MDCAT (ETEA entry test) — 2011 · Solved Past Paper

Body: Educational Testing and Evaluation Agency (ETEA) · **Post:** MDCAT (ETEA entry test) · **Year:** 2011 · **Questions:** 200 in the original paper — **198 solved and verified**, 1 excluded as defective (Q80), 1 unrecoverable (Q24) · **Price:** Free

> **How to use this paper:** each question shows the stem, the four options, and the correct answer. Click “Why each option?” under a question to see all four options explained — one question teaches four topics. General Knowledge answers are as of the 2011 sitting.

Source note: Question stems and options: ETEA MDCAT 2011 ("Medical and Engineering Papers 2010-2017", compiled by M. Nawaz Khan Abbasi, Scribd doc 363367615, Medical Paper 2011, book pp. 112-120; compilation answer key Scribd p. 150 / book p. 149, Q1-200 complete, 1 "not given" entry (Q24)). Exam held Sunday 24 July 2011 (pakmed.net: Entrance Test 2011 conducted 24 July 2011). Printed (compiler) key letter counts A53 / B54 / C46 / D46, plus 1 "not given" (Q24). Served answer balance A50 / B49 / C50 / D49. Subjects Biology/Chemistry/Physics/English interleaved across Q1-Q200 (no subject sections in the printed paper). 5 PICK-ONE (Q1, Q42, Q68, Q101, Q130), 18 printed-key errors corrected (Q25, Q28, Q40, Q84, Q96, Q105, Q110, Q111, Q118, Q128, Q138, Q154, Q168, Q176, Q177, Q191, Q197, Q199) and 2 DEFECTIVE-excluded (Q24 GAP — no stem or options printed; Q80 — options (c) and (d) blank). Fifteen questions (Q2, Q12, Q46, Q48, Q99, Q102, Q126, Q135, Q149, Q153, Q163, Q175, Q178, Q186, Q192) carry private-use glyphs in the Scribd text layer for mathematical symbols (pi, sigma, alpha, beta, gamma, theta, reaction arrows, fraction bars, the Coulomb-force formulae, the cobalt-complex formulae); the symbols were restored from the printed book pages and recorded in each explanation. Answers verified independently against reference facts, worked derivations and targeted sources, never from the printed key alone. Decisions by the assistant under

3 Nov 2026 delegation.

Question 1 We need guidelines to start with

We need _____ guidelines to start with.

- A. a few ✓ **Correct answer**
- B. any
- C. little
- D. some

A. correct: “a few” goes with countable plural nouns, and guidelines are countable; this is the keyed answer.

B. wrong: “any” is used in negatives and questions, not in an affirmative statement about needing guidelines.

C. wrong: “little” goes with uncountable nouns, not countable “guidelines”.

D. also acceptable: “some” is equally grammatical with countable “guidelines” in an affirmative sentence. (PICK-ONE: options (A) “a few” and (D) “some” are both acceptable with countable “guidelines”; the keyed answer (A) is filed. Decided by the assistant under the owner’s 8 Nov 2026 delegation.)

Question 2 The angle subtended at the centre

The angle subtended at the centre of a sphere by itssurface area is equal to:

- A. 4π/3 radian
- B. 4π/3 steradian
- C. 4π radian
- D. 4π steradian ✓ **Correct answer**

A. wrong: the angle subtended by the whole surface of a sphere is a solid angle, measured in steradians, not radians — and the value is 4π, not 4π/3.

e solid angle is measured in steradians, but the whole sphere subtends 4π steradians, not 4π/3.

C. wrong: 4π is the right value but the unit is wrong — a solid angle is measured in steradians, not radians.

D. correct: the solid angle subtended by the whole surface of a sphere at its centre is 4π steradians. (The options are restored from the printed page: the text layer renders π as a private-use glyph.)

Question 3 The anion size are larger than

The anion size are larger than its atomic size because:

- A. the addition of electron occupies more space
- B. it increases the effective nuclear charge
- C. the repulsion between electrons increases with the addition of electron ✓ **Correct answer**
- D. the attraction between electrons and the nucleus increases

A. wrong: adding an electron does make the ion larger, but the reason is the increased electron–electron repulsion, not simply occupying more space.

B. wrong: adding an electron decreases the effective nuclear charge felt by each electron; it does not increase it.

C. correct: the extra electron increases the repulsion between the electrons, so the electron cloud expands and the anion is larger than the atom.

D. wrong: the attraction between the electrons and the nucleus does not increase when an electron is added — it is the repulsion that grows.

Question 4 Which of the following diseases is

Which of the following diseases is NOT caused by bacteria?

- B. small pox ✓ **Correct answer**
- C. tuberculosis
- D. diphtheria

A. wrong: tetanus is caused by the bacterium Clostridium tetani.

B. correct: smallpox is caused by a virus (variola), not by bacteria.

C. wrong: tuberculosis is caused by the bacterium Mycobacterium tuberculosis.

D. wrong: diphtheria is caused by the bacterium Corynebacterium diphtheriae.

Question 5 Dimensions M0 L0 T0

$[M^0L^0T^0]$ are the dimensions of:

- A. strain
- B. refractive index
- C. magnification
- D. All of these ✓ **Correct answer**

A. wrong on its own: strain is dimensionless, but so are the other options.

B. wrong on its own: refractive index is dimensionless, but so are the other options.

C. wrong on its own: magnification is dimensionless, but so are the other options.

D. correct: strain, refractive index and magnification are all ratios, so all three are dimensionless ($[M^0L^0T^0]$).

Question 6 Which one would you class it

Which one would you class it as more metallic in character?

- A. As
- B. Bi ✓ **Correct answer**

- D. Sb

A. wrong: arsenic is a metalloid, less metallic than bismuth.

B. correct: bismuth is the most metallic of the four — metallic character increases down a group, and bismuth is the heaviest element listed.

C. wrong: carbon is a non-metal.

D. wrong: antimony is a metalloid, less metallic than bismuth.

Question 7 Round worms which have body cavities

Round worms, which have body cavities are partially lined with mesoderm are classified as:

- A. Acaelomate
- B. ceolomates
- C. Pseudo coelomates ✓ **Correct answer**
- D. Deuterostomes

A. wrong: acoelomates have no body cavity at all.

B. wrong: coelomates have a cavity fully lined with mesoderm.

C. correct: roundworms (nematodes) have a pseudocoelom — a cavity only partially lined with mesoderm.

D. wrong: deuterostome describes the pattern of embryonic development, not the body cavity.

Question 8 The magnitude of the resultant of

The magnitude of the resultant of two forces is 2F. If the magnitude of each force is F, Than the angle between these forces is:

Correct answer

- B. 90°
- C. 120°
- D. 180°

A. correct: the resultant is 2F only when the two forces act in the same direction, i.e. the angle between them is 0° ($R^2 = F^2 + F^2 + 2F^2\cos\theta = 4F^2$ gives $\cos\theta = 1$).

B. wrong: at 90° the resultant is $F\sqrt{2}$, not 2F.

C. wrong: at 120° the resultant is F, not 2F.

D. wrong: at 180° the forces cancel and the resultant is zero.

Question 9 Hydration energy is the heat evolved

Hydration energy is the heat evolved or absorbed when:

- A. one mole of gaseous ions is dissolved in one mole of water
- B. one mole of ions in solid state is dissolved in one mole of water.
- C. one mole of gaseous ions is dissolved in water to give infinitely dilute solution ✓ **Correct answer**
- D. one mole of ions in solid state is dissolved to form concentrated solution

A. wrong: hydration energy is defined for ions dissolved in water to give an infinitely dilute solution, not in one mole of water.

B. wrong: hydration starts from gaseous ions, not ions in the solid state.

C. correct: hydration energy is the heat evolved or absorbed when one mole of gaseous ions is dissolved in water to give an infinitely dilute solution.

D. wrong: hydration starts from gaseous ions and gives an infinitely dilute solution, not a concentrated solution from solid ions.

10 The hypothesis of Ronald Ross relating

The hypothesis of Ronald Ross relating to malaria was:

- A. plasmodia are the cause of malaria. ✓ **Correct answer**
- B. bad air is involved in the spread of malaria
- C. mosquitoes are possible carrier of plasmodia
- D. Malaria is caused by bad air coming from marshyplaces.

A. correct: the textbook states the hypothesis of the malaria investigation as “Plasmodium is the cause of malaria” (Laveran’s discovery, built on by the later work).

B. wrong: the “bad air” (malaria = mal aria) idea was the old miasma belief, not the hypothesis tested.

C. wrong: “mosquitoes transmit plasmodium” was A. F. A. King’s hypothesis, which Ronald Ross’s experiments tested — it is not the hypothesis stated for the first malaria problem.

D. wrong: malaria coming from bad air off marshes is the old miasma belief, not the hypothesis.

Question 11 The authorities have that the plane

The authorities have _____ that the plane to Beirutwas hijacked over the Indian ocean

- A. assured
- B. confirmed ✓ **Correct answer**
- C. committed
- D. ensured

A. wrong: “assured” needs a person as its object (“assured us that…”), which is absent here.

B. correct: the authorities confirmed (officially stated as true) that the plane was hijacked.

C. wrong: “committed” does not fit — the authorities did not commit the hijacking.

nsured" means made certain, which does not fit the sense of reporting a fact.

Question 12 Vector dot product j k j

$\hat{j}\cdot(\hat{k}\times\hat{j})$ is equal to

- A. – 1
- B. zero ✓ **Correct answer**
- C. 1
- D. 2.

A. wrong: $\hat{j}\cdot(\hat{k}\times\hat{j})$ is not -1 — $\hat{k}\times\hat{j}=-\hat{i}$, and $\hat{j}\cdot(-\hat{i})=0$.

B. correct: $\hat{k}\times\hat{j}=-\hat{i}$, and the dot product of $\hat{j}$ with $-\hat{i}$ is zero (perpendicular unit vectors). (The stem is printed with private-use glyphs for the unit vectors; it reads $\hat{j}\cdot(\hat{k}\times\hat{j})$.)

C. wrong: the dot product of perpendicular unit vectors is 0, not 1.

D. wrong: the dot product of perpendicular unit vectors is 0, not 2.

Question 13 The behavior of PbCl 2 and

The behavior of PbCl 2 and PbCl 4 respectively are:

- A. ionic and covalent ✓ **Correct answer**
- B. covalent and ionic
- C. covalent and coordinate covalent
- D. ionic and coordinate covalent

A. correct: $PbCl_2$ is ionic (Pb^{2+}, Pb in the +2 state) while $PbCl_4$ is covalent (Pb in the +4 state — a small, highly charged ion).

B. wrong: this reverses the two — $PbCl_2$ is the ionic one.

C. wrong: $PbCl_2$ is ionic, not covalent.

D. wrong: $PbCl_2$ is ionic and $PbCl_4$ is covalent, not coordinate covalent.

14 Crustaceans are the only arthropods that

Crustaceans are the only arthropods that have:

- A. chitin in their exoskeleton.
- B. chelicetae
- C. three pairs of legs
- D. two pairs of antennae ✓ **Correct answer**

A. wrong: chitin in the exoskeleton is common to all arthropods, not only crustaceans.

B. wrong: chelicerae are the mouthparts of chelicerates (spiders, scorpions), not of crustaceans.

C. wrong: three pairs of legs is the insect character; crustaceans have five or more pairs.

D. correct: crustaceans are the only arthropods with two pairs of antennae.

Question 15 Three vactors of equal magnitude are

Three vactors of equal magnitude are acting on the three sides of an equilateral triangle. The magnitude of their resultant is

- A. zero ✓ **Correct answer**
- B. 3
- C. √3
- D. 1.73

A. correct: three equal vectors acting along the three sides of an equilateral triangle close head-to-tail, so their resultant is zero.

B. wrong: the three vectors cancel; the resultant is not 3 times the magnitude.

C. wrong: the resultant is zero, not √3 times the magnitude.

D. wrong: the resultant is zero, not 1.73 times the magnitude.

16 Select the correct order in ionic

Select the correct order in ionic behavior:

- A. AlF 3 >AlBr 3 >AlCl 3 >AF 3 ,
- B. AlCl 3 , >AlF 3 ,>AlBr 3 , >AlI 3
- C. AlCl 3 , >AlBr 3 ,>AB 3 , >AlF 3 ,
- D. AlF 3 > AlCl 3 >AlBr 3 >AlI 3 ✓ **Correct answer**

A. wrong: this order puts $AlBr_3$ above $AlCl_3$ and ends in "AF_3" (a misprint for AlF_3); the ionic order follows the anion size.

B. wrong: $AlCl_3$ is not the most ionic — AlF_3 is, because F^- is the smallest anion.

C. wrong: this order is reversed and prints "AB_3" (a misprint); the most ionic is AlF_3.

D. correct: ionic character falls as the anion grows (Fajans' rules) — $AlF_3 > AlCl_3 > AlBr_3 > AlI_3$.

Question 17 A cloned baby sheep Dolly was

A cloned baby sheep "Dolly" was attributed to

- A. Four Parents
- B. Three Parents
- C. Two parents
- D. One Parent only ✓ **Correct answer**

A. wrong: Dolly had a single genetic parent (the udder-cell donor); "four parents" has no basis.

B. wrong: the clone had one genetic parent, not three.

C. wrong: the clone had one genetic parent, not two.

D. correct: Dolly was produced by somatic-cell nuclear transfer from a single adult sheep, so she is attributed to one parent only (the cell donor).

18 The physical quantity which produces angular

The physical quantity which produces angular acceleration in the body is:

- A. Force
- B. Moment of inertia
- C. Impulse
- D. Torque ✓ **Correct answer**

A. wrong: a force produces linear acceleration; angular acceleration needs a torque.

B. wrong: moment of inertia resists angular acceleration; it does not produce it.

C. wrong: impulse changes linear momentum; it does not produce angular acceleration.

D. correct: torque is the rotational analogue of force — $\tau = I\alpha$, so torque produces angular acceleration.

Question 19 Select the most stable covalent hydride

Select the most stable covalent hydride:

- A. BiH_3
- B. NH_3
- C. HF ✓ **Correct answer**
- D. SbH_3

A. wrong: bismuthine is very unstable (the Bi–H bond is weak).

B. wrong: ammonia is stable, but the H–F bond is stronger, so HF is more stable.

C. correct: HF has the strongest H–X bond of the four, so it is the most stable covalent hydride.

D. wrong: stibine is unstable (the Sb–H bond is weak).

20 In spiders the organs that contain

In spiders, the organs that contain the silk glands are called

- A. spinnerets ✓ **Correct answer**
- B. carapaces
- C. medriporite
- D. tube feet

A. correct: the silk glands open through the spinnerets at the rear of the spider's abdomen.

B. wrong: the carapace is the dorsal shield of the cephalothorax, not a silk organ.

C. wrong: the madreporite is a starfish structure, not a spider's silk organ. (The source prints "medriporite".)

D. wrong: tube feet belong to echinoderms, not spiders.

Question 21 She has let her house fully

She has let _____ her house fully furnished to a Korean couple.

- A. out ✓ **Correct answer**
- B. at
- C. up
- D. in

A. correct: "let out" means to rent out — she has let her house out to the couple.

B. wrong: "let at" is not the phrasal verb for renting.

C. wrong: "let up" means to ease off or stop, not to rent.

D. wrong: "let in" means to admit, not to rent out.

22 The point at which an applied

The point at which an applied force produces linear motion but no rotatory motion is:

- A. mid-point
- B. centre of gravity ✓ **Correct answer**
- C. optical centre
- D. pole

A. wrong: a force through the mid-point of a body can still produce rotation unless it passes through the centre of gravity.

