

50+ Important Science Questions

1.Excess amount of absorbed water by plants is liberated out by _____.

- A. Evaporation
- B. Osmosis
- C. Diffusion
- D. Transpiration

Ans. D

Sol.

•Transpiration is the process of water movement through a plant and its evaporation from aerial parts, such as leaves, stems and flowers.

•Water is necessary for plants but only a small amount of water taken up by the roots is used for growth and metabolism.

2.How can be a mixture of water and alcohol separated?

- A. Filtration
- B. Evaporation
- C. Decantation
- D. Distillation

Ans. D

Sol.

•A mixture of water and alcohol is separated by the process of **distillation**.

•At 78°C, alcohol starts to vaporize. The vapours are condensed in the condenser and alcohol is collected in the receiver.

3.What is the study of tissue ?

- A. Histology
- B. Agrostology
- C. Bacteriology
- D. None of these

Ans. A

Sol.

•Study of tissue is called histology while the study related to grasses is called Agrostology.

•Study related to bacteria is called Bacteriology.

4.Which of the following converts milk into curd?

- A. Yeast
- B. Lactobacillus
- C. Rizobia
- D. Rhizopus

Ans. B

Sol. Milk is converted into curd by the bacteria called lactobacillus. It converts the enzymelactose into lactic acid, which converts milk into curd imparting the sour taste to curd.

5._____ is term that denotes the shrinking of muscles from the lack of use.

- A. Glaucoma
- B. Atrophy
- C. Sartorius
- D. Hypertension

Ans. B

Sol.

• Muscle atrophy is when muscles waste away.

• The main reason for muscle wasting is a lack of physical activity. This can happen when a disease or injury makes it difficult or impossible for you to move an arm or leg.

6.The sodium and mercury street lamps light up due to

- A. Atomic emission
- B. Atomic absorption
- C. Diffraction of light
- D. Polarisation

Ans. A

Sol. The sodium and mercury street lamps light up due to **atomic emission**. The electron that form the filaments hit sodium and mercury atoms due to which their valence electrons get excited to higher energy levels and they relax by emitting monochromatic lights.

7. Which one of the following is responsible for blue baby syndrome?

- A. Fluoride
- B. Nitrate
- C. Arsenic
- D. Lead

Ans. B
Sol.

• **Blue baby syndrome** can be caused by nitrates in drinking water leading to methemoglobinemia.

• Nitrates in drinking water change haemoglobin to methemoglobin which decreases the ability of blood to carry oxygen.

• That in turns makes the colour of body blue, so it's named as blue baby syndrome.

8. Why brass gets discoloured in the air?

- A. Aluminium phosphide
- B. Hydrogen sulphide
- C. Hydrogenated wafers
- D. Aluminium Sulphide

Ans. B
Sol.

• The normal brown colouration on brass which slowly forms is primarily due to the oxidation of the copper to copper oxide.

• The greenish patina that forms on brass can be a complex that is formed mainly due to constant exposure of **hydrogen sulphides in air**.

9. The gas used to dilute oxygen for breathing by deep sea divers is_____.

- A. Neon
- B. Argon
- C. Nitrogen
- D. Helium

Ans. D
Sol.

• All gases given here except Helium are toxic at high pressure. While deep diving even Oxygen is toxic in normal percentages.

• A breathing gas is a mixture of gaseous chemical elements and compounds used for respiration.

10. Soap helps in cleaning clothes, because_____.

- A. Chemicals of soap change
- B. It increases the surface tension of the solution
- C. It absorbs the dirt
- D. It lowers the surface tension of the solution

Ans. D
Sol.

• Soap helps to lower the surface tension of solution, thus soap get stick to the dust particles and grease and these are removed by action of water.

11. Which disease is caused due to deficiency of Iron?

- A. Berberi
- B. Tetanus
- C. Kwashiorkor
- D. Anaemia

Ans. D
Sol.

• Anaemia is caused due to deficiency of Iron.

• Beriberi- Due to deficiency of vitamin B1.
• Tetanus- Due to clostridium tetani.
• Kwashiorkor - It is a protein deficiency disease.

12. Chromium oxide in paints makes the colour of paint _____.

- A. Green
- B. White
- C. Red
- D. Blue

Ans. A
Sol.

• Chromium oxide in paints makes the **colour of paint green.**

• It is commonly called chrome green when used as a pigment; however it was referred to as viridian when it was first discovered.

