TALLENTEX Chemistry

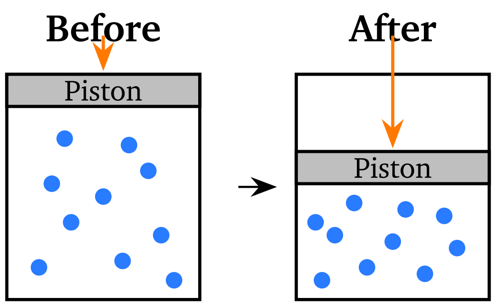
Sample Paper – 5

Duration: 23 Minutes **Maximum Marks: 60**

Instructions

- This paper contains **15** Multiple Choice Questions (Single Correct Answer), modelled on the Chemistry portion of **TALLENTEX** entrance.
- Each correct answer carries **+4 marks**. There is **a penalty of** -1 **mark** for incorrect answers. Unattempted questions carry no penalty.
- Only **one** option is correct. Choose carefully.
- Syllabus: **NCERT Class 8 and Class 9 Chemistry**
- Use of mobile phones, calculators, or electronic gadgets is strictly prohibited.

Q1. A gas is enclosed in a cylinder fitted with a movable piston. When the piston is pushed inward, the gas is compressed into a smaller volume. Which property of gases is demonstrated by this observation?



(A) Gases are highly compressible because their particles are far apart with large intermolecular spaces.

(B) Gases have a definite volume and cannot be compressed beyond a certain limit.

(C) Gases exert pressure only on the bottom of the container, not on the sides.

(D) Compression of a gas always converts it into a liquid at room temperature.

Q2. The melting point of pure ice is $0\,^{\circ}\mathrm{C}$ at 1 atm pressure. Which of the following statements about the melting point of ice is **correct**?

(A) Adding common salt to ice raises its melting point above $0\,^{\circ}\mathrm{C}$.

(B) Adding an impurity (like salt) to ice lowers its melting point below $0\,^{\circ}\mathrm{C}$.

(C) Increasing pressure on ice always raises its melting point.

(D) The melting point of ice is independent of both pressure and purity.

Q3. The Tyndall effect is the scattering of a beam of light by particles in a mixture. Which of the following mixtures will **show** the Tyndall effect?

(A) A true solution of common salt in water.

(B) A mixture of ethanol and water.

(C) Milk, because it is a colloid containing fat globules of colloidal size.

(D) A copper sulphate solution in distilled water.

Q4. A student wants to obtain pure common salt (NaCl) from a sample of seawater. Which of the following separation techniques is most appropriate?

(A) Filtration, because salt particles are larger than water molecules.

(B) Magnetic separation, because NaCl is attracted to a magnet.

(C) Decantation, because NaCl settles at the bottom when seawater is left undisturbed.

(D) Evaporation, because water evaporates leaving behind the dissolved salt.

Q5. Water obtained from different sources — a river, a well, and a laboratory — is decomposed by electrolysis. In each case, hydrogen and oxygen are produced in the mass ratio $1:8$ ($H:O$). This observation is best explained by:

(A) The Law of Conservation of Mass, which states that mass is neither created nor destroyed.

(B) Dalton's Atomic Theory, which states that atoms of the same element are identical in mass.

(C) The Law of Constant Proportions (Proust's Law), which states that a chemical compound always contains the same elements in the same ratio by mass.

(D) The Law of Multiple Proportions, which states that two elements can combine in more than one ratio.

Q6. The molar mass of sodium hydroxide (NaOH) is 40 g/mol. How many moles of NaOH are present in 80 g of NaOH?

(A) 2 mol

(B) 0.5 mol

(C) 40 mol

(D) 80 mol

Q7. Ammonium ion is a polyatomic cation formed when ammonia (NH_3) accepts a proton. What is the correct formula and charge of the ammonium ion?

(A) NH_3^+, charge $= +1$

(B) NH_4^+, charge $= +1$

(C) NH_4^{2+}, charge $= +2$

(D) $N_2H_4^+$, charge $= +1$

Q8. Dalton's atomic theory was a landmark in chemistry. However, it had certain limitations. Which of the following phenomena could Dalton's atomic theory **NOT** explain?