B. correct: a force applied through the centre of gravity produces translation only, with no torque and no rotation.

C. wrong: the optical centre is a lens term, not a mechanics term.

D. wrong: a pole is a point on a magnet or a cell, not the point of pure translation.

Question 23 Potassium is found in nature as

Potassium is found in nature as carnallite, its composition is:

- A. KAISi 3 O 4
- B. KClMgCl 2 6H 2 O ✓ **Correct answer**
- C. KCl
- D. KCl. Al 2 O 3 .2H 2 O

A. wrong: $KAlSi_3O_4$ is not carnallite (it resembles a feldspar composition).

B. correct: carnallite is $KCl{\cdot}MgCl_2{\cdot}6H_2O$.

C. wrong: KCl alone is sylvite, not carnallite.

D. wrong: this is not the composition of carnallite.

No answer is given for this question, and none is taught. No stem, options or key for Q24 appear in the printed book: the book shows only “24. .....” at the foot of book p. 112, and the compilation key gives no answer (“-”). Recorded openly as unrecoverable; no answer asserted. Decided by the assistant under the owner’s 8 Nov 2026 delegation; the parent admitted the 2 gaps for this paper (21:31).

Question 25 A ball is thrown vertically upward

A ball is thrown vertically upward with a velocity of 98 m/s. if it takes 10 seconds to reach the highest point then the acceleration of the ball is:

- A. 9.8m / s 2
- B. 980m / s 2
- C. 98m / s 2
- D. – 9.8m / s 2 ✓ **Correct answer**

A. wrong: this is the printed key, but it is incorrect — the acceleration is (0 − 98)/10 = −9.8 m/s², not +9.8 m/s².

B. wrong: 980 is 98 × 10, not the acceleration.

C. wrong: 98 m/s is the initial velocity, not the acceleration.

D. correct: a = (v − u)/t = (0 − 98)/10 = −9.8 m/s² (the minus sign shows it acts downward, against the upward motion). (PRINTED-KEY ERROR CORRECTED: the printed key records (A) “9.8m / s 2”, but a = (0 − 98)/10 = −9.8 m/s², so the correct answer is (D). Corrected by the assistant under the owner’s 8 Nov 2026 delegation.)

Question 26 Fajans rule states that small highly

Fajan’s rule states that small highly charged ions tend to form more:

- A. ionic compounds

- C. covalent compounds ✓ **Correct answer**
- D. coordination compound

A. wrong: Fajans' rule says small, highly charged ions polarise the anion and form covalent compounds, not ionic ones.

B. wrong: Fajans' rule is about covalent versus ionic character, not about polymeric compounds.

C. correct: small, highly charged ions have strong polarising power, so they form more covalent compounds.

D. wrong: Fajans' rule is about covalent versus ionic character, not about coordination compounds.

Question 27 Which of the following bird structures

Which of the following bird structures are especially adapted to support flight?

- A. Cloacas
- B. Bills
- C. Gizzard
- D. chest muscles ✓ **Correct answer**

A. wrong: the cloaca is the common excretory and reproductive opening; it does not support flight.

B. wrong: the bill is a feeding structure, not a flight adaptation.

C. wrong: the gizzard grinds food; it does not support flight.

D. correct: the large chest (pectoral) muscles power the wings and are especially adapted to support flight.

28 A man throws a ball vertically

A man throws a ball vertically upward in a compartment of an accelerated train. The ball will fall

- A. in front of him
- B. in his hand
- C. behind him ✓ **Correct answer**
- D. beside him

A. wrong: the ball keeps its initial horizontal velocity while the train accelerates forward, so relative to the man it falls behind, not in front.

B. wrong: this is the printed key, but it is incorrect — the ball falls back into his hand only when the train moves at constant velocity.

C. correct: the ball retains the velocity the train had when it was thrown, while the train (and the man) accelerates on, so the ball falls behind him.

D. wrong: the ball has no sideways motion, so it cannot fall beside him. (PRINTED-KEY ERROR CORRECTED: the printed key records (B) “in his hand”, but the train is accelerating, so while the ball is in the air the train moves ahead of it and the ball falls behind the man; the correct answer is (C). Corrected by the assistant under the owner’s 8 Nov 2026 delegation.)

Question 29 Beryllium a member of alkaline earth

Beryllium, a member of alkaline earth metal, is almost as hard as:

- A. calcium
- B. Potassium
- C. iron ✓ **Correct answer**
- D. magnesium

A. wrong: calcium is a soft metal; beryllium is much harder.

tassium is very soft (it can be cut with a knife).

C. correct: beryllium is unusually hard for an alkaline-earth metal, almost as hard as iron.

D. wrong: magnesium is a soft metal; beryllium is much harder.

Question 30 Which of the following is composed

Which of the following is composed of lipids?

- A. Some hormones ✓ **Correct answer**
- B. Enzymes
- C. Skin tendons
- D. insulin

A. correct: some hormones (the steroid hormones) are lipids.

B. wrong: enzymes are proteins, not lipids.

C. wrong: tendons are made of collagen, a protein, not lipids.

D. wrong: insulin is a protein (peptide) hormone, not a lipid.

Question 31 I have no to listen to

I have no _____ to listen to the budget speech.

- A. trouble
- B. convenience
- C. patience ✓ **Correct answer**
- D. perseverance

A. wrong: “no trouble to listen” does not fit the sentence.

B. wrong: “no convenience to listen” does not fit the sentence.

C. correct: “I have no patience to listen to the budget speech” is the idiomatic phrasing.

perseverance means persistence in a task, not the tolerance to sit through a speech.

Question 32 A bomber drops a bomb when

A bomber drops a bomb, when it is vertically above the target. It misses the target because of:

- A. vertical component of the velocity of bomber
- B. force of gravity
- C. acceleration of the bomber
- D. horizontal component of the velocity of bomber ✓ **Correct answer**

A. wrong: the vertical component makes the bomb fall; it is not what makes it miss the target sideways.

B. wrong: gravity makes the bomb fall, not miss the target ahead.

C. wrong: the bomber is in level flight at constant velocity; the miss is due to the retained horizontal velocity.

D. correct: the bomb keeps the bomber's forward (horizontal) velocity after release, so it lands ahead of the target.

Question 33 Select the correct statement

Select the correct statement.

- A. All alkali metal hydroxides are stable to heat
- B. All alkali metal hydroxides are unstable to heat
- C. All alkali metal hydroxides are stable to heat except CsOH
- D. All alkali metal hydroxides are stable to heat except LiOH ✓ **Correct answer**

A. wrong: not all are stable — LiOH decomposes on heating.

B. wrong: most alkali metal hydroxides are stable to heat.

OH is stable to heat, the exception is LiOH.

D. correct: all alkali metal hydroxides are stable to heat except LiOH, which decomposes to $Li_2O + H_2O$.

Question 34 The rate of breathing of a

The rate of breathing of a child of 5 years is about:

- A. 44 times / minute
- B. 40 times / minute
- C. 25 times / minute ✓ **Correct answer**
- D. 20 times / minute

A. wrong: 44 breaths per minute is far too fast for a 5-year-old (it is near the newborn rate).

B. wrong: 40 breaths per minute is too fast for a 5-year-old.

C. correct: the breathing rate of a 5-year-old child is about 25 times per minute.

D. wrong: 20 breaths per minute is the adult rate, not a 5-year-old's.

Question 35 The property of the moving object

The property of the moving object by virtue of which it exerts force on the object that tries to slop it is:

- A. inertia of the body ✓ **Correct answer**
- B. quantity of motion of body
- C. Acceleration of body
- D. All of these

A. correct: by its inertia the moving body persists in its motion and pushes against whatever tries to stop it.

momentum is the quantity of motion, but the property that makes the moving body push against the stopper is its inertia.

C. wrong: acceleration is the change of velocity, not the property by which the body exerts force.

D. wrong: only inertia fits — momentum and acceleration do not describe this property.

Question 36 Refratory bricks used for furnace lining

Refratory bricks used for furnace lining are formed by mixing and drying

- A. MgO and clay ✓ **Correct answer**
- B. MgCO 3 and clay
- C. MgSO 4 and clay
- D. MgCO 3 CaCO 3

A. correct: refractory bricks are formed by mixing and drying MgO with clay.

B. wrong: the carbonate decomposes on heating; MgO is the refractory material used.

C. wrong: $MgSO_4$ is not the material used for refractory bricks.

D. wrong: $MgCO_3{\cdot}CaCO_3$ (dolomite) is not the refractory-brick mix.

Question 37 The middle lamella of cell-wall is

The middle lamella of cell-wall is composed of:

- A. Cellulose
- B. pectin ✓ **Correct answer**
- C. Lignin
- D. Murein

A. wrong: cellulose is in the primary and secondary walls, not the middle lamella.

B. correct: the middle lamella is composed mainly of pectin (calcium pectate).

nin is in secondary walls (wood), not the middle lamella.

D. wrong: murein (peptidoglycan) is a bacterial cell-wall material, not a plant middle lamella.

Question 38 The dot product of force and

The dot product of force and velocity is equal to:

- A. power ✓ **Correct answer**
- B. impulse
- C. couple
- D. Momentum

A. correct: power = force × velocity (P = F·v).

B. wrong: impulse is force × time (F·t), not force × velocity.

C. wrong: a couple is a pair of equal and opposite forces, not the dot product of force and velocity.

D. wrong: momentum is mass × velocity, not force × velocity.

Question 39 The electronegativity of Group IIIA element

The electronegativity of Group IIIA element first decreases and then increases. This behavior is due to poor shielding of:

- A. S – electron
- B. P – electron
- C. d – electron ✓ **Correct answer**
- D. f – electron

A. wrong: poor shielding by s-electrons does not explain this behaviour.

B. wrong: poor shielding by p-electrons does not explain this behaviour.

e d-electrons shield poorly, so the effective nuclear charge rises and the electronegativity first decreases and then increases.

D. wrong: poor shielding by f-electrons does not explain this behaviour.

Question 40 Nicotine in tobacco

Nicotine in tobacco:

- A. decreases the heart rate
- B. decreases blood pressure
- C. block the transport of oxygen
- D. paralyzes cilia ✓ **Correct answer**

A. wrong: nicotine increases the heart rate, not decreases it.

B. wrong: nicotine raises blood pressure, not lowers it.

C. wrong: this is the printed key, but it is incorrect — blocking the transport of oxygen is the effect of carbon monoxide, not nicotine.

D. correct: nicotine paralyses the cilia lining the airways, so dust and mucus are not cleared. (PRINTED-KEY ERROR CORRECTED: the printed key records (C) “block the transport of oxygen”, but blocking oxygen transport is the effect of carbon monoxide (carboxyhaemoglobin); nicotine paralyses the cilia of the airways, so the correct answer is (D). Corrected by the assistant under the owner’s 8 Nov 2026 delegation.)

Question 41 Your too long you had better

Your _____ too long: you had better go to the hairdresser today

- A. hair is ✓ **Correct answer**
- B. hair are
- C. hairs are
- D. hairs is

hair" is uncountable, so it takes the singular "is".

B. wrong: "hair" is uncountable and takes "is", not "are".

C. wrong: "hairs" (individual strands) does not fit — the sentence needs the uncountable "hair".

D. wrong: "hairs is" mixes a plural noun with a singular verb.

Question 42 The escape velocity from the earth

The escape velocity from the earth gravitational field depends upon:

- A. rotation of earth
- B. mass of body
- C. radius of earth ✓ **Correct answer**
- D. Mass of earth

A. wrong: escape velocity does not depend on the rotation of the earth.

B. wrong: v = √(2GM/R) contains no mass of the escaping body.

C. correct: escape velocity v = √(2GM/R) depends on the radius of the earth (and on its mass); this is the keyed answer.

D. also acceptable: escape velocity v = √(2GM/R) depends on the mass of the earth as well as its radius. (PICK-ONE: options (C) radius of earth and (D) mass of earth are both correct — escape velocity v = √(2GM/R) depends on both; the keyed answer (C) is filed. Decided by the assistant under the owner's 8 Nov 2026 delegation.)

Question 43 Sodium tetraborate Na 2 B 4

Sodium tetraborate Na 2 B 4 O 7 .10H 2 Ois

- A. Colemanite
- B. Borax ✓ **Correct answer**

- D. bauxite

A. wrong: colemanite is calcium borate, not sodium tetraborate.

B. correct: sodium tetraborate decahydrate ($Na_2B_4O_7 \cdot 10H_2O$) is borax.

C. wrong: diaspore is aluminium hydroxide (AlO(OH)), not a borate.

D. wrong: bauxite is the aluminium ore, not sodium tetraborate.

Question 44 Stream of chloroplast carries the fixation

Stream of chloroplast carries the fixation of:

- A. Nitrogen
- B. Oxygen
- C. Carbon monoxide
- D. carbon dioxide ✓ **Correct answer**

A. wrong: nitrogen is not fixed in the stroma of the chloroplast.

B. wrong: oxygen is evolved in photosynthesis, not fixed.

C. wrong: carbon monoxide is not fixed in photosynthesis.

D. correct: the stroma is where the Calvin cycle fixes carbon dioxide.

Question 45 If the velocity of a body

If the velocity of a body becomes half, the kinetic energy of the body will become:

- A. on fourth ✓ **Correct answer**
- B. double
- C. four times
- D. half

netic energy is ½mv², so halving the velocity quarters it (the option prints “on fourth”, a misprint for “one fourth”).

B. wrong: halving the velocity reduces the kinetic energy, it does not double it.

C. wrong: four times is what doubling the velocity would give.

D. wrong: kinetic energy depends on v^2, not on v, so it does not simply halve.

Question 46 Aluminium sodium hydroxide reaction

2Al(s) + 2NaOH(aq) + 2H2O → 2NaAlO2(aq) + 3H2(g) The above reaction is slow in the start but speeds up after sometimes. This is because of:

- A. The reation is exothermic and the heat generated speeds up the reaction
- B. The hydrogen liberated during the reaction act ascatalyst
- C. The protective coat of oxide layer of the aluminum dissolves and the metal surface is exposed to thereactant ✓ **Correct answer**
- D. Sodium aluminate is highly soluble, therefore it helps the reaction move in the forward direction

A. wrong: the reaction being exothermic is not what speeds it up — the oxide layer is the cause.

B. wrong: the hydrogen liberated is a product, not a catalyst for the reaction.

C. correct: the protective aluminium-oxide coat dissolves in NaOH, exposing fresh metal to the reactant, so the reaction speeds up. (The reaction is restored from the printed page: $2Al(s) + 2NaOH(aq) + 2H_2O \rightarrow 2NaAlO_2(aq) + 3H_2(g)$.)

D. wrong: the solubility of sodium aluminate does not explain why the reaction starts slowly.

47 The valve between right atrium and

The valve between right atrium and right ventricle is called:

- A. bicuspid valve
- B. tricuspid valve ✓ **Correct answer**
- C. pulmonary valve
- D. semi lunar valve

A. wrong: the bicuspid (mitral) valve is on the left side, between the left atrium and left ventricle.

B. correct: the valve between the right atrium and the right ventricle is the tricuspid valve.

C. wrong: the pulmonary valve guards the pulmonary artery, not the atrioventricular opening.

D. wrong: the semilunar valves guard the aorta and the pulmonary artery.

Question 48 Angular velocity of earth daily rotation

The angular velocity for daily rotation of the earth is:

- A. π/3 radian hr -1
- B. π/6 radian hr -1
- C. π/12 radian hr -1 ✓ **Correct answer**
- D. 12π radian hr -1

A. wrong: one revolution (2π radians) in 24 hours gives π/12 rad/hr, not π/3 rad/hr.

B. wrong: one revolution (2π radians) in 24 hours gives π/12 rad/hr, not π/6 rad/hr.

C. correct: ω = 2π/24 = π/12 radians per hour. (The options are restored from the printed page: the text layer renders π as a private-use glyph.)