13. The cause of temporary hardness of water is _____.

- A. Calcium sulphate
- B. Calcium chloride
- C. Magnesium Sulphate
- D. Calcium bicarbonate

Ans. D
Sol.

• Temporary hard water can be softened by boiling the water. Temporary hardness is usually caused by the thermally unstable **magnesium hydrogen carbonate and calcium hydrogen carbonate** dissolved in the water from geological formations like limestone or chalk.

• Permanently hard water cannot be softened by boiling. Permanent hardness is caused by very soluble magnesium sulphate (from salt deposits underground) and slightly soluble calcium sulphate (from gypsum deposits).

14. Branch of Biology deals with extinct organisms _____.

- A. Palynology
- B. Phylogeny
- C. Palaeobotany

D. Palaeontology

Ans. D
Sol.

• Palaeontology is the branch of Biology deals with extinct organisms.

• It includes the study of fossils to determine organisms' evolution and interactions with each other and their environments (their paleoecology). Paleontological observations have been documented as far back as the 5th century BC.

15. Which law of motion is applied while swimming?

- A. First law of motion
- B. Second law of motion
- C. Third law of motion
- D. None of these

Ans. C

Sol. • **Newton's third law** states that every action must have an equal and opposite reaction.

• In swimming, when the hands and feet push against the water, the water pushes back on the swimmer and propels the swimmer forwards.

16. Which organ in the human body is affected by Emphysema?

- A. Brain
- B. Liver
- C. Kidney
- D. Lung

Ans. D
Sol.

• **Emphysema** is a common **lung** disease in which tiny **air sacs (alveoli)** fill up with air. The patient becomes progressively short of breath. The **Asbestos** pollutant is responsible for this disorder.

• When emphysema develops, the alveoli and lung tissue are destroyed. With this

damage, the alveoli cannot support the bronchial tubes.

17. The force of friction between two surfaces will increase if_____.

- A. A layer of lubricant is kept between the two surfaces
- B. The two surfaces are pressed harder
- C. Air gap is created between the two surfaces
- D. Irregularities on both the surfaces are removed

Ans. B

Sol. The way to increase friction is to make the surfaces of two objects more **difficult to slide against** each other.

* This can be done by making the surface rougher or the **two surfaces are pressed harder** or applying more pressure to one of the surfaces.

18. Why does a fountain pen leak in aeroplane flying at a height?

- A. Because of reduced viscosity of the ink in the pen
- B. Because of increased viscosity of the ink in the pen
- C. Because of higher atmospheric pressure outside the pen
- D. Because of lower atmospheric pressure outside the pen

Ans. D

Sol.

- A fountain pen leaks in an aeroplane flying at height because of lower atmospheric pressure outside the pen.
- Due to this difference in air pressure, the air inside the pen forces the ink to come out. This equalizes the air pressure inside and outside the pen.

19. Banking of roads is an example of?

- A. Centrifugal Force
- B. Van der Waals
- C. Centripetal force
- D. None of these

Ans. C

Sol.

• **Banking of roads is an example of Centripetal force**

- Centripetal force is the force which keeps the body to move in a circular path.
- $F = mv^2/R$, where F is the centripetal force, V is the uniform speed, M is the mass of the body and R is the radius of the path.
- Centrifugal force is the force which keeps the body away from the centre.

20. What is used in making of water proof and stainless clothes?

- A. Lead Oxide
- B. Ferric Oxide
- C. Aluminium Hydroxide
- D. Auric Chloride

Ans. C

Sol. **Aluminium Hydroxide** is used to make **water proof** and **stainless clothes**. Aluminum hydroxide is an **antacid** and it is also used to treat symptoms of stomach acid, such as **heartburn**, **sour stomach**, or **acid indigestion**.

21. Intensity of light depends upon_____.

- A. Velocity
- B. Wavelength
- C. Frequency
- D. Amplitude

Ans. D

Sol. • **Intensity of light is directly proportional to square of its amplitude.**

- The energy of a wave is proportional to the square of its **amplitude**. Therefore the **intensity** of a wave is also proportional to the square of its **amplitude**.
- If **Intensity** drops off at a rate of $1/r^2$,
- Wave **amplitude** drops off at a rate of $1/r$.

22. Which of the following is responsible for giving colour to human skin?

- A. Luciferin
- B. Haemoglobin

- C. Flavonoids
- D. Melanin

Ans. D
Sol.

- Melanin is responsible for giving colour to human skin.
- It is a black pigment occurring in the hair, skin, and iris of the eye in people and animals.
- It is responsible for tanning of skin exposed to sunlight.