(A) The law of conservation of mass in chemical reactions.

(B) The law of constant proportions in compounds.

(C) The combination of atoms to form molecules.

(D) The existence of isotopes of the same element having different atomic masses.

Q9. Phosphorus has atomic number $Z = 15$ and mass number $A = 31$. How many **neutrons** are present in the nucleus of a phosphorus atom?

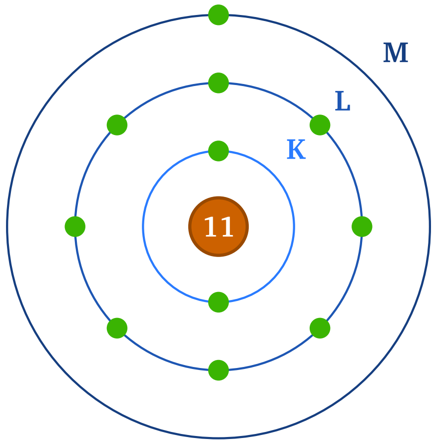
(A) 16

(B) 15

(C) 31

(D) 46

Q10. The atomic number of sodium is 11. Which of the following correctly describes the electronic configuration of a sodium atom, and which diagram matches it?



(A) K=2, L=9 (all 11 electrons in two shells)

(B) K=2, L=8, M=1 but the outermost electron belongs to the L shell

(C) K=2, L=8, M=1 (sodium has one valence electron in the third shell)

(D) K=8, L=2, M=1 (electrons fill the outermost shell first)

Q11. Metals are generally sonorous, meaning they produce a ringing sound when struck. Which of the following is **NOT** sonorous?

(A) Iron

(B) Sulphur

(C) Copper

(D) Gold

Q12. Sodium is a highly reactive metal. When a small piece of sodium is dropped into cold water, which of the following correctly describes the observation?

(A) Sodium sinks to the bottom and slowly dissolves without producing any gas.

(B) Sodium reacts slowly with water, producing oxygen gas and no heat.

(C) Sodium melts and floats on water but does not react chemically.

(D) Sodium reacts vigorously with cold water, floats and moves on the surface, produces hydrogen gas, and the solution formed is basic ($NaOH$).

Q13. LPG (Liquefied Petroleum Gas) is mainly composed of propane (C_3H_8). When propane undergoes **complete combustion** in sufficient oxygen, what are the products?

(A) Carbon dioxide (CO_2) and water (H_2O)

(B) Carbon monoxide (CO) and water (H_2O)

(C) Carbon (C, as soot) and water vapour (H_2O)

(D) Hydrogen gas (H_2) and carbon dioxide (CO_2)

Q14. Iron articles such as buckets and gates are often coated with a layer of zinc to prevent rusting. This process is called **galvanization**. Which of the following best explains why zinc is used for this purpose?

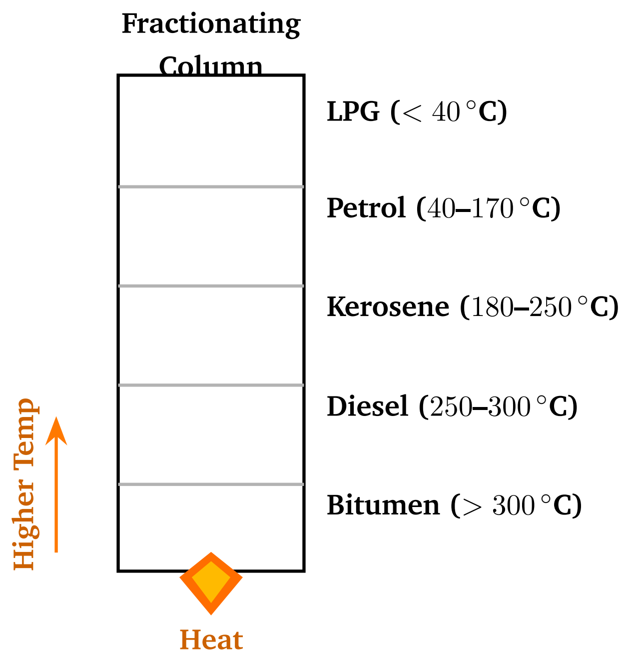
(A) Zinc is less reactive than iron, so it does not interfere with the iron surface.