D. wrong: 12π radians per hour would be six revolutions an hour, not one per day.

49 Sodium Carbonate when fused with sand

Sodium Carbonate when fused with sand forms sodium silicate which is commonly known as:

- A. Soda glass
- B. water glass ✓ **Correct answer**
- C. jinna glass
- D. pyrex glass

A. wrong: soda glass is soda-lime glass (Na_2CO_3 + CaO + sand), not sodium silicate alone.

B. correct: sodium silicate is commonly known as water glass.

C. wrong: “jinna glass” is not the name for sodium silicate.

D. wrong: pyrex is borosilicate glass, not sodium silicate.

Question 50 Anthocyanins are various types of colourful

Anthocyanins are various types of colourful pigments present in the:

- A. chloroplasts
- B. chromoplasts
- C. leucoplasts
- D. vacuoles ✓ **Correct answer**

A. wrong: chloroplasts contain chlorophyll, not anthocyanins.

B. wrong: chromoplasts contain carotenoids, not anthocyanins.

C. wrong: leucoplasts are colourless storage plastids.

D. correct: anthocyanins are stored in the cell sap of the vacuoles.

51 You can always count on me

You can always count on me. I will not let you_____

- A. alone
- B. down ✓ **Correct answer**
- C. off
- D. through

A. wrong: “let you alone” means leave you by yourself, not the reassurance promised here.

B. correct: “let down” means to disappoint — “I will not let you down” is the promised reassurance.

C. wrong: “let you off” means to excuse you from something, not the reassurance promised here.

D. wrong: “let you through” means to allow you to pass, not the reassurance promised here.

Question 52 The weight of a pilot when

The weight of a pilot when diving down in a jet plane with an acceleration of 9.8 m/s 2 will become:

- A. Double
- B. half
- C. Negative
- D. zero ✓ **Correct answer**

A. wrong: the pilot’s apparent weight does not double when diving down.

B. wrong: the pilot’s apparent weight does not halve when diving down.

C. wrong: the pilot’s apparent weight does not become negative in this dive.

D. correct: diving down with an acceleration of 9.8 m/s^2 is free fall, so the pilot’s apparent

mes zero.

Question 53 Silicones are resisted to chemical attack

Silicones are resisted to chemical attack and are used in/as

- A. paints
- B. vernishes
- C. water proofing fabrics
- D. all of the above ✓ **Correct answer**

A. wrong on its own: silicones are used in paints, but also in varnishes and waterproofing.

B. wrong on its own: silicones are used in varnishes, but also in paints and waterproofing.

C. wrong on its own: silicones are used for waterproofing fabrics, but also in paints and varnishes.

D. correct: silicones resist chemical attack and are used in paints, varnishes and waterproofing fabrics — all of the above.

Question 54 Anti bodies are produced by

Anti bodies are produced by:

- A. red blood cells
- B. platelets
- C. B-lymphocytes ✓ **Correct answer**
- D. Hormones

A. wrong: red blood cells carry oxygen; they do not produce antibodies.

B. wrong: platelets help blood clotting; they do not produce antibodies.

C. correct: antibodies are produced by B-lymphocytes (plasma cells).

D. wrong: hormones are chemical messengers, not antibody producers.

55 The Geostationary satellites are

The Geostationary satellites are:

- A. stationary
- B. Rotating with the speed of earth ✓ **Correct answer**
- C. rotating very fastly
- D. rotating very slowly

A. wrong: geostationary satellites are not stationary — they orbit the earth.

B. correct: a geostationary satellite rotates with the speed of the earth (one revolution per day), so it stays above the same point.

C. wrong: geostationary satellites do not rotate very fast — they match the earth's rotation.

D. wrong: geostationary satellites do not rotate very slowly — they match the earth's rotation.

Question 56 Select the oxide which is in

Select the oxide which is in the solid state at room temperature

- A. N 2 O 5 ✓ **Correct answer**
- B. N 2 O
- C. NO 2
- D. N 2 O 3

A. correct: N_2O_5 is a solid at room temperature (the other nitrogen oxides listed are gases).

B. wrong: N_2O (nitrous oxide) is a gas at room temperature.

C. wrong: NO_2 is a gas at room temperature.

D. wrong: N_2O_3 is a gas at room temperature.

57 Phage- virus secretes an enzyme lysozyme

Phage- virus secretes an enzyme “lysozyme” form its:

- A. tail region ✓ **Correct answer**
- B. head region
- C. neck region
- D. capsule region

A. correct: the phage secretes lysozyme from its tail region to break the bacterial cell wall.

B. wrong: the head region contains the DNA, not the lysozyme.

C. wrong: the neck region joins head and tail; it does not secrete lysozyme.

D. wrong: the capsule region does not secrete lysozyme.

Question 58 Dimensions ML-1 T-1

$[ML^{-1}T^{-1}]$ are the dimensions of:

- A. angular momentum
- B. power
- C. impulse
- D. viscosity ✓ **Correct answer**

A. wrong: angular momentum has dimensions $[ML^{2}T^{-1}]$, not $[ML^{-1}T^{-1}]$.

B. wrong: power has dimensions $[ML^{2}T^{-3}]$, not $[ML^{-1}T^{-1}]$.

C. wrong: impulse has dimensions $[MLT^{-1}]$, not $[ML^{-1}T^{-1}]$.

D. correct: viscosity has dimensions $[ML^{-1}T^{-1}]$ ($\eta = F/(A \cdot dv/dx)$).

Question 59 Group 5 th elements arsenic and

Group 5 th elements arsenic and antimony are considered as:

- B. non metallic
- C. metalloids ✓ **Correct answer**
- D. transition elements

A. wrong: arsenic and antimony are not metals — they are metalloids.

B. wrong: arsenic and antimony are not non-metals — they are metalloids.

C. correct: arsenic and antimony (Group 15) are metalloids, with properties between metals and non-metals.

D. wrong: arsenic and antimony are p-block elements, not transition elements.

Question 60 Much of mechanical digestion takes place

Much of mechanical digestion takes place in the

- A. oesophagus
- B. mouth ✓ **Correct answer**
- C. stomach
- D. duodenum

A. wrong: the oesophagus only passes food on; little mechanical digestion happens there.

B. correct: most mechanical digestion (chewing by the teeth and churning by the tongue) takes place in the mouth.

C. wrong: the stomach does some mechanical churning, but most mechanical digestion is in the mouth.

D. wrong: the duodenum is mainly a site of chemical digestion, not mechanical.

Question 61 Styles popular in the 1960s are

Styles _____ popular in the 1960s are reappearing in high fashion boutiques

- B. which have been
- C. that have been
- D. that were ✓ **Correct answer**

A. wrong: “what have been” cannot introduce this relative clause.

B. wrong: “which have been” uses the present perfect, but the styles were popular in the 1960s (past), so the past tense is needed.

C. wrong: “that have been” uses the present perfect, but the styles were popular in the 1960s (past), so the past tense is needed.

D. correct: “styles that were popular in the 1960s” — the relative pronoun “that” with the past tense “were”.

Question 62 A two meter high tank is

A two meter high tank is full of water. A hole is made in the middle of the tank. The speed of effect is

- A. 4.9 ms 1
- B. 9.8 ms – 1
- C. 4.42ms ✓ **Correct answer**
- D. 3.75 ms

A. wrong: Torricelli’s law gives $v = \sqrt{(2gh)} = \sqrt{(2 \times 9.8 \times 1)} \approx 4.42$ m/s, not 4.9 m/s.

B. wrong: Torricelli’s law gives $v = \sqrt{(2gh)} = \sqrt{(2 \times 9.8 \times 1)} \approx 4.42$ m/s, not 9.8 m/s.

C. correct: the hole is 1 m below the surface, so $v = \sqrt{(2gh)} = \sqrt{(2 \times 9.8 \times 1)} \approx 4.42$ m/s.

D. wrong: Torricelli’s law gives $v = \sqrt{(2gh)} = \sqrt{(2 \times 9.8 \times 1)} \approx 4.42$ m/s, not 3.75 m/s.

63 The bleaching action of bleaching powder

The bleaching action of bleaching powder is due to “available chlorine” it is the amount of chlorine.

- A. that is required for the preparation of bleachingpowder
- B. site free when excess of sulphuric acid is added tothe bleaching powder. ✓ **Correct answer**
- C. that is required for the generation of the hypochlorite
- D. Both B and C

A. wrong: available chlorine is not the chlorine required to prepare bleaching powder.

B. correct: “available chlorine” is the amount of chlorine set free when excess sulphuric acid is added to the bleaching powder. (The option prints “site free”, a misprint for “set free”.)

C. wrong: available chlorine is not the chlorine required to generate hypochlorite.

D. wrong: only (B) is correct — “both B and C” cannot be right when (C) is wrong.

Question 64 HIV contains

H.I.V contains

- A. two R.N.As ✓ **Correct answer**
- B. a single R.N.A
- C. D.N.A and R.N.A
- D. D.N.A

A. correct: HIV contains two copies of single-stranded RNA.

B. wrong: HIV does not contain a single RNA — it contains two copies.

C. wrong: HIV contains RNA only, not DNA and RNA.

D. wrong: HIV is an RNA virus; it contains no DNA.

65 The quantity which specified the displacement

The quantity which specified the displacement as well as the direction of motion in simple harmonic motion is the

- A. phase angle ✓ **Correct answer**
- B. angular frequency
- C. path difference
- D. none of these

A. correct: the phase angle (ωt + φ) specifies both the displacement and the direction of motion in simple harmonic motion.

B. wrong: angular frequency (ω) gives the rate of oscillation, not the displacement and direction.

C. wrong: path difference is a wave term, not the quantity that specifies displacement and direction in SHM.

D. wrong: the phase angle does specify the displacement and direction, so “none of these” is wrong.

Question 66 The formula of mustard gas is

The formula of mustard gas is:

- A. (C 2 H 2 Cl 2) 2 S
- B. (C 2 H 4 Cl 2) 2 S
- C. (C 2 H 3 Cl 2) 2 S
- D. (C 2 H 4 Cl) 2 S ✓ **Correct answer**

A. wrong: $(C_2H_2Cl_2)_2S$ is not mustard gas (the formula has too few hydrogens).

B. wrong: $(C_2H_4Cl_2)_2S$ is not mustard gas (each ethyl group carries only one chlorine).

C. wrong: $(C_2H_3Cl_2)_2S$ is not mustard gas.

mustard gas is bis(2-chloroethyl) sulphide, $(C_2H_4Cl)_2S$.

Question 67 The amount of energy in food

The amount of energy in food is measured in:

- A. ATP
- B. Calories ✓ **Correct answer**
- C. ADP
- D. Carbohydrates

A. wrong: ATP is the cell's energy currency, not the unit in which food energy is measured.

B. correct: the amount of energy in food is measured in calories.

C. wrong: ADP is the low-energy form of ATP, not a unit of food energy.

D. wrong: carbohydrates are a source of food energy, not the unit in which it is measured.

Question 68 The magnitude of the periodic force

The magnitude of the periodic force, which the simple pendulum exerts on the suspension point, depends upon:

- A. length of the pendulum
- B. time period of vibration of pendulu
- C. mass of the bob of pendulum
- D. value of 'g' ✓ **Correct answer**

A. wrong: the periodic force on the suspension point does not depend on the length of the pendulum.

B. wrong: the periodic force on the suspension point does not depend on the time period.

C. also acceptable: the force on the suspension point is the weight of the bob plus the tension, both proportional to the bob's mass.

…e force on the suspension point is the weight of the bob plus the tension, both proportional to g; this is the keyed answer. (PICK-ONE: options (C) mass of the bob and (D) value of 'g' are both correct — the tension (the force on the suspension point) is proportional to both m and g; the keyed answer (D) is filed. Decided by the assistant under the owner's 8 Nov 2026 delegation.)

Question 69 All gases below are monoatomic except

All gases below are monoatomic except:

- A. H ✓ **Correct answer**
- B. He
- C. Ne
- D. Xe

A. correct: hydrogen (H_2) is diatomic, while He, Ne and Xe are monatomic.

B. wrong: helium is monatomic.

C. wrong: neon is monatomic.

D. wrong: xenon is monatomic.

Question 70 The inherit form of immunity through

The inherit form of immunity through mother's milk is the:

- A. active immunity
- B. innate immunity
- C. passive immunity ✓ **Correct answer**
- D. Acquired immunity

A. wrong: active immunity is produced by the body itself after infection or vaccination, not inherited through milk.

B. wrong: innate immunity is the inborn, non-specific defence, not the immunity inherited

:her's milk.

C. correct: immunity inherited through mother's milk is passive immunity — ready-made antibodies passed from mother to child.

D. wrong: acquired immunity is developed by the body itself, not inherited through milk.

Question 71 Waseem this him as MD for

Waseem _____ this him as MD for many years, but he is rather unhappy with his salary

- A. is working in
- B. is serving
- C. is working for
- D. has been working ✓ **Correct answer**

A. wrong: "is working in this firm as MD" needs the perfect tense with "for many years", and the sentence is garbled ("this him").

B. wrong: "is serving" does not fit the sentence, and the perfect tense is needed with "for many years".

C. wrong: "is working for" is the wrong tense — "for many years" needs the present perfect.

D. correct: "Waseem has been working for this firm as MD for many years" — the present perfect continuous with "for many years".

Question 72 When the pressure in a medium

When the pressure in a medium increases, the speed of sound in that medium:

- A. decreases
- B. decreases
- C. does not change ✓ **Correct answer**
- D. sometimes increases and sometime decreases

both (a) and (b) print "decreases", the speed of sound in a gas does not change with pressure at constant temperature.

B. wrong: both (a) and (b) print "decreases" (the "115" in (b) is a stray page number); the speed of sound does not change with pressure at constant temperature.

C. correct: at constant temperature the speed of sound in a gas is independent of pressure ($v = \sqrt{(\gamma P/\rho)}$, and ρ rises with P).

D. wrong: the speed of sound does not sometimes increase and sometimes decrease with pressure — it stays the same.

Question 73 Choose the correct name of Ba

Choose the correct name of Ba 2 XeO 4

- A. Barium Xenate
- B. Barium Xenthate
- C. Barium Prexenate ✓ **Correct answer**
- D. Barium Perxenthate

A. wrong: Ba_2XeO_4 contains xenon in the +8 state (perxenate), not the +6 xenate.

B. wrong: "barium xenthate" is not a name for Ba_2XeO_4.

C. correct: Ba_2XeO_4 is barium perxenate — xenon is in the +8 oxidation state (XeO_4^{2-}).

D. wrong: "barium perxenthate" is not a name for Ba_2XeO_4.

Question 74 Which of the following is NOT

Which of the following is NOT an innate behavior?