23. One nanometer is equal to _____ meters.

- A. 10^{-3}
- B. 10^{-7}
- C. 10^{-9}
- D. 10^{-12}

Ans. C

Sol. One nanometer is equal to 10^{-9} meters, which means it is one billionth of a meter. Such measurements are most commonly used in nanotechnology, for building of extremely small machines.

24. Where patella is located in Human body?

- A. Knee
- B. Thigh
- C. Skull
- D. Foot

Ans. A

Sol. • The **Patella, also known as the kneecap**, is a thick, circular-triangular bone which articulates with the femur (thigh bone) and covers and protects the anterior articular surface of the knee joint.

- In humans, the **patella is the largest sesamoid** bone in the body.
- Babies are born with a patella of soft cartilage which begins to ossify into bone at about three years of age.

25. Which of the following planets of our solar system has least mass?

- A. Neptune
- B. Jupiter
- C. Mars
- D. Mercury

Ans. D

Sol.

Planets (in order of least massive to most massive)	Mass (in kilograms)	Each planet's mass relative to Earth
Mercury	3.30×10^{23}	0.0553
Mars	6.42×10^{23}	0.107
Venus	4.87×10^{24}	0.815
Earth	5.97×10^{24}	1
Uranus	8.68×10^{25}	14.5
Neptune	1.02×10^{26}	17.1
Saturn	5.68×10^{26}	95.2
Jupiter	1.90×10^{27}	318

26. Stains of rust on clothes can be removed by _____.

- A. Oxalic acid
- B. Petrol
- C. Alcohol
- D. H_2O_2

Ans. A

Sol.

- The ingredient in these type of stain removers are usually oxalic or hydrofluoric acid.

- The remover ingredients combine with the iron and loosen it from the fabric, then hold it in suspension in the wash water.
- The compounds are poisonous if ingested, extremely toxic and can burn skin and damage appliance finishes.

27. LPG is a mixture of _____.

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

Ans. B

Sol. LPG is a mixture of butane and propane, and at the same time it also contains the mixture of propylene and butylene. LPG stands for liquefied petroleum gas, and is used as a fuel for cooking equipment, vehicle, and heating appliances. This gas is entirely derived from fossil fuel sources, derived either in the processing of crude oil or extracted from natural gas streams.

28. In a qualitative way, the tendency of undisturbed objects to stay at rest or to keep moving with the same velocity is called _____.

- A. Force
- B. Acceleration
- C. Friction
- D. Inertia

Ans. D

Sol. Inertia is the resistance of any physical object to any change in its state of motion. This includes changes to the object's speed, direction, or state of rest. Inertia is also defined as the tendency of objects to keep moving in a straight line at a constant velocity. The principle of inertia is one of the fundamental principles in classical physics that are still used to describe the motion of objects and how they are affected by the applied forces on them.

29. What is the chemical name of 'Oil of vitriol'?

- A. Phosphoric acid
- B. Nitric acid
- C. Sulfuric acid
- D. Hydrochloric acid

Ans. C

Sol.

• The chemical name of 'oil of vitriol' is Sulfuric acid (H_2SO_4).

• Because it was prepared by roasting "green vitriol" in an iron retort, the medieval alchemists gave this name.

30. Gas released during Bhopal tragedy was _____.

- A. Sodium isothiocyanate
- B. Potassium isothiocyanate
- C. Ethyl isothiocyanate
- D. Methyl isothiocyanate

Ans. D

Sol. Bhopal gas Tragedy occurred on the night of 2-3 December 1984 at the Union Carbide India Limited (UCIL) pesticide plant in Bhopal, Madhya Pradesh. Over 500,000 people were exposed to methyl isocyanate (MIC) gas and other chemicals.

31. Haemoglobin is an important component of _____.

- A. White blood cells
- B. Red blood cells
- C. Plasma
- D. All options are correct

Ans. B

Sol. Haemoglobin is an important component of red blood cells. It consists of amino acids and iron due to which it is red in colour. Hemoglobin in the blood carries oxygen from the lungs to the rest of the body helping in aerobic respiration and metabolism. Deficiency in haemoglobin may cause diseases like anaemia.

32. What type of waves do cell phones emit?

- A. Radio waves
- B. Gamma waves
- C. Infrared waves
- D. Ether waves

Ans. A

Sol.

* The cell phone converts your voice into an electrical signal, which is then transmitted as radio waves and converted back into sound by your friend's phone.

* A basic mobile phone is therefore little more than a combined radio transmitter and a radio receiver, quite similar to a walkie-talkie or CB radio.