(B) Zinc is a non-metal and therefore cannot undergo corrosion under any conditions.

(C) Zinc is more reactive than iron and preferentially corrodes (acts as a sacrificial anode), protecting the iron underneath.

(D) Zinc makes the iron surface harder and more resistant to mechanical wear, not to chemical corrosion.

Q15. Petroleum is refined by fractional distillation to obtain its useful fractions. Which of the following gives the **correct increasing order** of boiling points of petroleum fractions?



(A) LPG $<$ Diesel $<$ Petrol $<$ Kerosene $<$ Bitumen

(B) LPG $<$ Petrol $<$ Kerosene $<$ Diesel $<$ Bitumen

(C) Bitumen $<$ Diesel $<$ Kerosene $<$ Petrol $<$ LPG

(D) Petrol $<$ LPG $<$ Kerosene $<$ Diesel $<$ Bitumen

Detailed Solutions

Q1.

Solution

Concept: Matter exists in three states. Gases have the weakest intermolecular forces and the largest intermolecular spaces among all states of matter. This allows gas particles to be pushed closer together when pressure is applied.

Step 1 — Identify the observation: When the piston is pushed inward, the same number of gas molecules now occupy a smaller volume. This is called compression.

Step 2 — Relate to property: Gases can be compressed because their molecules are spaced far apart. Liquids and solids cannot be compressed significantly because their particles are already very close to each other. This property makes gases like air and LPG useful for storage in cylinders.

Why other options are wrong:

- (A): Correct — gases are highly compressible due to large intermolecular spaces.
- (B): Incorrect — gases do *not* have a definite volume; they can be compressed and expanded freely under normal conditions.
- (C): Incorrect — gases exert pressure equally in all directions (on sides, bottom, and top of the container), not just the bottom.
- (D): Incorrect — compression alone does not always convert a gas to a liquid at room temperature; it depends on the critical temperature and pressure of the specific gas.

Answer: (A) Go Back to Q 1

Q2.

Solution

Concept: The melting point of a substance is the temperature at which it changes from solid to liquid. For water/ice at 1 atm, this is $0\,^{\circ}\mathrm{C}$. Both the addition of impurities and changes in pressure affect the melting point.

Step 1 — Effect of impurities: When an impurity like salt ($NaCl$) is dissolved in water, it disrupts the regular crystal lattice of ice. More energy must be removed to form the solid structure, which means the freezing/melting point is lowered below $0\,^{\circ}\mathrm{C}$. This is called **freezing point depression**, a colligative property.

Step 2 — Practical example: Salt is spread on icy roads in winter precisely because it lowers the melting point of ice, causing the ice to melt at temperatures below $0\,^{\circ}\mathrm{C}$. Similarly, the mixture of ice and salt is used as a cooling mixture in ice-cream making.

Why other options are wrong:

- (A): Incorrect — salt *lowers* the melting point of ice, it does not raise it.
- (B): Correct — impurities lower the melting point below $0\,^{\circ}\mathrm{C}$.
- (C): Incorrect — for ice (water), increasing pressure actually *lowers* the melting point slightly (anomalous behaviour due to water being less dense than ice).
- (D): Incorrect — the melting point of ice depends on both pressure and the presence of impurities.

Answer: (B) Go Back to Q 2

Q3.

Solution

Concept: The **Tyndall effect** is the scattering of light by colloidal particles. Colloids have particle sizes between 1 nm and 1000 nm (1 μm). These particles are large enough to scatter light but small enough to remain dispersed without settling. True solutions (particle size < 1 nm) do not show this effect.

Step 1 — Identify the colloid: Milk is a colloid in which fat globules and casein protein particles are dispersed in water. Their sizes fall in the colloidal range (1–1000 nm). When a beam of light passes through milk, the colloidal particles scatter the light and make the beam visible.

Step 2 — Rule out true solutions: Salt solution (NaCl in water), ethanol-water mixture, and copper sulphate solution are all **true solutions**. Their solute particles are < 1 nm in size (ionic or molecular level), too small to scatter light. Therefore, a beam of light passes through them without being scattered.