- A. a body mammal sucking milk
- B. a dog looking for its food dish ✓ **Correct answer**
- C. a worm moving away from bright light

A. wrong: a baby mammal sucking milk is an innate (inborn) behaviour.

B. correct: a dog looking for its food dish is learned behaviour, not innate — it is acquired by experience.

C. wrong: a worm moving away from bright light is an innate reflex (phototaxis).

D. wrong: a spider spinning a web is an innate (inborn) behaviour.

Question 75 The number of loops in stationary

The number of loops in stationary wavesdepends upon:

- A. velocity of waves
- B. wavelength of waves
- C. nature of the medium
- D. frequency of waves ✓ **Correct answer**

A. wrong: the number of loops depends on the frequency (and length), not directly on the wave velocity.

B. wrong: the number of loops depends on the frequency, not directly on the wavelength.

C. wrong: the number of loops does not depend on the nature of the medium.

D. correct: for a fixed length, the number of loops in a stationary wave increases with the frequency (n = 2Lf/v).

Question 76 The electronic configuration of Cu 29

The electronic configuration of Cu (29. is:

- A. – 3s 2 3p 6 3d 10 4s 1 ✓ **Correct answer**
- B. – 3s 2 3p 6 3d 9 4s 2
- C. – 3s 2 3p 6 3d 8 4s 2

2 3p 6 3d 9 4s 2

A. correct: copper is the exception — its configuration is [Ar] $3d^{10}$ $4s^{1}$ (a full d-subshell).

B. wrong: $3d^{9}$ $4s^{2}$ is the unfilled configuration; copper actually adopts $3d^{10}$ $4s^{1}$.

C. wrong: $3d^{8}$ $4s^{2}$ is not copper's configuration.

D. wrong: $3d^{7}$ $4s^{2}$ is not copper's configuration.

Question 77 Entamoeba belongs to the phylum

Entamoeba belongs to the phylum:

- A. sporozoa
- B. sarcodina ✓ **Correct answer**
- C. mastigophora
- D. microspora

A. wrong: sporozoa are spore-forming parasites (e.g. Plasmodium), not Entamoeba.

B. correct: Entamoeba moves by pseudopodia, so it belongs to Sarcodina.

C. wrong: mastigophora are flagellates, not Entamoeba.

D. wrong: microspora are spore-forming parasites, not Entamoeba.

Question 78 When the light enters from air

When the light enters from air to glass, it suffers a change in the

- A. wavelength of light
- B. speed of light
- C. frequency of light
- D. wavelength and speed of light ✓ **Correct answer**

A. wrong on its own: the wavelength changes, but the speed changes too.

its own. the speed changes, but the wavelength changes too.

C. wrong: the frequency never changes on refraction.

D. correct: on entering glass, both the wavelength and the speed of light decrease (frequency stays the same).

Question 79 The highest oxidation state of Manganese

The highest oxidation state of Manganese – 3s 2 3p 6 3d 5 4s 2 in its compounds is:

- A. +2
- B. +5
- C. +7 ✓ **Correct answer**
- D. +8

A. wrong: +2 is a common state of manganese, not the highest.

B. wrong: +5 is not the highest oxidation state of manganese.

C. correct: manganese ($3d^5\ 4s^2$) can lose all seven valence electrons, so its highest oxidation state is +7 (as in $KMnO_4$).

D. wrong: manganese has only seven valence electrons, so +8 is impossible.

Question 80 A non specific defence reaction to

A non specific defence reaction to tissue damage caused by injury or infection is known as:

- A. active immunity
- B. the inflammatory response
- C.
- D.

No answer is given for this question, and none is taught. DEFECTIVE — EXCLUDED, no

rted (printed key B "the inflammatory response"; options (c) and (d) are blank in the printed book; decided by the assistant under the owner's 8 Nov 2026 delegation)

A. active immunity is a specific defence (antibodies), not a non-specific reaction to tissue damage — but the question is defective: options (c) and (d) are blank in the book, so no answer is asserted.

B. the keyed answer is "the inflammatory response", which is indeed the non-specific defence reaction to tissue damage — but the question is defective: options (c) and (d) are blank in the book, so no answer is asserted.

C. not printed — the option is blank in the book.

D. not printed — the option is blank in the book.

Question 81 Tahira as well as her brother

Tahira as well as her brother _____ responsible for the loss and they must be made to makeup for it:

- A. is ✓ **Correct answer**
- B. are
- C. were
- D. have been

A. correct: "as well as" does not make the subject plural — the verb agrees with "Tahira" (singular), so "is".

B. wrong: "as well as her brother" does not make the subject plural; the verb is "is".

C. wrong: "were" is plural and in the wrong tense.

D. wrong: "have been" is plural and does not fit.

82 When the light is moving from

When the light is moving from rare medium to denser medium on reflection it suffers a phase change of

- A. 180° ✓ **Correct answer**
- B. 120°
- C. 90°
- D. 0°

A. correct: reflection from a denser medium gives a phase change of π (180°).

B. wrong: the phase change on reflection from a denser medium is 180°, not 120°.

C. wrong: the phase change on reflection from a denser medium is 180°, not 90°.

D. wrong: a 0° phase change happens on reflection from a rarer medium, not a denser one.

Question 83 The oxidation power of halogen depends

The oxidation power of halogen depends upon:

- A. energy of dissociation
- B. electron affinity of atoms
- C. hydration energies of lons
- D. all of the above ✓ **Correct answer**

A. wrong on its own: the oxidising power depends on the energy of dissociation, but also on electron affinity and hydration energies.

B. wrong on its own: the oxidising power depends on electron affinity, but also on dissociation energy and hydration energies.

C. wrong on its own: the oxidising power depends on hydration energies, but also on dissociation energy and electron affinity.

…e oxidising power of a halogen depends on all three — dissociation energy, electron affinity and hydration energies.

Question 84 nuclear mitosis occurs in the kingdom

nuclear mitosis occurs in the kingdom of:

- A. Monera
- B. Protista
- C. Plantae
- D. fungi ✓ **Correct answer**

A. wrong: this is the printed key, but it is incorrect — Monera (bacteria) divide by binary fission and never undergo mitosis.

B. wrong: protists do undergo mitosis, but the textbook's "nuclear mitosis" is the fungal type.

C. wrong: plants undergo mitosis, but the textbook's "nuclear mitosis" is the fungal type.

D. correct: the textbook's "nuclear mitosis" (closed mitosis, with the nuclear envelope intact) is characteristic of fungi — the same question in the 2012 paper is keyed (D). (PRINTED-KEY ERROR CORRECTED: the printed key records (A) "Monera", but Monera (bacteria) have no nucleus and divide by binary fission, never by mitosis; the textbook's "nuclear mitosis" (closed mitosis, nuclear envelope intact) is the fungal form — the same question in the 2012 paper (37ahm Q85) is keyed (D) Fungi — so the correct answer is (D). Corrected by the assistant under the owner's 8 Nov 2026 delegation.)

Question 85 We can hear sound around the

We can hear sound around the corner but cannot see because of:

- A. interference
- B. diffraction ✓ **Correct answer**
- C. polarization

A. wrong: interference is the superposition of waves, not why sound bends around corners.

B. correct: sound (long wavelength) diffracts around corners; light (short wavelength) does not diffract noticeably, so we cannot see around corners.

C. wrong: polarisation is a property of transverse waves, not the reason sound bends around corners.

D. wrong: dispersion is the splitting of light into colours, not the reason sound bends around corners.

Question 86 All compounds are organic except

All compounds are organic except

- A. (H 2 N) 2 CO
- B. NH 4 CNO ✓ **Correct answer**
- C. CH 3 NO 2
- D. C 2 H 5 N 2 HSO 4

A. wrong: urea ($(H_2N)_2CO$) is an organic compound.

B. correct: ammonium cyanate (NH_4CNO) is inorganic — it is the salt Wöhler converted into urea.

C. wrong: nitromethane (CH_3NO_2) is an organic compound.

D. wrong: the ethyl compound listed is organic.

Question 87 The protein that helps other cells

The protein that helps other cells resist viral infection is

- A. Penicillin

- C. interferon ✓ **Correct answer**
- D. antigens

A. wrong: penicillin is an antibiotic from fungi, not a protein that protects cells from viruses.

B. wrong: histamine causes allergy and inflammation, it does not protect cells from viruses.

C. correct: interferon is the protein that helps other cells resist viral infection.

D. wrong: antigens trigger the immune response; they do not protect other cells from viruses.

Question 88 The powers of the objective and

The powers of the objective and eye piece of telescope are 0.5 diopter and 10 diopter respectively. The magnifying power of telescope is:

- A. 0.5
- B. 10
- C. 20 ✓ **Correct answer**
- D. 0.05

A. wrong: 0.5 is the power of the objective alone, not the magnifying power.

B. wrong: 10 is the power of the eyepiece alone, not the magnifying power.

C. correct: the magnifying power of a telescope is $M = f_e/f_o = 10/0.5 = 20$.

D. wrong: 0.05 is f_o/f_e — the inverse of the magnifying power.

Question 89 The oxidation number of cobalt in

The oxidation number of cobalt in [Co(en) 2 H 2 O(CN)] 2+

- B. 3 ✓ **Correct answer**
- C. 4
- D. 5

A. wrong: the cobalt oxidation state is +3, not +2 (en and H_2O are neutral, CN^- is −1, and the complex carries +2).

B. correct: en and H_2O are neutral and CN^- is −1, so x − 1 = +2 gives cobalt in the +3 state.

C. wrong: the cobalt oxidation state is +3, not +4.

D. wrong: the cobalt oxidation state is +3, not +5.

Question 90 Rust and smut belong to the

Rust and smut belong to the phylum

- A. zygomycota
- B. ascomycota
- C. basidiomycota ✓ **Correct answer**
- D. deuteromycota

A. wrong: zygomycota are the bread moulds, not rusts and smuts.

B. wrong: ascomycota are yeasts and morels, not rusts and smuts.

C. correct: rusts and smuts belong to the Basidiomycota.

D. wrong: deuteromycota are the fungi imperfecti, not rusts and smuts.

Question 91 She her parents They must be

She _____ her parents. They must be worried about her health.

- A. had better call ✓ **Correct answer**
- B. had better called

better to call

- D. better call

A. correct: “had better” takes the bare infinitive — “she had better call her parents”.

B. wrong: “had better” takes the bare infinitive “call”, not the past form “called”.

C. wrong: “had better” takes the bare infinitive, with no “to”.

D. wrong: the set phrase is “had better call” — “better call” alone is not correct here.

Question 92 At constant temperature when the volume

At constant temperature when the volume of the given mass of gas is doubled its density becomes:

- A. double
- B. one fourth
- C. four times
- D. half ✓ **Correct answer**

A. wrong: doubling the volume halves the density, it does not double it.

B. wrong: doubling the volume halves the density, it does not quarter it.

C. wrong: doubling the volume halves the density, it does not make it four times.

D. correct: density = mass/volume, so doubling the volume (same mass) halves the density.

Question 93 Ammonium hydroxide was added to a

Ammonium hydroxide was added to a salt solution deep blue color was obtaine. The solution contains ions of:

- A. Zn +2
- B. Cu +2 ✓ **Correct answer**

- D. Ba +2

A. wrong: Zn^{2+} gives a white precipitate with ammonium hydroxide, not a deep blue colour.

B. correct: Cu^{2+} gives the deep blue tetraamminecopper(II) complex $[Cu(NH_3)_4]^{2+}$ with ammonium hydroxide.

C. wrong: Fe^{3+} gives a brown precipitate, not a deep blue colour.

D. wrong: Ba^{2+} gives a white precipitate, not a deep blue colour.

Question 94 A network of tubules that runs

A network of tubules that runs through compact bone is called the:

- A. haversian canal ✓ **Correct answer**
- B. periosteum
- C. marrow
- D. joint

A. correct: the network of tubules running through compact bone is the Haversian canal system.

B. wrong: the periosteum is the outer membrane of the bone, not the tubule network.

C. wrong: marrow is inside the bone cavity, not the tubule network.

D. wrong: a joint is where two bones meet, not the tubule network.

Question 95 The process which is performed quickly

The process which is performed quickly is:

- A. isobaric process
- B. adlabalic process ✓ **Correct answer**

- D. isochoric process

A. wrong: an isobaric process is at constant pressure; it is not defined by being quick.

B. correct: an adiabatic process is performed quickly, so no heat is exchanged with the surroundings. (The option prints “adlabalic”, a misprint for “adiabatic”.)

C. wrong: an isothermal process is slow (so the temperature stays constant), not quick.

D. wrong: an isochoric process is at constant volume; it is not defined by being quick.

Question 96 The color of coordination compound bisdimethylglyoxime

The color of coordination compound bisdimethylglyoxime nickel(II) is:

- A. red ✓ **Correct answer**
- B. blue
- C. orange
- D. black

A. correct: the nickel dimethylglyoxime complex $[Ni(dmg)_2]$ is a red precipitate.

B. wrong: this is the printed key, but it is incorrect — the nickel dimethylglyoxime complex is red, not blue.

C. wrong: the nickel dimethylglyoxime complex is red, not orange.

D. wrong: the nickel dimethylglyoxime complex is red, not black. (PRINTED-KEY ERROR CORRECTED: the printed key records (B) “blue”, but the nickel dimethylglyoxime complex [Ni(dmg)2] is a bright red precipitate (the classic test for Ni^{2+}); the correct answer is (A). Corrected by the assistant under the owner’s 8 Nov 2026 delegation.)

97 Club-mosses are also called

Club-mosses are also called

- A. psilopsida
- B. sphenopsida
- C. lycopsida ✓ **Correct answer**
- D. pteropsida

A. wrong: psilopsida are the whisk ferns, not club-mosses.

B. wrong: sphenopsida are the horsetails, not club-mosses.

C. correct: club-mosses are also called Lycopsida.

D. wrong: pteropsida are the true ferns, not club-mosses.

Question 98 For all irreversible process the entropy

For all irreversible process, the entropy of the system

- A. decreases
- B. remains constant
- C. is zero
- D. increases ✓ **Correct answer**

A. wrong: entropy never decreases in an irreversible process.

B. wrong: entropy remains constant only in a reversible process.

C. wrong: entropy is not zero in an irreversible process — it increases.

D. correct: for all irreversible processes the entropy of the system increases.

Question 99 Tetra amine aqua chloro cobalt chloride

Choose the compound tetra amine aqua chloro cobalt(III) chloride:

- $NH_3)_4(H_2O)(Cl_2)]^{-2}Cl_3$
- B. $[Co(NH_3)_4(H_2O)(Cl_2)]^{2+}Cl_3^{3-}$
- C. $[Co(NH_3)_4(H_2O)(Cl_2)]^{2}Cl_3^{3}$
- D. $[Co(NH_3)_4(H_2O)Cl]Cl_2$ ✓ **Correct answer**

A. wrong: $[Co(NH_3)_4(H_2O)Cl]Cl_3$ has the wrong charge — cobalt(III) with one coordinated Cl^- needs only two Cl^- counter-ions. (Options (a) and (c) print identically.)

B. wrong: the formula as printed does not balance — the charges shown do not give the correct compound; only (d) is the correct formula.

C. wrong: $[Co(NH_3)_4(H_2O)Cl]Cl_3$ has the wrong charge — cobalt(III) with one coordinated Cl^- needs only two Cl^- counter-ions. (Options (a) and (c) print identically.)

D. correct: $[Co(NH_3)_4(H_2O)Cl]Cl_2$ is tetraammineaquachlorocobalt(III) chloride. (The formulae are decoded from the printed page: the text layer renders the brackets and charges as private-use glyphs.)

Question 100 Hormones produced from cholesterol are called

Hormones produced from cholesterol are called

- A. protein hormones
- B. Non steroid hormones
- C. steroid hormones ✓ **Correct answer**
- D. poptide hormones

A. wrong: protein hormones are made from amino acids, not from cholesterol.

B. wrong: steroid hormones ARE made from cholesterol, so “non-steroid” is wrong.

C. correct: hormones produced from cholesterol are called steroid hormones.

D. wrong: peptide hormones are made from amino acids, not from cholesterol.

101 He before the interview board

He _____ before the interview board.

- A. was afraid to appear
- B. was afraid of appearing ✓ **Correct answer**
- C. was afraid of appearing
- D. feared appearance

A. wrong: “was afraid to appear” is grammatical, but (b) and (c) are the idiomatic “afraid of appearing” — and (b) and (c) print identically.

B. correct: “he was afraid of appearing before the interview board” is the idiomatic phrasing; this is the keyed answer. (Options (b) and (c) print identically.)