33. Who was the first scientist to describe the process of blood circulation?

- A. Robert Hooke
- B. Luwen Hock
- C. Ronald Ross
- D. William Harvey

Ans. D

Sol.

• **William Harvey discovered blood circulation.**

• The essential components of the human cardiovascular system are the heart, blood and blood vessels.

34. Different elements always have

- A. Same atomic number and same electronic configuration
- B. Different atomic number
- C. Different atomic number and different number of valence electrons
- D. Same number of electrons and neutrons

Ans. B

Sol. Atoms of different elements have different atomic numbers. However there is also different valence electrons, but not in all cases.

For eg:-

- Calcium(20) = 2,8,8,2
- Beryllium(4) = 2,2
- Magnesium(12) = 2,8,2

Hence, option B is correct.

35. Atomic number of which element is greater than that of chlorine?

- A. Potassium
- B. Sulphur
- C. Aluminium
- D. Helium

Ans. A

Sol. The atomic number of Potassium is greater than that of chlorine. The atomic number of various elements:

1. Potassium-19
2. Chlorine-17
3. Aluminium-13
4. Sulphur-16
5. Helium-2

36. _____ is the largest phylum of Animalia which includes insects.

- A. Annelida
- B. Chordata
- C. Arthropoda
- D. Platyhelminthes

Ans. C

Sol.

Arthropoda is the largest phylum of Animalia which includes insects such as familiar forms as lobsters, crabs, spiders, mites, insects, centipedes, and millipedes. Almost two-thirds of all the named species on earth are arthropods.

37. Who coined the term 'gene'?

- A. Mendel
- B. Johansen
- C. Watson
- D. Beadle

Ans. B

Sol.

• **Danish** botanist **Wilhelm Johannsen** coined the word "gene" ("gen" in Danish and German) in 1909 to describe these fundamental physical and functional units of heredity.

• William Bateson in 1905 coined the term genetics from the word gene.

38. Which pigment is responsible for the yellow colour of urine?

- A. Bilirubin
- B. Urochrome
- C. Haemoglobin
- D. Urobilinogen

Ans. B

Sol.

• The colour of normal urine is usually yellow or amber due to the presence of yellow pigment **Urochrome or Urobilin**.

• These pigments are produced by the breakdown of Haemoglobin.

39. The velocity of light in vacuum is ?

- A. $3 \times 10^7 \text{ ms}^{-1}$
- B. $3 \times 10^8 \text{ ms}^{-1}$
- C. $2 \times 10^8 \text{ ms}^{-1}$
- D. $3 \times 10^6 \text{ ms}^{-1}$

Ans. B

Sol. The velocity of light in vacuum is $3 \times 10^8 \text{ ms}^{-1}$. The speed of light is denoted by C in physics.

40. The most abundant constituent of atmospheric air is _____.

- A. Carbon
- B. Hydrogen
- C. Oxygen
- D. Nitrogen

Ans. D

Sol.

• Nitrogen is the most abundant constituent of atmospheric air.

• Its concentration in normal atmospheric air is approximately 78%, comparatively very high than other gases present in atmosphere.

41. Rickets is a disease caused by the deficiency of _____.

- A. Vitamin D
- B. Vitamin C
- C. Vitamin B
- D. Vitamin A

Ans. A

Sol. Rickets is a disease caused by the deficiency of Vitamin D. It is a bone **disorder caused** by a **deficiency** of vitamin D, calcium, or phosphate. **Rickets** leads to softening and weakening of the bones and is seen most commonly in children 6-24 months of age. Two areas of the **body** most **affected** by **rickets**, these are the **bones** and the teeth, both of which rely on calcium and phosphorus for healthy growth.

42. When resistors are connected in series, then net resistance _____.

- A. Increases
- B. Decreases
- C. Remains same
- D. None of these

Ans. A

Sol.

• When resistors are used in series, then net resistance increases. $R_{\text{net}} = R_1 + R_2 + \dots + R_n$

• When resistors are used in parallel, then net resistance decreases. $1/R_{\text{net}} = 1/R_1 + 1/R_2 + \dots + 1/R_n$

• Hence, Option A is the correct answer.

43. Which mineral is the ore of aluminium?

- A. Haematite
- B. Bauxite
- C. Magnetite
- D. Siderite

Ans. B

Sol.

• Bauxite, an aluminium ore, is the world's main source of aluminium.

• It is a rock formed from a laterite soil that has been severely leached of silica and other soluble materials in a wet tropical or subtropical climate.