Why other options are wrong:

- (A): Incorrect — salt solution is a true solution; NaCl dissociates into Na^+ and Cl^- ions (< 1 nm), which cannot scatter light.
- (B): Incorrect — ethanol and water mix at the molecular level, forming a true solution; no Tyndall effect is observed.
- (C): Correct — milk is a colloid; fat globules of colloidal size scatter the

beam of light.

- (D): Incorrect — copper sulphate solution is a true solution with ionic-level particle size; it does not show the Tyndall effect.

Answer: (C) Go Back to Q 3

Q4.

Solution

Concept: Salt (NaCl) is dissolved in seawater forming a true solution. To recover the dissolved solute, the solvent (water) must be removed. The appropriate technique depends on the nature of the mixture.

Step 1 — Nature of the mixture: NaCl in seawater is a true solution — the NaCl is completely dissolved at the ionic level. It cannot be separated by filtration (filter paper stops only solid particles), magnetic separation (NaCl is non-magnetic), or decantation (there are no settling particles).

Step 2 — Correct technique: Evaporation is used. When seawater is heated (or left in sunlight), water evaporates leaving behind the solid NaCl. This is exactly how salt is obtained commercially from sea water in salt pans.

Why other options are wrong:

- (A): Incorrect — NaCl is dissolved at ionic level; it passes through filter paper just like water does.
- (B): Incorrect — NaCl is not magnetic; magnetic separation only works for magnetic materials like iron filings.
- (C): Incorrect — NaCl does not settle because it is completely dissolved; decantation only works when there is a denser insoluble solid settling at the bottom.
- (D): Correct — evaporation removes the water (solvent) and leaves behind the dissolved NaCl (solute).

Answer: (D) Go Back to Q 4

Q5.

Solution

Concept: The **Law of Constant Proportions** (also called Proust's Law or the Law of Definite Proportions) states that a pure chemical compound always contains the same elements combined in the same fixed ratio by mass, regardless of the source or method of preparation.

Step 1 — Apply to the observation: Water from a river, a well, and a laboratory are all the compound H_2O. No matter where the water comes from, decomposition always gives hydrogen and oxygen in the mass ratio 1:8. This fixed ratio is a hallmark of a compound obeying the Law of Constant Proportions.

Step 2 — Distinguish from other laws: The Law of Conservation of Mass relates to the total mass before and after a reaction (no gain or loss). Dalton's atomic theory explains *why* this ratio is constant (atoms combine in fixed whole-number ratios) but the direct explanation of the observation is Proust's Law. The Law of Multiple Proportions applies when two elements form more than one compound (e.g., CO and CO_2).

Why other options are wrong:

- (A): Incorrect — the Law of Conservation of Mass states that mass is conserved, not that composition is fixed.
- (B): Incorrect — Dalton's atomic theory provides the atomic-level basis for fixed ratios but does not directly state that the mass ratio in a given compound is always constant.
- (C): Correct — Proust's Law directly states that a compound's composition by mass is always fixed.
- (D): Incorrect — the Law of Multiple Proportions applies to two different compounds of the same elements, not to the constant composition of a single compound.

$\boxed{\text{Answer: (C)}}$ Go Back to Q 5

Q6.

Solution

Concept: The mole is the SI unit for amount of substance. The relationship between mass, moles, and molar mass is:

$$\text{Number of moles} = \frac{\text{Given mass (g)}}{\text{Molar mass (g/mol)}}$$

Step 1 — Substitute values:

$$n(\text{NaOH}) = \frac{80\,\text{g}}{40\,\text{g/mol}} = 2\,\text{mol}$$

Step 2 — Verify molar mass of NaOH: Na = 23, O = 16, H = 1. Molar mass $= 23 + 16 + 1 = 40$ g/mol. This confirms the given value.

Why other options are wrong:

- (A): Correct — $80 \div 40 = 2$ mol.
- (B): Incorrect — 0.5 mol would correspond to $0.5 \times 40 = 20$ g, not 80 g.
- (C): Incorrect — 40 mol would correspond to $40 \times 40 = 1600$ g.
- (D): Incorrect — 80 mol would correspond to $80 \times 40 = 3200$ g; this confuses the number of moles with the given mass.