C. also acceptable: option (c) prints identically to (b) — “was afraid of appearing”.

D. wrong: “feared appearance” does not fit the sentence. (PICK-ONE: options (B) and (C) print identically ('was afraid of appearing'); the keyed answer (B) is filed. Decided by the assistant under the owner’s 8 Nov 2026 delegation.)

Question 102 Correct expression for Coulomb force

The correct expression for the coulomb's force is:

- A. $F = (1/4\pi\varepsilon_0)(q_1q_2/r^2)\vec{r}$
- B. $F = (1/4\pi\varepsilon_0)(q_1q_2/r^2)\hat{r}$ ✓ **Correct answer**
- C. $F = (1/4\pi\varepsilon)(q_1q_2/r^2)\vec{r}$
- D. $F = (1/4\pi\varepsilon)(q_1q_2/r^2)$

A. wrong: this form has the wrong power of r and no unit vector — the force is $F = (1/4\pi\varepsilon_0)(q_1q_2/r^2)\hat{r}$, not this.

B. correct: the Coulomb force is $F = (1/4\pi\varepsilon_0)(q_1q_2/r^2)\hat{r}$. (The four formulae are restored from the printed page, book p. 116; the third label is misprinted “(e)” in the book and is filed as (c).)

s form is missing the unit vector r̂ and has the wrong sign structure — the correct form is (b).

D. wrong: this form has the wrong power of r and no unit vector — the force falls as $1/r^2$, not 1/r.

Question 103 the wave nature of an electron

the wave nature of an electron is illustrated by its:

- A. photoelectric effect
- B. Compton effect
- C. penetrating effect
- D. diffraction ✓ **Correct answer**

A. wrong: the photoelectric effect illustrates the particle nature of light, not the wave nature of the electron.

B. wrong: the Compton effect illustrates the particle nature of radiation, not the wave nature of the electron.

C. wrong: the penetrating effect does not illustrate the wave nature of the electron.

D. correct: electron diffraction (Davisson–Germer) illustrates the wave nature of the electron.

Question 104 Lycopersicum esculentum is commonly known as

Lycopersicum esculentum is commonly known as:

- A. Gram
- B. tomato ✓ **Correct answer**
- C. potato
- D. red papper

A. wrong: Lycopersicum esculentum is not gram.

Lycopersicum esculentum is the tomato.

C. wrong: potato is Solanum tuberosum, not Lycopersicum esculentum.

D. wrong: Lycopersicum esculentum is not red pepper.

Question 105 The Potential gradient between the two

The Potential gradient between the two charged plates having, separation of 0.5cm and potential difference of 12volts is:

- A. 240 NC – 1
- B. 24 NC – 1
- C. 2.4 NC – 1
- D. 2400NC – 1 ✓ **Correct answer**

A. wrong: this is the printed key, but it is incorrect — E = V/d = 12/0.005 = 2400 N/C, not 240 N/C.

B. wrong: E = V/d = 12/0.005 = 2400 N/C, not 24 N/C.

C. wrong: E = V/d = 12/0.005 = 2400 N/C, not 2.4 N/C.

D. correct: the potential gradient is E = V/d = 12 V / 0.5 cm = 12/0.005 = 2400 N/C. (PRINTED-KEY ERROR CORRECTED: the printed key records (A) “240 NC – 1”, but E = V/d = 12 V / 0.5 cm = 12 / 0.005 = 2400 N/C, so the correct answer is (D). Corrected by the assistant under the owner’s 8 Nov 2026 delegation.)

Question 106 The conversion of carbonate to urea

The conversion of carbonate to urea is:

- A. slow and exothermic
- B. fast and exothermic
- C. slow and endothermic ✓ **Correct answer**
- D. fast and endothermic

e conversion of ammonium carbonate to urea is slow and endothermic, not slow and exothermic.

B. wrong: the conversion of ammonium carbonate to urea is slow, not fast.

C. correct: the conversion of ammonium carbonate to urea is slow and endothermic.

D. wrong: the conversion of ammonium carbonate to urea is slow, not fast.

Question 107 The rate of metabolism is regulated

The rate of metabolism is regulated by:

- A. PTH
- B. thyroxine ✓ **Correct answer**
- C. aldosterone
- D. calcitonin

A. wrong: PTH (parathyroid hormone) regulates calcium, not the rate of metabolism.

B. correct: thyroxine regulates the rate of metabolism.

C. wrong: aldosterone regulates salt and water balance, not the rate of metabolism.

D. wrong: calcitonin regulates calcium, not the rate of metabolism.

Question 108 Ohm x Farad is equivalent to

Ohm x Farad is equivalent to:

- A. second ✓ **Correct answer**
- B. weber
- C. henry
- D. tesla

A. correct: ohm × farad = (V/A) × (C/V) = C/A = second (the RC time constant).

e weber is the unit of magnetic flux, not ohm × farad.

C. wrong: the henry is the unit of inductance, not ohm × farad.

D. wrong: the tesla is the unit of magnetic flux density, not ohm × farad.

Question 109 vehicular emission that is major environmental

vehicular emission that is major environmental concern is:

- A. CO 2 ✓ **Correct answer**
- B. CO
- C. low hydrocarbons
- D. All of them

A. correct: CO_2 is the major environmental concern from vehicular emissions (the greenhouse gas).

B. wrong: CO is toxic, but the major environmental concern named in the textbook is CO_2.

C. wrong: low hydrocarbons are a concern, but the major one named in the textbook is CO_2.

D. wrong: only CO_2 is named as the major environmental concern, not all of them.

Question 110 Plant cells synthesize sugar in the

Plant cells synthesize sugar in the:

- A. Thylakoid
- B. grana
- C. stroma ✓ **Correct answer**
- D. christa

A. wrong: the thylakoid is where the light reactions happen; sugar is not made there.

B. wrong: this is the printed key, but it is incorrect — the grana are stacks of thylakoids

ns), sugar is made in the stroma.

C. correct: plant cells synthesise sugar in the stroma of the chloroplast (the Calvin cycle).

D. wrong: cristae are folds of the inner mitochondrial membrane, not a site of sugar synthesis. (PRINTED-KEY ERROR CORRECTED: the printed key records (B) “grana”, but sugar is made in the dark reactions (Calvin cycle), which run in the stroma; the grana (thylakoids) carry the light reactions, so the correct answer is (C). Corrected by the assistant under the owner’s 8 Nov 2026 delegation.)

Question 111 He said If I were you

He said, “If I were you, I would protest” can be indirectly reported as:

- A. if he had been me, he would have protested ✓ **Correct answer**
- B. he advised us to protest
- C. if he were me, he would protest
- D. if he had been I, he would have protested

A. correct: in indirect speech “if I were you” becomes “if he had been me” (past perfect + object pronoun “me”).

B. wrong: the reported form keeps the conditional structure; “he advised us to protest” loses it and changes the subject.

C. wrong: “if he were me” keeps the present subjunctive, but indirect speech shifts it to the past — “if he had been me”.

D. wrong: this is the printed key, but it is incorrect — after “been” the object pronoun “me” is required, not “I”. (PRINTED-KEY ERROR CORRECTED: the printed key records (D) “if he had been I, he would have protested”, but “been I” is ungrammatical — the indirect form is “if he had been me, he would have protested”, so the correct answer is (A). Corrected by the assistant under the owner’s 8 Nov 2026 delegation.)

112 A wire of uniform cross section

A wire of uniform cross section A, length 1 and resistance R is cut into two equal pieces. The resistivity of each piece will be:

- A. the same ✓ **Correct answer**
- B. one fourth
- C. double
- D. one half

A. correct: resistivity is a property of the material, so it stays the same when the wire is cut.

B. wrong: resistivity does not become one fourth when the wire is cut — it is a material property.

C. wrong: resistivity does not double when the wire is cut — it is a material property.

D. wrong: resistivity does not halve when the wire is cut — it is a material property.

Question 113 Tetracthyl lead C2H54Pb is used as

Tetracthyl lead (C2H5)4Pb is used as antiknock agent and is abandoned because of its hazardous product during the combustion of fuel. The hazardous product is:

- A. CO 2
- B. CO
- C. lead ✓ **Correct answer**
- D. free radical ethyc (C2H5)

A. wrong: CO_2 is not the hazardous product that got tetraethyl lead abandoned.

B. wrong: CO is not the hazardous product that got tetraethyl lead abandoned.

C. correct: tetraethyl lead was abandoned because combustion releases toxic lead into the air. (The stem prints “Tetracthyl” and “(C2H2)4Pb” — misprints for “tetraethyl” and

tion (d) prints "ethyl (C_2H_2)", a misprint for "ethyl (C_2H_5)".)

D. wrong: the ethyl radical is not the hazardous product that got tetraethyl lead abandoned.

Question 114 Which sequence correctly describes the route

Which sequence correctly describes the route sperm take through the human male reproductive system?

- A. vas deferencs, urethra, epididymis
- B. Epididymis, vas deferens urethra ✓ **Correct answer**
- C. Epididymis, urethra, vas deferens
- D. urethra, epididymis, vas deferens

A. wrong: the order is reversed — sperm go from the epididymis to the vas deferens, then the urethra.

B. correct: sperm travel from the epididymis through the vas deferens to the urethra.

C. wrong: the vas deferens comes before the urethra, not after it.

D. wrong: the urethra is the last part of the route, not the first.

Question 115 Two metallic conductors have the same

Two metallic conductors have the same value of resistivity. These conductors can be differentiated from the values of their:

- A. temperature coefficient ✓ **Correct answer**
- B. resistances
- C. conductance
- D. conductivity

A. correct: two conductors of the same resistivity can still differ in their temperature coefficient (α), which is a property of the material.

sistances depend on length and area as well, so they do not identify the material.

C. wrong: conductance is the reciprocal of resistance, which depends on geometry, not on the material alone.

D. wrong: conductivity is the reciprocal of resistivity, so it is the same for both conductors.

Question 116 Select the correct formula of 2-methyl

Select the correct formula of 2-methyl pentane:

- A. C 5 H 12
- B. C 5 H 16
- C. C 6 H 12
- D. C 6 H 14 ✓ **Correct answer**

A. wrong: C_5H_{12} is pentane, not 2-methylpentane.

B. wrong: C_5H_{16} is not a valid alkane formula.

C. wrong: C_6H_{12} is a cycloalkane/alkene formula, not 2-methylpentane.

D. correct: 2-methylpentane has six carbons and is a saturated alkane, C_6H_{14}.

Question 117 In chlorophyll a The group attached

In chlorophyll “a” The group attached to prophyrine ring is:

- A. hydroxyl group
- B. methyl group ✓ **Correct answer**
- C. carboxyl group
- D. aldehyde group

A. wrong: chlorophyll “a” does not carry a hydroxyl group on the porphyrin ring (that is chlorophyll “b”’s aldehyde difference).

chlorophyll "a" carries a methyl group on the porphyrin ring (chlorophyll "b" has an aldehyde group there instead).

C. wrong: the carboxyl group is not the distinguishing group of chlorophyll "a".

D. wrong: the aldehyde group is the distinguishing group of chlorophyll "b", not "a".

Question 118 The total driving force of the

The total driving force of the battery to draw current through a circuit is called:

- A. voltage of battery
- B. power of battery
- C. e.m.f of battery ✓ **Correct answer**
- D. all of these

A. wrong: the voltage of the battery is the terminal potential difference, not the total driving force.

B. wrong: the power of the battery is the rate of energy delivery, not the driving force.

C. correct: the total driving force of the battery to draw current through a circuit is its e.m.f.

D. wrong: this is the printed key, but it is incorrect — only the e.m.f. is the total driving force, not "all of these". (PRINTED-KEY ERROR CORRECTED: the printed key records (D) "all of these", but the total driving force of a battery is its e.m.f.; voltage and power are not the driving force, so the correct answer is (C). Corrected by the assistant under the owner's 8 Nov 2026 delegation.)

Question 119 In reforming process open chain hydrocarbons

In reforming process open chain hydrocarbons are converted into:

- A. pciymers
- B. branced chain hydrocarbons

hydrocarbons

- D. Branched and ring hydrocarbon ✓ **Correct answer**

A. wrong: reforming does not convert open-chain hydrocarbons into polymers.

B. wrong on its own: reforming gives branched-chain hydrocarbons, but also ring hydrocarbons.

C. wrong on its own: reforming gives ring hydrocarbons, but also branched-chain ones.

D. correct: in reforming, open-chain hydrocarbons are converted into branched-chain and ring (aromatic) hydrocarbons.

Question 120 The process of cell division result

The process of cell division result in:

- A. two daughter cells ✓ **Correct answer**
- B. sister chromatids
- C. mitosis
- D. unregulated growth

A. correct: the process of cell division results in two daughter cells.

B. wrong: sister chromatids are separated during division, they are not its result.

C. wrong: mitosis is the process itself, not its result.

D. wrong: unregulated growth is cancer, not the result of normal cell division.

Question 121 in the world

_____ in the world.

- A. our’s is not one of the quickest response system
- B. our is not one of the quickest response systems
- C. ours is not one of the quickest response systems ✓ **Correct answer**

is not one of the quickest response system

A. wrong: “our’s” is not a word — the possessive pronoun is “ours”.

B. wrong: “our” is a possessive adjective and needs a noun after it; the sentence needs the pronoun “ours”.

C. correct: “ours is not one of the quickest response systems in the world.”

D. wrong: “our” needs a noun, and “system” should be plural after “one of the”.

Question 122 two metallic wires are lying parallel

two metallic wires are lying parallel. If the current in these wires be flowing in the same direction, the wires will:

- A. attract each other ✓ **Correct answer**
- B. repel each other
- C. have no force of attraction or repulsion
- D. remain stationary

A. correct: parallel wires carrying current in the same direction attract each other. (The stem had a stray page number “117” removed.)

B. wrong: wires carrying current in the same direction attract, they do not repel.

C. wrong: there is a force between the wires — they attract.

D. wrong: the wires attract each other; they do not remain stationary.

Question 123 An organic compound after fusion with

An organic compound after fusion with sodium gives white precipitate when concentrated nitric acid and then silver nitrate solution was added to the filtrate. The compound is likely to be:

- A. CH_3CH_2CHO

- C. CH 3 CH 2 COOH
- D. CH 3 CH 2 CH 2 Br ✓ **Correct answer**

A. wrong: an aldehyde (CH_3CH_2CHO) gives no white precipitate in the Lassaigne test for halogens.

B. wrong: an alcohol ($CH_3CH_2CH_2OH$) gives no white precipitate in the Lassaigne test for halogens.

C. wrong: a carboxylic acid (CH_3CH_2COOH) gives no white precipitate in the Lassaigne test for halogens.

D. correct: the white precipitate of AgBr shows the compound contains bromine — $CH_3CH_2CH_2Br$ (propyl bromide).

Question 124 Chlorophyll is protected from intense light

Chlorophyll is protected from intense light by:

- A. plant hormones
- B. carotenoids ✓ **Correct answer**
- C. plant-enzyimes
- D. water present in meso;hyll tissue

A. wrong: plant hormones do not protect chlorophyll from intense light.

B. correct: carotenoids protect chlorophyll from intense light (they absorb excess energy).

C. wrong: plant enzymes do not protect chlorophyll from intense light.

D. wrong: water in the mesophyll tissue does not protect chlorophyll from intense light.

Question 125 The SI unit of magnetic flux

The SI unit of magnetic flux is weber which is equal to:

A – 1 ✓ **Correct answer**

- B. Nm 2 A – 1
- C. NAm – 1
- D. NmA – 2

A. correct: the weber is equal to NmA^{-1} (Wb = V·s = J/A = NmA^{-1}).

B. wrong: Nm^2A^{-1} is not the weber.

C. wrong: NAm^{-1} is not the weber.

D. wrong: NmA^{-2} is not the weber.

Question 126 Ethyne sigma and pi bonds

Ethyne has a total of:

- A. one σ bond, two π bonds
- B. one π bond, four σ bonds
- C. two π bonds, four σ bonds
- D. three σ bonds, two π bonds ✓ **Correct answer**

A. wrong: ethyne has one σ and two π bonds between the carbons, plus two C–H σ bonds — three σ and two π in total, not one σ and two π.

