygenated blood to lungs
- D. Deoxygenated blood to lungs

Ans. D

Sol.

- A pulmonary artery is an artery that **carries deoxygenated blood** to the lungs.



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- The largest pulmonary artery is the main pulmonary artery from the heart.
- The smallest ones are the arterioles, which lead to the capillaries that surround the pulmonary alveoli.

79. Which one of the following elements is a metalloid?

- A. Tin                                      B. Silicon  
C. Phosphorus                            D. Bismuth

Ans. B

Sol.

\* A metalloid is a chemical element that exhibits some properties of metals and some of non metals.

\* **Boron, silicon, germanium, arsenic, antimony, tellurium, and polonium are metalloids.**

\* Metalloids tend to be semiconductors and silicon is the best known example of a semiconductor.

\* Most microchips and microprocessors are made with silicon.

80. Water gas is the mixture of

- A. carbon dioxide and hydrogen  
B. carbon monoxide and nitrogen  
C. carbon monoxide and hydrogen  
D. carbon dioxide and nitrogen

Ans. C

Sol. Water gas is a synthetic gas, containing carbon monoxide and hydrogen. It is a useful product but requires careful handling due to its flammability and the risk of carbon monoxide poisoning.

81. Water gas is the mixture of

- A. carbon dioxide and hydrogen  
B. carbon monoxide and nitrogen  
C. carbon monoxide and hydrogen  
D. carbon dioxide and nitrogen

Ans. C

Sol. Water gas is a synthetic gas, containing carbon monoxide and hydrogen. It is a useful product but requires careful handling due to its flammability and the risk of carbon monoxide poisoning.

82. Which is the only one example of Mollusca Phylum?

- A. Locust                                      B. Butterfly

C. Scorpion

D. Octopus

Ans. D

Sol. The octopus is a soft-bodied, eight-armed Mollusca of the order Octopoda. The octopus is bilaterally symmetric with two eyes and a beak, with its mouth at the centre point of the arms. The soft body can rapidly alter its shape, enabling octopuses to squeeze through small gaps. They trail their eight arms behind them as they swim. The siphon is used both for respiration and for locomotion, by expelling a jet of water. Octopuses have a complex nervous system and excellent sight, and are among the most intelligent and behaviourally diverse of all invertebrates.

83. Which of following is known as white vitriol?

- A. Sulphuric acid                          B. Ferrous Sulphate  
C. Zinc Sulphate                          D. Copper Sulphate

Ans. C

Sol. Zinc Sulfate is a white crystalline, water-soluble compound. The hydrated form, zinc sulfate heptahydrate known as "white vitriol" and can be prepared by reacting zinc with aqueous sulfuric acid.

It is used in:-

- \* Making lithopone
- \* As a mordant in dyeing
- \* As a preservative for skins and leather
- \* In medicine as an astringent and emetic.

84. What is the common name of Sodium Bicarbonate?

- A. Baking Soda                              B. Washing Powder  
C. Plaster of Paris                          D. Fly Ash

Ans. A

Sol. Baking Soda is the common name of Sodium Bicarbonate with its chemical formula  $\text{NaHCO}_3$ . It is a crystalline white solid that is salty and alkaline. It is used for cooking purpose, pest control and as the fire extinguisher.

85. Which is the only one example of Mollusca Phylum?

- A. Locust                                      B. Butterfly  
C. Scorpion                                      D. Octopus

Ans. D



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Sol. The octopus is a soft-bodied, eight-armed Mollusca of the order Octopoda. The octopus is bilaterally symmetric with two eyes and a beak, with its mouth at the centre point of the arms. The soft body can rapidly alter its shape, enabling octopuses to squeeze through small gaps. They trail their eight arms behind them as they swim. The siphon is used both for respiration and for locomotion, by expelling a jet of water. Octopuses have a complex nervous system and excellent sight, and are among the most intelligent and behaviourally diverse of all invertebrates.

86. Which of following is known as white vitriol?

- A. Sulphuric acid      B. Ferrous Sulphate  
C. Zinc Sulphate      D. Copper Sulphate

Ans. C

Sol. Zinc Sulfate is a white crystalline, water-soluble compound. The hydrated form, zinc sulfate heptahydrate known as "white vitriol" and can be prepared by reacting zinc with aqueous sulfuric acid.

It is used in:-

- \* Making lithopone
- \* As a mordant in dyeing
- \* As a preservative for skins and leather

\* In medicine as an astringent and emetic.

87. What is the common name of Sodium Bicarbonate?

- A. Baking Soda      B. Washing Powder  
C. Plaster of Paris      D. Fly Ash

Ans. A

Sol. Baking Soda is the common name of Sodium Bicarbonate with its chemical formula  $\text{NaHCO}_3$ . It is a crystalline white solid that is salty and alkaline. It is used for cooking purpose, pest control and as the fire extinguisher.

88. How many pairs of ribs are there in human body?

- A. 13      B. 11  
C. 12      D. 14

Ans. C

Sol.

• There are **12 pair of ribs** in human body.

• Ribs are long curved bones located in thorax surrounding the chest, enabling the lungs to expand and thus facilitate breathing.

• They serve to protect the lungs, heart, and other internal organs of the thorax.



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