Answer: (A) Go Back to Q 6

Q7.

Solution

Concept: A **polyatomic ion** is a group of atoms that together carry a net electric charge. The ammonium ion is formed when ammonia (NH_3) accepts a proton (H^+) from an acid, gaining one additional hydrogen atom and a positive charge.

Step 1 — Formation of ammonium ion:

$$NH_3 + H^+ \longrightarrow NH_4^+$$

Ammonia has 3 hydrogen atoms; it accepts one H^+ to form the ammonium ion with 4 hydrogen atoms. The proton carries a $+1$ charge, so the resulting ion has a charge of $+1$.

Step 2 — Write the formula: The formula is NH_4^+ with a charge of $+1$.

Why other options are wrong:

- (A): Incorrect — NH_3^+ would mean ammonia lost an electron but retained only 3 hydrogens; that is not the ammonium ion.
- (B): Correct — NH_4^+ is the correct formula and charge of the ammonium ion.
- (C): Incorrect — NH_4^{2+} would require two protons to be accepted or two electrons to be lost; ammonium carries only $+1$ charge.

- (D): Incorrect — $N_2H_4^+$ is related to hydrazine (N_2H_4) and is a completely different species.

Answer: (B) Go Back to Q 7

Q8.

Solution

Concept: Dalton's atomic theory (1808) proposed that: (i) all matter is made of atoms; (ii) atoms of the same element are identical; (iii) atoms combine in simple whole-number ratios to form compounds; (iv) atoms are indivisible and indestructible. This theory successfully explained the laws of chemical combination, but it had limitations.

Step 1 — Identify what Dalton's theory explained: The Law of Conservation of Mass (atoms are indestructible), the Law of Constant Proportions (atoms combine in fixed ratios), and the formation of molecules (atoms combining) were all explained by Dalton's theory.

Step 2 — Identify the limitation: Dalton stated that atoms of the same element are identical in mass. However, **isotopes** are atoms of the same element with the same number of protons but **different numbers of neutrons**, giving them different atomic masses. For example, chlorine has isotopes ^{35}Cl and ^{37}Cl. Dalton's theory, which treated all atoms of an element as identical, could not explain the existence of isotopes.

Why other options are wrong:

- (A): Incorrect — Dalton *did* explain conservation of mass (atoms are neither created nor destroyed in a reaction).
- (B): Incorrect — Dalton *did* explain constant proportions (atoms combine in fixed whole-number ratios).
- (C): Incorrect — Dalton *did* address the combination of atoms to form molecules (compound atoms in his language).
- (D): Correct — isotopes of the same element have different masses, directly contradicting Dalton's postulate that all atoms of an element are identical in mass.

Answer: (D) Go Back to Q 8

Q9.

Solution

Concept: In an atom, the **mass number** (A) is the total number of protons and neutrons in the nucleus. The **atomic number** (Z) is the number of protons. Therefore:

$$\text{Number of neutrons} = A - Z$$

Step 1 — Substitute values:

$$\text{Neutrons} = 31 - 15 = 16$$

Step 2 — Cross-check: Phosphorus $(Z = 15)$ has 15 protons and 16 neutrons, giving a mass number of $15 + 16 = 31$. This matches the given data.

Why other options are wrong:

- (A): Correct — neutrons $= 31 - 15 = 16$.
- (B): Incorrect — 15 is the number of protons (atomic number), not the number of neutrons.
- (C): Incorrect — 31 is the mass number (total of protons + neutrons), not just the number of neutrons.
- (D): Incorrect — 46 = 15 + 31, which incorrectly adds the atomic number and mass number; this has no physical meaning.

$\boxed{\textbf{Answer: (A)}}$ Go Back to Q 9

Q10.

Solution

Concept: Electrons fill shells (energy levels) around the nucleus in a specific order. The maximum number of electrons in each shell is given by $2n^2$, where n is the shell number. Shell K $(n = 1)$: max 2; Shell L $(n = 2)$: max 8; Shell M $(n = 3)$: max 18 (but fills after L is complete).