B. wrong: ethyne has three σ bonds in total (two C–H and one C–C), not one π and four σ.

C. wrong: ethyne has two π bonds but three σ bonds, not four σ.

D. correct: ethyne (H–C≡C–H) has three σ bonds (two C–H and one C–C) and two π bonds (the triple bond). (The options are restored from the printed page: the text layer renders σ and π as private-use code points.)

Question 127 Malphigian tubules convert nitrogenous waste into

Malphigian tubules convert nitrogenous waste into

- B. ammonia
- C. uric acid ✓ **Correct answer**
- D. urea

A. wrong: Malpighian tubules do not make urine.

B. wrong: Malpighian tubules convert the waste to uric acid, not ammonia.

C. correct: Malpighian tubules convert nitrogenous waste into uric acid (insects are uricotelic).

D. wrong: Malpighian tubules convert the waste to uric acid, not urea.

Question 128 An electron and proton are projected

An electron and proton are projected with same velocity normal to magnetic field which one will suffer greater deflection?

- A. proton
- B. electron ✓ **Correct answer**
- C. both will suffer greater defection
- D. None of these

A. wrong: this is the printed key, but it is incorrect — the electron, with its much smaller mass, has a much smaller radius (r = mv/qB) and so deflects more.

B. correct: the radius of the circular path is r = mv/qB, so the lighter electron (same charge magnitude and velocity) curves far more tightly and deflects more.

C. wrong: the electron and proton do not deflect equally — the electron deflects more.

D. wrong: the electron suffers the greater deflection, so “none of these” is wrong. (PRINTED-KEY ERROR CORRECTED: the printed key records (A) “proton”, but the radius of the circular path is r = mv/qB — the electron’s much smaller mass gives a much smaller

o a greater deflection, the correct answer is (B). Corrected by the assistant under the owner's 8 Nov 2026 delegation.)

Question 129 Choose the correct statement

Choose the correct statement

- A. resonance hybrids are the weighted average of all the resonating forms ✓ **Correct answer**
- B. resonance hybrids are generally considered as unstable.
- C. resonance hybrids are the averagely of all the resonance forms
- D. resonance hybrids are averaged of all the less stable resonating forms

A. correct: a resonance hybrid is the weighted average of all the resonating (canonical) forms.

B. wrong: resonance hybrids are stable — they are not generally considered unstable.

C. wrong: "the averagely of all the resonance forms" is garbled; the correct statement is the weighted average.

D. wrong: the hybrid is the average of ALL the resonating forms, not only the less stable ones.

Question 130 Chlorosis in plants is caused by

Chlorosis in plants is caused by the deficiency of:

- A. nitrogen ✓ **Correct answer**
- B. megnesium
- C. potassium
- D. both a and b

A. correct: chlorosis (yellowing of leaves) is caused by deficiency of nitrogen (and of magnesium); this is the keyed answer.

magnesium deficiency also causes chlorosis, but the keyed answer is nitrogen — see (D).

C. wrong: potassium deficiency causes marginal leaf scorch, not chlorosis.

D. also acceptable: chlorosis is caused by deficiency of nitrogen AND of magnesium, so “both a and b” is also correct. (PICK-ONE: options (A) nitrogen and (D) both a and b are both correct — chlorosis is caused by deficiency of nitrogen and of magnesium; the keyed answer (A) is filed. Decided by the assistant under the owner’s 8 Nov 2026 delegation.)

Question 131 A good business man should not

A good business man should not be unscrupulouswhile making profits the underlined word means:

- A. unprincipled ✓ **Correct answer**
- B. careless
- C. illegal
- D. miserly

A. correct: “unscrupulous” means unprincipled — without moral scruples.

B. wrong: “careless” is not the meaning of “unscrupulous”.

C. wrong: “illegal” is not the meaning of “unscrupulous” (an unscrupulous act may be legal).

D. wrong: “miserly” means stingy, not unscrupulous.

Question 132 The motional emf depends upon

The motional e.m.f depends upon

- A. strength of magnetic field
- B. length of conductor
- C. speed of conductor

of these ✓ **Correct answer**

A. wrong on its own: motional e.m.f. depends on the magnetic field strength, but also on the length and the speed.

B. wrong on its own: motional e.m.f. depends on the conductor length, but also on the field strength and the speed.

C. wrong on its own: motional e.m.f. depends on the conductor speed, but also on the field strength and the length.

D. correct: motional e.m.f. is ε = Bvl, so it depends on all three — field strength, length and speed.

Question 133 carbon-carbon double bond as compared to

carbon-carbon double bond as compared to single bond is:

- A. less susceptible to oxidation
- B. more susceptible to oxidation ✓ **Correct answer**
- C. equally susceptible to oxidation
- D. all of these

A. wrong: a double bond is more reactive than a single bond, not less susceptible to oxidation.

B. correct: a carbon–carbon double bond is more susceptible to oxidation than a single bond (the π bond is easily attacked).

C. wrong: a double bond is more susceptible to oxidation, not equally.

D. wrong: only (B) is correct, so “all of these” cannot be right.

Question 134 the changes in the biochemical composition

the changes in the biochemical composition and physiology occurring at regular

24 hours is termed as:

- A. gioannual rhythm
- B. lunar rhythm
- C. circadian rhythm ✓ **Correct answer**
- D. tidal rhythm

A. wrong: “gioannual rhythm” is a misprint (for “circannual”) — the 24-hour rhythm is circadian.

B. wrong: the lunar rhythm follows the moon (about 29.5 days), not 24 hours.

C. correct: changes in biochemistry and physiology at regular 24-hour intervals are termed circadian rhythm.

D. wrong: the tidal rhythm follows the tides, not 24 hours.

Question 135 Volt second per ampere

(volt × second)/ampere is equal to:

- A. gauss
- B. weber
- C. henry ✓ **Correct answer**
- D. tesla

A. wrong: (volt × second)/ampere is the henry, not the gauss.

B. wrong: (volt × second)/ampere is the henry, not the weber.

C. correct: (volt × second)/ampere = (V·s)/A = henry (inductance). (The stem is restored from the printed page: the text layer renders the division as a private-use glyph.)

D. wrong: (volt × second)/ampere is the henry, not the tesla.

136 Which of the following is a

Which of the following is a nucleophil?

- A. AlCl 3
- B. CN – ✓ **Correct answer**
- C. H 3 O +
- D. BF 3

A. wrong: $AlCl_3$ is an electron-pair acceptor (a Lewis acid), not a nucleophile.

B. correct: CN^- (cyanide ion) is a nucleophile — it donates an electron pair.

C. wrong: H_3O^+ is an electrophile (it accepts electrons), not a nucleophile.

D. wrong: BF_3 is an electron-pair acceptor (a Lewis acid), not a nucleophile.

Question 137 Early fall of leaves and fruits

Early fall of leaves and fruits in plants in caused by the deficiency of :

- A. phosphorus ✓ **Correct answer**
- B. potassium
- C. magnesium
- D. nitrogen

A. correct: early fall of leaves and fruits in plants is caused by the deficiency of phosphorus.

B. wrong: potassium deficiency causes marginal scorch, not early fall of leaves and fruits.

C. wrong: magnesium deficiency causes chlorosis, not early fall of leaves and fruits.

D. wrong: nitrogen deficiency causes chlorosis and stunting, not early fall of leaves and fruits.

138 The counter torque produced in the

The counter torque produced in the moving coil of generator is called:

- A. resotoring torque
- B. defelection torque
- C. back motor effect ✓ **Correct answer**
- D. all of these

A. wrong: restoring torque is the torque in a galvanometer that brings the coil back, not the counter torque in a generator.

B. wrong: deflecting torque is the torque in a galvanometer that moves the coil, not the counter torque in a generator.

C. correct: the counter torque produced in the moving coil of a generator is called the back motor effect.

D. wrong: this is the printed key, but it is incorrect — only the back motor effect is the counter torque, not “all of these”. (PRINTED-KEY ERROR CORRECTED: the printed key records (D) “all of these”, but restoring torque and deflection torque are galvanometer terms; the counter torque in a generator coil is the back motor effect, so the correct answer is (C). Corrected by the assistant under the owner’s 8 Nov 2026 delegation.)

Question 139 Select the most stable carbonium ion

Select the most stable carbonium ion:

- A. + CH 3
- B. + CH 3 CH 2
- C. (CH 3) 2+ CH
- D. (CH 3) 3 C + ✓ **Correct answer**

A. wrong: the methyl carbonium ion CH_3^+ is the least stable of the four.

B. wrong: the ethyl carbonium ion is more stable than methyl, but less stable than the

C. wrong: the secondary carbonium ion $(CH_3)_2CH^+$ is more stable than primary, but less stable than tertiary.

D. correct: the tertiary carbonium ion $(CH_3)_3C^+$ is the most stable (three methyl groups donate by hyperconjugation and induction).

Question 140 The organisms developed with two heads

The organisms developed with two heads and one trunk is called

- A. identical twins
- B. Siamese twins ✓ **Correct answer**
- C. dizygotic twins
- D. fraternal twins

A. wrong: identical twins are two separate individuals, not one body with two heads.

B. correct: Siamese (conjoined) twins are organisms developed with two heads and one trunk.

C. wrong: dizygotic twins are two separate individuals from two eggs.

D. wrong: fraternal twins are two separate individuals, not one body with two heads.

Question 141 Cynic and are synonyms

'Cynic' and '_____' are synonyms

- A. skeptic ✓ **Correct answer**
- B. secret
- C. solitary
- D. truthful

A. correct: a "cynic" is a skeptic — one who doubts the sincerity of others.

ecret" is not a synonym of "cynic".

C. wrong: "solitary" (alone) is not a synonym of "cynic".

D. wrong: "truthful" is closer to an opposite of "cynic" than a synonym.

Question 142 The inductive reactance of the coil

The inductive reactance of the coil having inductance of 0.5 henry in which AC of 50Hz flows is:

- A. 94.2 Ω
- B. 1.57 Ω
- C. 157 Ω ✓ **Correct answer**
- D. 9.42 Ω

A. wrong: $X_L = 2\pi fL = 2 \times 3.14 \times 50 \times 0.5 = 157\ \Omega$, not 94.2 Ω.

B. wrong: $X_L = 2\pi fL = 2 \times 3.14 \times 50 \times 0.5 = 157\ \Omega$, not 1.57 Ω.

C. correct: $X_L = 2\pi fL = 2 \times 3.14 \times 50 \times 0.5 = 157\ \Omega$.

D. wrong: $X_L = 2\pi fL = 2 \times 3.14 \times 50 \times 0.5 = 157\ \Omega$, not 9.42 Ω.

Question 143 Water is said to be permanently

Water is said to be permanently hard when it contains:

- A. carbonates of Ca 2+ and Mg 2+ ions
- B. Bicarbonates of Ca 2+ and Mg 2+ ions
- C. sulphates of Na + and Mg 2+ ions
- D. chlorides of Ca 2+ and Mg 2+ ions ✓ **Correct answer**

A. wrong: carbonates of Ca^{2+} and Mg^{2+} cause temporary hardness, not permanent.

B. wrong: bicarbonates of Ca^{2+} and Mg^{2+} cause temporary hardness (removed by boiling), not permanent.

lphates of Na^+ and Mg^{2+} do not cause permanent hardness — the permanent hardness is from chlorides and sulphates of Ca^{2+} and Mg^{2+}.

D. correct: water is permanently hard when it contains chlorides (and sulphates) of Ca^{2+} and Mg^{2+}. (The stem had a stray page number “118” removed.)

Question 144 Hydathodes are

Hydathodes are:

- A. hormones secreting glands
- B. water secreting glands ✓ **Correct answer**
- C. nectar secreting glands
- D. enzymes secreting glands

A. wrong: hydathodes do not secrete hormones.

B. correct: hydathodes are water-secreting glands (they release excess water as guttation).

C. wrong: nectar is secreted by nectaries, not hydathodes.

D. wrong: hydathodes do not secrete enzymes.

Question 145 In RLC series circuit when the

In RLC series circuit when the frequency of AC source is very low, the circuit is a / an

- A. resistive circuit
- B. capacitive circuit ✓ **Correct answer**
- C. inductive circuit
- D. resonant circuit

A. wrong: at very low frequency the capacitive reactance ($1/\omega C$) dominates, so the circuit is capacitive, not resistive.

B. correct: at very low frequency $X_C = 1/\omega C$ is very large, so the RLC series circuit behaves

ve circuit.

C. wrong: at very low frequency the capacitive reactance dominates, not the inductive reactance.

D. wrong: resonance needs ω = 1/√(LC), not a very low frequency.

Question 146 Which of the following makes the

Which of the following makes the motion of a perpetual motion machine a physical impossibility?

- A. fist law of thermodynamics
- B. second law of thermodynamics ✓ **Correct answer**
- C. third law of thermodynamics
- D. None of these

A. wrong: the first law (energy conservation) does not rule out a perpetual motion machine of the second kind.

B. correct: the second law of thermodynamics makes a perpetual motion machine (of the second kind) a physical impossibility.

C. wrong: the third law (absolute zero) does not rule out a perpetual motion machine.

D. wrong: the second law does rule it out, so “none of these” is wrong.

Question 147 A Punnet square is used to

A Punnet square is used to determine the:

- A. result of mitosis
- B. result of meiosis
- C. actual outcome of a cross
- D. probable outcome of cross ✓ **Correct answer**

Punnett square predicts the outcome of a cross, not the result of mitosis.

B. wrong: a Punnett square predicts the outcome of a cross, not the result of meiosis.

C. wrong: a Punnett square gives the probable (expected) outcome, not the actual outcome.

D. correct: a Punnett square is used to determine the probable outcome of a cross.

Question 148 The process of combining low frequency

The process of combining low frequency signal with high frequency carries waves is called:

- A. rectification
- B. amplification
- C. modulation ✓ **Correct answer**
- D. magnification

A. wrong: rectification converts AC to DC, it does not combine signals with carrier waves.

B. wrong: amplification increases signal strength, it does not combine signals with carrier waves.

C. correct: combining a low-frequency signal with a high-frequency carrier wave is called modulation.

D. wrong: magnification is an optical term (enlarging an image), not a radio term.

Question 149 Buffer ratio for pH 7

A buffer solution containing H2CO3 and NaHCO3 is to be propared to maintain a pH of 7.00 what must be the ratio [NaHCO3]/[H2CO3] in order to realize such a pH if Ka of carbonic acid is 4.3 × 10 -7?

- A. 43

- C. 0.43
- D. 4.3 ✓ **Correct answer**

A. wrong: pH = pKa + log([salt]/[acid]) = 7.00, with pKa = −log(4.3 × 10^{-7}) ≈ 6.37, gives log(ratio) = 0.63, so the ratio is 4.3, not 43.

B. wrong: the ratio is 4.3, not 48.

C. wrong: the ratio is 4.3, not 0.43.

D. correct: pH = pKa + log([$NaHCO_3$]/[H_2CO_3]) = 7.00; pKa ≈ 6.37, so log(ratio) = 0.63 and the ratio is 4.3. (The stem ratio is [$NaHCO_3$]/[H_2CO_3] and Ka is 4.3 × 10^{-7}; the text layer renders × as a private-use glyph.)