44. The larvae of cockroach is called _____.

- A. Caterpillar
- B. Nymph
- C. Maggot
- D. Grub

Ans. B

Sol.

• Cockroach eggs hatch because of the combined pressure of the hatchlings within. Upon emerging from the egg case, or ootheca, this immature form of cockroach is known as a nymph or baby cockroach.

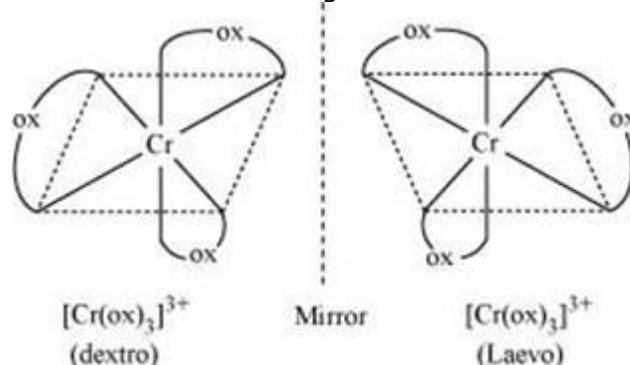
45. Which one of the following complexes exhibits chirality?

- A. $[\text{Cr}(\text{ox})_3]^{3-}$
- B. cis- $[\text{PtCl}_2(\text{en})]^{2+}$
- C. cis- $[\text{RhCl}_2(\text{NH}_3)_4]^+$

D. mer- $[\text{Co}(\text{NO}_2)_3(\text{trien})]^{3+}$

Ans. A

Sol. $[\text{Cr}(\text{ox})_3]^{3-}$ is chiral and the optical isomers are shown in figure:



46. Which elements are paired correctly with these chemical symbols? Ca, C, Cl, Co?

- A. carbon, calcium, chlorine, copper
- B. carbon, calcium, chlorine, cobalt
- C. calcium, carbon, chlorine, copper
- D. calcium, carbon, chlorine, cobalt

Ans. D

Sol.

- Ca- calcium.
- C- carbon.
- Cl- Chlorine.
- Co- cobalt

47. By which method, glucose is converted into alcohol?

- A. Fermentation
- B. Oxidation
- C. Distillation
- D. Hydrolysis

Ans. A

Sol.

• Fermentation is the process in which yeast breaks down glucose sugar into alcohol and carbon dioxide.

- CO₂ gas bubbles out of the fermenting solution into the air leaving a mixture of ethanol and water.
- It's important that no air is present or the yeast will produce ethanoic acid.

48. Which one of the following is known as the 'brown coal'?

- A. Anthracite
- B. Bituminous
- C. Coke
- D. Lignite

Ans. D

Sol. Lignite often referred to as brown coal, or Rosebud coal by Northern Pacific Railroad, is a soft brown fuel with characteristics that put it somewhere between coal and peat.

49.

Hydroponics is growing plant without _____.

- A. Fertilizers
- B. Water
- C. Soil
- D. Seeds

Ans. C

Sol.

- Hydroponics is a subset of hydroculture and is a method of growing plants using mineral nutrient solutions, in water, **without soil**.
- Growth of terrestrial plants without soil in mineral nutrient solutions was called solution culture.

50. Arrange the following rays in increasing order of their penetrating power?

- A. Gamma Rays < Beta Rays < Alpha Rays
- B. Alpha Rays < Beta Rays < Gamma Rays
- C. Beta Rays < Gamma Rays < Alpha Rays
- D. None of these are correct

Ans. B

Sol. **Penetration Power** - Alpha Rays < Beta Rays < Gamma Rays
Ionising Power - Alpha Rays > Beta Rays > Gamma Rays

51. What is atomic number of Argon?

- A. 18
- B. 20
- C. 16
- D. 15

Ans. A

Sol. ⇒ **Argon** is a chemical element with symbol **Ar** and atomic number **18**

⇒ It is in group 18 of the periodic table and is a noble gas.

⇒ Argon is the third-most abundant gas in the Earth's atmosphere, at 0.934%.

⇒ Argon makes a distinctive blue-green gas laser. It is also used in fluorescent glow starters.

52. The hormone secreted by pancreas is _____

- A. Insulin
- B. Bile Juice
- C. Vitamin D
- D. None

Ans. A

Sol. Pancreas acts as both endocrine and exocrine gland.

- Functioning as an endocrine gland, it secretes insulin and glucagon to maintain blood sugar levels.

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