Step 1 — Fill the shells for Na $(Z = 11)$:

- Shell K $(n = 1)$: fills with 2 electrons. Remaining: $11 - 2 = 9$.
- Shell L $(n = 2)$: fills with 8 electrons. Remaining: $9 - 8 = 1$.
- Shell M $(n = 3)$: receives the remaining 1 electron.

Electronic configuration of Na: **2, 8, 1** (K=2, L=8, M=1).

Step 2 — Identify the valence electron: The outermost shell (M) contains 1 electron. This single valence electron makes sodium highly reactive and is why Na readily loses one electron to form Na^+.

Why other options are wrong:

- (A): Incorrect — K=2, L=9 is impossible; shell L can hold at most 8 electrons.
- (B): Incorrect — the outermost electron is in shell M (the third shell), not in the L shell.
- (C): Correct — K=2, L=8, M=1 is the correct electronic configuration of sodium.
- (D): Incorrect — electrons fill from the innermost shell outward (K first, then L, then M), not from the outermost shell inward.

Answer: (C) Go Back to Q 10

Q11.

Solution

Concept: Sonority is the property of producing a ringing or bell-like sound when struck with a hard object. It is a characteristic property of metals. Non-metals generally do not produce a ringing sound when struck; they produce a dull or no sound.

Step 1 — Identify the non-metal: Among the options, iron, copper, and gold are all metals and are known to be sonorous. **Sulphur** is a non-metal. When sulphur powder or a lump of sulphur is struck, it produces a dull sound or breaks without ringing.

Step 2 — Confirm: The property of sonority is used in making bells, gongs, and musical instruments from metals. Non-metals like sulphur, phosphorus, and charcoal are not sonorous.

Why other options are wrong:

- (A): Incorrect — iron is a metal and is sonorous; it produces a ringing sound when struck.
- (B): Correct — sulphur is a non-metal and is NOT sonorous.
- (C): Incorrect — copper is a metal and is sonorous; it is used in musical instruments like cymbals and bells.

- (D): Incorrect — gold is a metal and is sonorous, though it is too soft and expensive for most applications.

Answer: (B) Go Back to Q 11

Q12.

Solution

Concept: Sodium is an alkali metal (Group 1) and is one of the most reactive metals. It reacts vigorously with water at room temperature. The reaction is:

$$2\,Na + 2\,H_2O \longrightarrow 2\,NaOH + H_2\uparrow + \text{Heat}$$

Step 1 — Describe the observation: When sodium is dropped into cold water, it: (i) **floats** on the surface because it is less dense than water, (ii) **moves rapidly** on the surface due to the production of hydrogen gas which propels it, (iii) **hisses** and may ignite (the hydrogen gas can catch fire), and (iv) the resulting solution is **basic** (NaOH is a strong base, turns litmus blue).

Step 2 — Products: Hydrogen gas (H_2) and sodium hydroxide (NaOH) are the products.

Why other options are wrong:

- (A): Incorrect — sodium does not sink (it is less dense than water) and does not dissolve slowly; it reacts vigorously and produces H_2 gas.
- (B): Incorrect — the gas produced is hydrogen (H_2), not oxygen; the reaction is also vigorous, not slow.
- (C): Incorrect — sodium does not merely melt and float without reacting; it reacts chemically and vigorously with water.
- (D): Correct — all details in option D correctly describe the reaction: vigorous, floats, moves, produces H_2, forms basic NaOH solution.

Answer: (D) Go Back to Q 12

Q13.

Solution

Concept: Complete combustion occurs when a fuel burns in excess oxygen. For hydrocarbons (compounds of carbon and hydrogen only), complete combustion always produces **carbon dioxide (CO_2)** and **water (H_2O)**.

Step 1 — Write the balanced equation for propane:

$$C_3H_8 + 5\,O_2 \longrightarrow 3\,CO_2 + 4\,H_2O$$

This is complete combustion: all carbon goes to CO_2 and all hydrogen goes to H_2O.

Step 2 — Contrast with incomplete combustion: When oxygen supply is insufficient (incomplete combustion), carbon monoxide (CO) and soot (carbon, C) are produced. LPG burning with a blue flame on a stove is complete combustion; a yellow/sooty flame indicates incomplete combustion.