Question 150 The number of chromosomes of tobacco

The number of chromosomes of tobacco plant are:

- A. 43
- B. 1.29
- C. 0.43
- D. 24 ✓ **Correct answer**

A. wrong: the textbook's listed chromosome number for tobacco is 24, not 43.

B. wrong: 1.29 is not a chromosome number.

C. wrong: 0.43 is not a chromosome number.

D. correct: the number of chromosomes of the tobacco plant is 24 (the textbook's listed gametic number; the diploid complement is 48).

Question 151 Professional and are antonyms

'Professional' and '_____' are antonyms.

mployed

- B. entrepreneur
- C. amateur ✓ **Correct answer**
- D. capitalist

A. wrong: “unemployed” is not the antonym of “professional”.

B. wrong: an entrepreneur can be a professional; it is not the antonym.

C. correct: the antonym of “professional” is “amateur”.

D. wrong: a capitalist can be a professional; it is not the antonym.

Question 152 The ratio of volumetric strain to

The ratio of volumetric strain to volumetric stress is called:

- A. compressibility ✓ **Correct answer**
- B. young’s modulus
- C. bulk’s modulus
- D. shear’s modulus

A. correct: compressibility is the ratio of volumetric strain to volumetric stress (the reciprocal of the bulk modulus).

B. wrong: Young’s modulus is the ratio of longitudinal stress to longitudinal strain.

C. wrong: the bulk modulus is the ratio of volumetric stress to volumetric strain — the inverse of compressibility.

D. wrong: the shear modulus is the ratio of shear stress to shear strain.

Question 153 Percentage of aluminium in sample

A sample containing aluminum weighing 10.0g yielded 2.0g of aluminum sulphide. What is the percentage of aluminum (atomic mass = 27.0) in the sample? Sulphur (atomic mass

- A. (2.0 × 100)/10.0
- B. (2.0/10.0) × (2 × 27/150) × 100 ✓ **Correct answer**
- C. (2.0/10.0) × (27/1500) × 100
- D. (2.0/10.0) × (150/(3 × 27)) × 100

A. wrong: (2.0 × 100)/10.0 ignores the aluminium content of Al_2S_3 — the mass of Al in 2.0 g of Al_2S_3 is 2.0 × (2 × 27/150).

B. correct: 2.0 g of Al_2S_3 (M = 150) contains 2.0 × (2 × 27/150) g of Al, so the percentage in the 10.0 g sample is (2.0/10.0) × (2 × 27/150) × 100 = 7.2%. (Stem and options restored from the printed page, book p. 118.)

C. wrong: (27/1500) is the wrong factor — the aluminium fraction of Al_2S_3 is (2 × 27)/150.

D. wrong: (150/(3 × 27)) inverts the aluminium fraction of Al_2S_3.

Question 154 During replication which sequence of nucieotides

During replication which sequence of nucieotides would bond with the DNA sequence TATGA?

- A. AUAGA
- B. ATACA
- C. UAUGA
- D. ATACT ✓ **Correct answer**

A. wrong: this is the printed key, but it is incorrect — AUAGA contains uracil (RNA), and replication makes a DNA complement.

B. wrong: ATACA is not the complement of TATGA (the complement is ATACT).

C. wrong: UAUGA contains uracil (RNA), and replication makes a DNA complement.

D. correct: the DNA complement of TATGA is ATACT (A–T, T–A, A–T, T–A, A–T). (PRINTED-

CORRECTED: the printed key records (B) “ATACA”, but the complement of TATGA is ATACT (T→A, A→T, T→A, G→C, A→T), so the correct answer is (D). Corrected by the assistant under the owner’s 8 Nov 2026 delegation.)

Question 155 The substance which undergoes plastic deformation

The substance which undergoes plastic deformation until it breaks is:

- A. ductile substance ✓ **Correct answer**
- B. brittle substance
- C. plastic substance
- D. all of these

A. correct: a ductile substance undergoes plastic deformation until it breaks.

B. wrong: a brittle substance breaks without plastic deformation.

C. wrong: a plastic substance deforms permanently, but the textbook’s term for the substance that deforms plastically until it breaks is ductile.

D. wrong: only the ductile substance fits — brittle substances do not deform plastically.

Question 156 Choosethe region of the spectrum which

Choosethe region of the spectrum which would be used to determine the structure of crystalline solids:

- A. visible
- B. infrated
- C. X – rays ✓ **Correct answer**
- D. ultraviolet

A. wrong: visible light cannot determine the structure of crystalline solids.

B. wrong: infrared radiation cannot determine the structure of crystalline solids.

rays are used to determine the structure of crystalline solids (X-ray diffraction).

D. wrong: ultraviolet radiation cannot determine the structure of crystalline solids.

Question 157 All of the following are growth

All of the following are growth hormones except:

- A. Phytohormones ✓ **Correct answer**
- B. Gibberllin
- C. auxins
- D. cytokinins

A. correct: “phytohormones” is the general name for plant hormones, not one of the growth hormones listed — gibberellins, auxins and cytokinins are the specific growth hormones.

B. wrong: gibberellin is a growth hormone.

C. wrong: auxins are growth hormones.

D. wrong: cytokinins are growth hormones.

Question 158 The temperature at which the domains

The temperature at which the domains of the ferromagnetic substances disorient is;

- A. critical temperature
- B. absolute temperature
- C. Curie Temperature ✓ **Correct answer**
- D. normal temperature

A. wrong: the critical temperature is the temperature above which a gas cannot be liquefied, not the disorientation of domains.

solute temperature is 0 K, not the disorientation temperature of domains.

C. correct: the temperature at which the domains of a ferromagnetic substance disorient is the Curie temperature.

D. wrong: “normal temperature” is not the name for the disorientation of magnetic domains.

Question 159 Which one of the following most

Which one of the following most closely resembles an ideal gas?

- A. Xe
- B. H 2
- C. CO 2
- D. He ✓ **Correct answer**

A. wrong: xenon is a large atom with strong intermolecular forces, so it is far from ideal.

B. wrong: H_2 is close to ideal, but helium (monatomic, smallest) is closer.

C. wrong: CO_2 is a large, polarisable molecule, far from ideal.

D. correct: helium is the smallest, monatomic gas with the weakest intermolecular forces, so it most closely resembles an ideal gas.

Question 160 A cross between dissimilar individuals to

A cross between dissimilar individuals to bring together their best characteristics is called:

- A. genetic engineering
- B. hybridization ✓ **Correct answer**
- C. inbreeding
- D. sequencing

netic engineering transfers genes directly, it is not a cross between dissimilar individuals.

B. correct: a cross between dissimilar individuals to bring together their best characteristics is called hybridisation.

C. wrong: inbreeding is a cross between closely related individuals, the opposite of this.

D. wrong: sequencing is reading the order of bases in DNA, not a cross.

Question 161 Secrets leak when the are many

Secrets leak when the _____ are many

- A. enemies
- B. ill-whishers
- C. confidants ✓ **Correct answer**
- D. detractors

A. wrong: secrets leak when confidants are many, not enemies.

B. wrong: “ill-wishers” does not fit — secrets leak through those who know them.

C. correct: secrets leak when the confidants (those trusted with the secret) are many.

D. wrong: detractors are critics, not the people who leak secrets.

Question 162 The process by which the potential

The process by which the potential barrier of the deplection region can be increased or decreased is called:

- A. amplification
- B. biasing ✓ **Correct answer**
- C. modulation
- D. doping

amplification increases signal strength; it does not change the potential barrier.

B. correct: biasing is the process by which the potential barrier of the depletion region can be increased or decreased.

C. wrong: modulation combines a signal with a carrier wave; it does not change the potential barrier.

D. wrong: doping adds impurities to a semiconductor; it does not change the potential barrier of the depletion region.

Question 163 Most unstable molecule MO theory

According to molecular orbital theory, which of the following is most unstable molecule?

- A. He_2^+
- B. H_2^-
- C. H_2^+
- D. H_2^{2-} ✓ **Correct answer**

A. wrong: He_2^+ has a bond order of 0.5 and exists, so it is not the most unstable.

B. wrong: H_2^- has a bond order of 0.5 and exists, so it is not the most unstable.

C. wrong: H_2^+ has a bond order of 0.5 and exists, so it is not the most unstable.

D. correct: H_2^{2-} has a bond order of zero (two bonding and two antibonding electrons), so it is the most unstable — it does not exist. (The options are restored from the printed page: the text layer renders the charges and subscripts as private-use glyphs.)

Question 164 In grapes and mangoes the inflorescence

In grapes and mangoes, the inflorescence is:

- A. panicle ✓ **Correct answer**
- B. multiparous cyme

- D. umbel

A. correct: in grapes and mangoes the inflorescence is a panicle.

B. wrong: a multiparous cyme is not the inflorescence of grapes and mangoes.

C. wrong: a capitulum (head) is not the inflorescence of grapes and mangoes.

D. wrong: an umbel is not the inflorescence of grapes and mangoes.

Question 165 The color of light emitted by

The color of light emitted by light emitting diode depends upon:

- A. forward voltage
- B. reverse current
- C. forward current
- D. type of semiconductor ✓ **Correct answer**

A. wrong: the forward voltage affects the brightness, not the colour of the light emitted.

B. wrong: the reverse current does not determine the colour of the light emitted.

C. wrong: the forward current affects the brightness, not the colour of the light emitted.

D. correct: the colour of the light emitted by an LED depends on the type of semiconductor (its band gap). (The stem had a stray page number “119” removed.)

Question 166 How many grams of waster are

How many grams of waster are produced in burning 2.24dm 3 of hydrogen at STP?

- A. 180g
- B. 81.g
- C. 1.8g ✓ **Correct answer**
- D. 0.18g

2.24 dm³ of H_2 at STP is 0.1 mol, giving 0.1 mol (1.8 g) of water, not 180 g.

B. wrong: 2.24 dm³ of H_2 at STP is 0.1 mol, giving 0.1 mol (1.8 g) of water, not 81 g.

C. correct: 2.24 dm³ of H_2 at STP is 0.1 mol, which burns to 0.1 mol of water = 1.8 g. (The stem prints “waster”, a misprint for “water”.)

D. wrong: 2.24 dm³ of H_2 at STP is 0.1 mol, giving 0.1 mol (1.8 g) of water, not 0.18 g.

Question 167 Oraganism that contain genes from other

Oraganism that contain genes from other organisms are called:

- A. mutatgenic
- B. transgenic ✓ **Correct answer**
- C. glones
- D. sequencing

A. wrong: “mutatgenic” is a misprint for “mutagenic” (causing mutations), not organisms carrying foreign genes.

B. correct: organisms that contain genes from other organisms are called transgenic.

C. wrong: “glones” is a misprint for “clones” — clones are genetically identical copies, not organisms with foreign genes.

D. wrong: sequencing is reading the order of bases in DNA, not organisms carrying foreign genes.

Question 168 The combination of AND and NOT

The combination of AND and NOT gate is called

- A. NAND gate ✓ **Correct answer**
- B. NOR gate
- C. Or gate

A. correct: the combination of an AND gate and a NOT gate is called a NAND gate.

B. wrong: this is the printed key, but it is incorrect — a NOR gate is the combination of an OR gate and a NOT gate.

C. wrong: an OR gate is a basic gate, not the combination of AND and NOT.

D. wrong: an XOR gate is the exclusive-OR gate, not the combination of AND and NOT. (PRINTED-KEY ERROR CORRECTED: the printed key records (B) “NOR gate”, but AND followed by NOT is NAND; NOR is OR followed by NOT, so the correct answer is (A). Corrected by the assistant under the owner’s 8 Nov 2026 delegation.)

Question 169 50 cm 3 of KOH solution

50 cm 3 of KOH solution was titrated against 1.0M HCl using phenolphthalein as an indicator. The acid used was found to be 7.5 cm 3 . the concentration of KOH solution is:

- A. 0.15 M ✓ **Correct answer**
- B. 1.5 M
- C. 0.75 M
- D. None

A. correct: $M_1V_1 = M_2V_2$ gives M(KOH) = (1.0 × 7.5)/50 = 0.15 M.

B. wrong: (1.0 × 7.5)/50 = 0.15 M, not 1.5 M.

C. wrong: (1.0 × 7.5)/50 = 0.15 M, not 0.75 M.

D. wrong: the concentration is 0.15 M, so “none” is wrong.

Question 170 Ozone layer is present in the

Ozone layer is present in the:

- A. troposphere

tosphere ✓ **Correct answer**

- C. mesosphere
- D. atmosphere

A. wrong: the ozone layer is not in the troposphere.

B. correct: the ozone layer is present in the stratosphere.

C. wrong: the ozone layer is not in the mesosphere.

D. wrong: “atmosphere” is too general — the ozone layer is specifically in the stratosphere.

Question 171 The guard looked at me and

The guard looked at me _____ and then asked me to identify myself.

- A. dangerously
- B. hurriedly
- C. suspiciously ✓ **Correct answer**
- D. nervously

A. wrong: the guard looked at him suspiciously (with suspicion), not dangerously.

B. wrong: the guard looked at him suspiciously, not hurriedly.

C. correct: the guard looked at me suspiciously and then asked me to identify myself.

D. wrong: the guard looked at him suspiciously, not nervously.

Question 172 If the temperature of the black

If the temperature of the black body becomes double the intensity of radiation from it will become:

- A. double
- B. four times

- D. sixteen times ✓ **Correct answer**

A. wrong: the Stefan–Boltzmann law ($I \propto T^4$) gives $2^4 = 16$ times, not double.

B. wrong: the Stefan–Boltzmann law ($I \propto T^4$) gives $2^4 = 16$ times, not four times.

C. wrong: the Stefan–Boltzmann law ($I \propto T^4$) gives $2^4 = 16$ times, not six times.

D. correct: the intensity of radiation from a black body is proportional to T^4, so doubling the temperature gives $2^4 = 16$ times the intensity.

Question 173 Choose the least inert gas

Choose the least inert gas:

- A. Helium
- B. Neon
- C. argon
- D. Xenon ✓ **Correct answer**

A. wrong: helium is the most inert of the noble gases.

B. wrong: neon is more inert than xenon.

C. wrong: argon is more inert than xenon.

D. correct: xenon is the largest noble gas listed, with the weakest hold on its electrons, so it is the least inert.

Question 174 An inherited characteristic that increases an

An inherited characteristic that increases an organism ability to survive and reproduce in its specific environmental is called:

- A. radiation
- B. adaptation ✓ **Correct answer**

- D. speciation

A. wrong: radiation is the spread of a group into new habitats, not an inherited characteristic.

B. correct: an inherited characteristic that increases an organism's ability to survive and reproduce in its environment is called an adaptation.

C. wrong: a vestigial organ is a reduced, functionless structure, not a survival characteristic.

D. wrong: speciation is the formation of new species, not an inherited characteristic.

Question 175 Compton shift scattering angle

The scattering angle for which the Compton shift in wavelength is equal to Compton wavelength is:

- A. θ = 90° ✓ **Correct answer**
- B. θ = 0°
- C. θ = 45°
- D. θ = 180°

A. correct: the Compton shift is $\Delta\lambda = \lambda c(1 - \cos\theta)$; it equals the Compton wavelength λc when $\cos\theta = 0$, i.e. $\theta = 90°$. (The options are restored from the printed page: the text layer renders θ and ° as private-use glyphs.)

B. wrong: at θ = 0° the shift is zero, not λc.

C. wrong: at θ = 45° the shift is $\lambda c(1 - \cos 45°) \approx 0.29\lambda c$, not λc.

D. wrong: at θ = 180° the shift is 2λc, not λc.

176 Uranium 235 decays to thorium 234

Uranium – 235 decays to thorium – 234 by the process of:

- A. fission
- B. beta decay
- C. alpha radiation ✓ **Correct answer**
- D. gamma radiation

A. wrong: this is the printed key, but it is incorrect — decay to thorium is alpha decay, not fission (and the printed “Uranium – 235” is a misprint for Uranium – 238, which alpha-decays to Thorium – 234).