Why other options are wrong:

- (A): Correct — CO_2 and H_2O are the products of complete combustion of any hydrocarbon.
- (B): Incorrect — CO is a product of *incomplete* combustion (insufficient oxygen). Complete combustion gives CO_2.
- (C): Incorrect — carbon soot (C) is also produced only during incomplete combustion; complete combustion converts all carbon to CO_2.
- (D): Incorrect — hydrogen gas (H_2) is not a product of combustion; combustion is a reaction with oxygen. H is oxidised to H_2O, not released as H_2.

Answer: (A) **Go Back to Q 13**

Q14.

Solution

Concept: Galvanization is the process of coating iron or steel with a thin layer of zinc to prevent rusting. The zinc coating acts as a **sacrificial anode**: zinc is more reactive than iron and preferentially reacts with oxygen and moisture in the atmosphere, corroding in place of the iron underneath.

Step 1 — Reactivity comparison: In the reactivity series, zinc is placed above iron, meaning zinc is more reactive. When both zinc and iron are exposed to moisture and oxygen, zinc reacts first (it is oxidised preferentially), protecting the iron.

Step 2 — Protection mechanism: Even if the zinc layer is scratched and the iron is exposed, the surrounding zinc still corrodes preferentially, continuing to protect the iron. This is called **cathodic protection**.

Why other options are wrong:

- (A): Incorrect — zinc is more reactive than iron (not less). It is precisely its higher reactivity that makes it an effective protective coating.
- (B): Incorrect — zinc is a metal, not a non-metal. Metals can and do undergo corrosion (oxidation); zinc slowly forms a stable layer of zinc oxide/carbonate that further slows corrosion.
- (C): Correct — zinc is more reactive and corrodes preferentially (sacrificial anode / cathodic protection), thereby protecting the iron.
- (D): Incorrect — galvanization primarily prevents *chemical* corrosion (rusting), not mechanical wear. Hardness is a separate property.

Answer: (C) Go Back to Q 14

Q15.

Solution

Concept: Petroleum is a mixture of hydrocarbons with different chain lengths and therefore different boiling points. **Fractional distillation** separates them by boiling point. Shorter hydrocarbon chains $\Rightarrow$ lower boiling point $\Rightarrow$ collected at the top of the fractionating column. Longer chains $\Rightarrow$ higher boiling point $\Rightarrow$ collected near the bottom.

Step 1 — Boiling point ranges (approximate):

- **LPG** (liquefied petroleum gas): $< 40\,^\circ\mathrm{C}$ (shortest chains, lowest boiling point)
- **Petrol** (gasoline): 40–$170\,^\circ\mathrm{C}$
- **Kerosene**: 180–$250\,^\circ\mathrm{C}$
- **Diesel**: 250–$300\,^\circ\mathrm{C}$
- **Bitumen** (tar): $> 300\,^\circ\mathrm{C}$ (longest chains, highest boiling point)

Step 2 — Correct increasing order: LPG < Petrol < Kerosene < Diesel < Bitumen

Why other options are wrong:

- (A): Incorrect — option A places diesel before petrol (LPG $<$ Diesel $<$ Petrol $<$ Kerosene $<$ Bitumen), which is wrong; petrol has a lower boiling point than kerosene, and diesel has a higher boiling point than kerosene.
- (B): Correct — LPG $<$ Petrol $<$ Kerosene $<$ Diesel $<$ Bitumen is the correct increasing order.
- (C): Incorrect — option C lists the order in *decreasing* order of boiling point, from Bitumen down to LPG; it is the reverse of the correct answer.
- (D): Incorrect — option D places LPG after petrol (Petrol $<$ LPG $<$ Kerosene $< \ldots$), which is wrong; LPG has the lowest boiling point of all petroleum fractions.

Answer: (B) **Go Back to Q 15**

Answer Key

Q	Ans	Q	Ans	Q	Ans	Q	Ans	Q	Ans
1	A	2	B	3	C	4	D	5	C
6	A	7	B	8	D	9	A	10	C
11	B	12	D	13	A	14	C	15	B