B. wrong: beta decay raises the atomic number by one and leaves the mass number unchanged; it does not give thorium from uranium.

C. correct: uranium decays to thorium by alpha decay (the alpha particle carries away mass 4 and charge 2).

D. wrong: gamma radiation changes neither the mass number nor the atomic number. (PRINTED-KEY ERROR CORRECTED: the printed key records (A) “fission”, but the decay to thorium (mass down by 4, charge down by 2) is alpha decay — the printed “Uranium – 235” is a misprint for Uranium – 238, whose alpha decay gives Thorium – 234 — so the correct answer is (C). Corrected by the assistant under the owner’s 8 Nov 2026 delegation.)

Question 177 CFC gases are produced from

C.F.C gases are produced from:

- A. Burning of coal
- B. burning of charcoal
- C. automobiles engines
- D. refrigeration and air conditions ✓ **Correct answer**

A. wrong: this is the printed key, but it is incorrect — CFCs do not come from burning coal.

CFCs do not come from burning charcoal.

C. wrong: automobile engines do not produce CFCs.

D. correct: CFC gases are produced from (and released by) refrigeration and air-conditioning systems. (PRINTED-KEY ERROR CORRECTED: the printed key records (A) “Burning of coal”, but CFCs are not produced by burning coal; they are released from refrigeration and air-conditioning equipment, so the correct answer is (D). Corrected by the assistant under the owner’s 8 Nov 2026 delegation.)

Question 178 Uncertainty in energy of photon

The uncertainty in energy of photon which is emitted from an atom radiating for 10 -8 second is

- A. 4 × 10 -7 joul
- B. 4 × 10 -7 ev ✓ **Correct answer**
- C. 6.6 × 10 -20 ev
- D. 4 × 10 joul

A. wrong: $\Delta E \approx h/\Delta t = 6.6 \times 10^{-34}/10^{-8} = 6.6 \times 10^{-26}$ J = 4×10^{-7} eV — the value 4×10^{-7} in joules is far too large.

B. correct: $\Delta E \cdot \Delta t \approx h$ gives $\Delta E \approx 6.6 \times 10^{-34}/10^{-8} = 6.6 \times 10^{-26}$ J = 4×10^{-7} eV. (The options are restored from the printed page: the text layer renders the exponents and units as private-use glyphs.)

C. wrong: 6.6×10^{-20} eV is far too large — the uncertainty is about 4×10^{-7} eV.

D. wrong: the option prints “4 × 10 joul” with the exponent missing in the book, and 4×10^{-7} in joules is the wrong unit and value.

Question 179 The hydrolysis of an ester proceeds

The hydrolysis of an ester proceeds most slowly under the condition of:

- B. high basicity
- C. neutrality ✓ **Correct answer**
- D. high temperature

A. wrong: ester hydrolysis is acid-catalysed, so high acidity makes it faster, not slower.

B. wrong: ester hydrolysis is base-catalysed (saponification), so high basicity makes it faster, not slower.

C. correct: the hydrolysis of an ester proceeds most slowly under neutral conditions (no acid or base catalyst).

D. wrong: high temperature makes the hydrolysis faster, not slower.

Question 180 A woman is homozygous for A

A woman is homozygous for A – negative blood type. A man has AB – negative blood type. What is the probability that the couple’s child will be type B – negative?

- A. 0 % ✓ **Correct answer**
- B. 25 %
- C. 50 %
- D. 75 %

A. correct: the woman (AA) gives A to every child and the man (AB) gives A or B, so every child is A or AB — the probability of type B is 0%.

B. wrong: no child can be type B — the woman gives A to every child.

C. wrong: no child can be type B — the woman gives A to every child.

D. wrong: no child can be type B — the woman gives A to every child.

181 She tried to my question but

She tried to _____ my question, but I persisted in having an answer.

- A. refrain
- B. evade ✓ **Correct answer**
- C. refuse
- D. deny

A. wrong: “refrain” needs “from” (“refrain from answering”), it cannot take “my question” directly.

B. correct: “she tried to evade my question” — evade means to avoid answering.

C. wrong: “refuse my question” is not idiomatic — one refuses to answer, not the question.

D. wrong: “deny my question” is not idiomatic — one denies a statement, not a question.

Question 182 If an atom exists in the

If an atom exists in the excited state n = 5, the maximum number of transition takes place is:

- A. 6
- B. 5
- C. 10 ✓ **Correct answer**
- D. 3

A. wrong: the number of transitions from n = 5 is n(n − 1)/2 = 10, not 6.

B. wrong: the number of transitions from n = 5 is n(n − 1)/2 = 10, not 5.

C. correct: from the 5th excited level the maximum number of transitions is 5 × 4/2 = 10.

D. wrong: the number of transitions from n = 5 is n(n − 1)/2 = 10, not 3.

183 Which one of the following is

Which one of the following is strongest acid?

- A. FCH 2 COOH ✓ **Correct answer**
- B. CH 3 COOH
- C. ClCH 2 COOH
- D. C6H5CH 2 COOH

A. correct: FCH_2COOH is the strongest acid — fluorine is the most electronegative, so its −I effect stabilises the anion most.

B. wrong: acetic acid is the weakest of the four (the methyl group donates electrons).

C. wrong: $ClCH_2COOH$ is stronger than acetic acid, but weaker than FCH_2COOH (chlorine is less electronegative than fluorine).

D. wrong: phenylacetic acid is weaker than the halogen-substituted acids.

Question 184 The area where ultraviolet Radiation are

The area where ultraviolet Radiation are intense is the

- A. alphine forests
- B. boreal forests
- C. arctic tundra ✓ **Correct answer**
- D. alpine tundra

A. wrong: ultraviolet radiation is not most intense in alpine forests.

B. wrong: ultraviolet radiation is not most intense in boreal forests.

C. correct: ultraviolet radiation is intense in the arctic tundra (high latitude, thin ozone, reflection from snow and ice).

D. wrong: the textbook's answer is the arctic tundra, not the alpine tundra.

185 When the voltage of the target

When the voltage of the target in the X – ray tube increases then the

- A. penetrating power of x – ray increases ✓ **Correct answer**
- B. intensity of x – ray increases
- C. wavelength of x – ray increases
- D. all of these

A. correct: raising the target voltage gives the electrons more energy, so the X-rays produced are harder (greater penetrating power).

B. wrong: the intensity of X-rays depends on the tube current, not the target voltage.

C. wrong: raising the voltage shortens the wavelength (harder X-rays), it does not increase it.

D. wrong: only the penetrating power increases, so “all of these” is wrong.

Question 186 Frequency of light wavelength

The frequency of light having wavelength 3 × 10 -3 cm is

- A. 1 × 10 6
- B. 3.0 × 10 7
- C. 1 × 10 10
- D. 1 × 10 13 ✓ **Correct answer**

A. wrong: $f = c/\lambda = 3 \times 10^{10}/3 \times 10^{-3} = 1 \times 10^{13}$ Hz, not 1×10^{6} Hz.

B. wrong: $f = c/\lambda = 3 \times 10^{10}/3 \times 10^{-3} = 1 \times 10^{13}$ Hz, not 3.0×10^{7} Hz.

C. wrong: $f = c/\lambda = 3 \times 10^{10}/3 \times 10^{-3} = 1 \times 10^{13}$ Hz, not 1×10^{10} Hz.

D. correct: $f = c/\lambda = 3 \times 10^{10}$ cm/s ÷ 3×10^{-3} cm = 1×10^{13} Hz. (The stem wavelength is 3×10^{-3} cm; the options are restored from the printed page.)

187 A birds wings are homologous t

A bird’s wings are homologous t o:

- A. fishes tail fin
- B. dog’s front legs ✓ **Correct answer**
- C. mosquito’s wings
- D. alligator’s claws

A. wrong: a fish’s tail fin is not homologous to a bird’s wing (different origin).

B. correct: a bird’s wing is homologous to a dog’s front leg — both are the forelimb of a tetrapod.

C. wrong: a mosquito’s wing is analogous (same function, different origin), not homologous.

D. wrong: an alligator’s claws are not homologous to a bird’s wing.

Question 188 The situation in which then excited

The situation in which then excited state i.e. metastable state contains more number of electrons than the ground is called:

- A. ionized state
- B. stimulations
- C. population inversion ✓ **Correct answer**
- D. all of these

A. wrong: an ionised state has lost an electron, not more electrons in the excited state.

B. wrong: “stimulations” is not the name for this situation.

C. correct: when the excited (metastable) state contains more electrons than the ground state, it is called population inversion. (The stem had a stray page number “120” removed.)

D. wrong: only population inversion is the name for this situation, so “all of these” is

Question 189 Which one of the following would

Which one of the following would you suggest to locate the position of the double bond between carbon atoms in an organic compound?

- A. Addition of Bromine water
- B. Addition of HI
- C. Oxidation with ozone ✓ **Correct answer**
- D. All of the above

A. wrong: bromine water shows that a double bond is present, but it does not locate its position.

B. wrong: addition of HI shows that a double bond is present, but it does not locate its position.

C. correct: ozonolysis breaks the double bond and gives identifiable fragments, so it locates the position of the double bond.

D. wrong: only ozonolysis locates the position, so “all of the above” is wrong.

Question 190 Diameter of histone is

Diameter of histone is:

- A. 1 nm
- B. 2 nm ✓ **Correct answer**
- C. 3 nm
- D. 4 nm

A. wrong: the diameter of a histone is 2 nm, not 1 nm.

B. correct: the diameter of a histone is 2 nm.

e diameter of a histone is 2 nm, not 3 nm.

D. wrong: the diameter of a histone is 2 nm, not 4 nm.

Question 191 Her lasted for one month They

Her _____ lasted for one month. They were the longest wedding celebrations in that area.

- A. rituals
- B. matrimonial
- C. nuptials ✓ **Correct answer**
- D. rites

A. wrong: rituals are ceremonies in general, not the wedding celebrations themselves.

B. wrong: this is the printed key, but it is incorrect — “matrimonial” is an adjective, and the sentence needs a noun.

C. correct: “nuptials” is the noun for wedding celebrations — “her nuptials lasted for one month”.

D. wrong: rites are ceremonies in general, not specifically the wedding celebrations. (PRINTED-KEY ERROR CORRECTED: the printed key records (B) “matrimonial”, but “matrimonial” is an adjective and cannot stand as the noun — “Her nuptials lasted for one month” is the correct sentence, so the correct answer is (C). Corrected by the assistant under the owner’s 8 Nov 2026 delegation.)

Question 192 Radioactive decay mass down by 4

When a radioactive atom decays and its mass number decreases by 4 and charge number decreases by 2 the atom will emit:

- A. α radiation ✓ **Correct answer**
- B. β radiation

diation

- D. x – radiation

A. correct: a fall of 4 in mass number and 2 in charge number is alpha decay — the atom emits an α particle. (The options are restored from the printed page: the text layer renders α and γ as the same private-use code point.)

B. wrong: beta decay changes the charge number by +1 and leaves the mass number unchanged.

C. wrong: gamma radiation changes neither the mass number nor the charge number.

D. wrong: X-radiation does not carry away mass 4 and charge 2.

Question 193 Most of the oxides of non-metals

Most of the oxides of non-metals combine with water to form:

- A. hydrogen gas
- B. salt and water
- C. a base
- D. An acid ✓ **Correct answer**

A. wrong: non-metal oxides combine with water to form acids, not hydrogen gas.

B. wrong: non-metal oxides combine with water to form acids, not salt and water.

C. wrong: non-metal oxides combine with water to form acids, not bases.

D. correct: most oxides of non-metals combine with water to form acids (e.g. $SO_2 + H_2O \rightarrow H_2SO_3$).

Question 194 All of the following are derived

All of the following are derived from mesoderm except:

- A. Muscles

- C. gonads
- D. Blood vessels

A. wrong: muscles are derived from mesoderm.

B. correct: the liver is derived from endoderm, not mesoderm — it is the exception.

C. wrong: gonads are derived from mesoderm.

D. wrong: blood vessels are derived from mesoderm.

Question 195 One disintegration per second is equal

One disintegration per second is equal to

- A. one curie
- B. one Becquerel ✓ **Correct answer**
- C. one half life
- D. all of these

A. wrong: one curie is 3.7×10^{10} disintegrations per second, not one.

B. correct: one disintegration per second is equal to one becquerel.

C. wrong: a half-life is a time, not a rate of disintegration.

D. wrong: only the becquerel is one disintegration per second, so “all of these” is wrong.

Question 196 What is the most important source

What is the most important source of water pollution in Pakistan.

- A. industries ✓ **Correct answer**
- B. transportation
- C. mining industry
- D. agricultural and municipal wastage

(industrial effluent).

B. wrong: transportation is not the most important source of water pollution in Pakistan.

C. wrong: the mining industry is not the most important source of water pollution in Pakistan.

D. wrong: agricultural and municipal waste is a major source, but the textbook's most important source is industries.

Question 197 The number of nitrogenous base common

The number of nitrogenous base common in both D.N.A and R.N.A are

- A. two
- B. three ✓ **Correct answer**
- C. five
- D. four

A. wrong: this is the printed key, but it is incorrect — DNA and RNA share three bases (A, G and C), not two.

B. correct: the bases common to DNA and RNA are adenine, guanine and cytosine — three in number (DNA has thymine, RNA has uracil).

C. wrong: there are only four bases in each nucleic acid, so five cannot be common.

D. wrong: DNA and RNA share three bases, not four (thymine is in DNA only, uracil in RNA only). (PRINTED-KEY ERROR CORRECTED: the printed key records (D) "four", but the bases common to DNA and RNA are adenine, guanine and cytosine — three (thymine is in DNA only, uracil in RNA only) — so the correct answer is (B). Corrected by the assistant under the owner's 8 Nov 2026 delegation.)

198 Fission reaction can be produced in

Fission reaction can be produced in 23892 U by :

- A. fast neutrons ✓ **Correct answer**
- B. slow neutrons
- C. thermal neutrons
- D. all of these

A. correct: fission of U-238 can be produced by fast neutrons (slow/thermal neutrons fission U-235, not U-238).

B. wrong: slow neutrons fission U-235, not U-238.

C. wrong: thermal neutrons fission U-235, not U-238.

D. wrong: only fast neutrons fission U-238, so “all of these” is wrong.

Question 199 In which of the following atoms

In which of the following atoms, the 1s orbital is the smallest in size?

- A. bromine
- B. chlorine
- C. fluorine
- D. iodine ✓ **Correct answer**

A. wrong: this is the printed key, but it is incorrect — bromine (Z = 35) has a larger 1s orbital than iodine.

B. wrong: chlorine (Z = 17) has a larger 1s orbital than iodine.

C. wrong: fluorine (Z = 9) has a larger 1s orbital than iodine.

D. correct: the 1s orbital is smallest for the largest nuclear charge — iodine (Z = 53), since r ∝ 1/Z. (PRINTED-KEY ERROR CORRECTED: the printed key records (C) “fluorine”, but the 1s orbital shrinks as the nuclear charge grows (r ∝ 1/Z), so iodine (Z = 53) has the smallest 1s

e four, the correct answer is (D). Corrected by the assistant under the owner's 8 Nov 2026 delegation.)

Question 200 The genetic potential for one type

The genetic potential for one type of cell from a multi-cellular organism to generate a whole new organism is called:

- A. unipotent
- B. multipotent
- C. totipotent ✓ **Correct answer**
- D. pluripotent

A. wrong: unipotent means able to form only one cell type, not a whole organism.

B. wrong: multipotent means able to form several cell types, not a whole organism.

C. correct: the genetic potential of a cell to generate a whole new organism is called totipotency.

D. wrong: pluripotent means able to form all cell types of the body, but not a whole new organism.

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