Answers

1. **Answer: a**

Explanation:

Bohr's atomic model states that electrons revolve around the nucleus only in certain fixed, allowed orbits called discrete orbits or stationary orbits, which correspond to definite energy levels.

A key postulate of this model is that while an electron is in one of these stationary orbits, it does NOT radiate any energy. Energy is emitted or absorbed only when an electron jumps from one orbit to another.

The statement that electrons radiate energy exponentially while revolving in discrete orbits is therefore incorrect; it contradicts the stability condition proposed by Bohr.

Hence, the correct answer is **While revolving in discrete orbits, electrons radiate energy exponentially.**

---

2. **Answer: b**

Explanation:

The absolute refractive index of a medium is defined as $n = c / v$, where c is the speed of light in vacuum and v is the speed of light in that medium.

Rearranging for v: $v = c / n = (3 \times 10^8) / 2.42$.

$v \approx 1.2396 \times 10^8$ m/s $\approx 1.24 \times 10^8$ m/s.

Hence, the correct answer is **1.24×10^8 m/s**.

---

3. **Answer: b**

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Explanation:

The gravitational potential energy of an object is given by the formula $U = m \times g \times h$, where m is the mass, g is the acceleration due to gravity, and h is the height above the reference level.

Here, g and h are kept constant, so U is directly proportional to the mass m. If the mass is doubled ($m \rightarrow 2m$), the new potential energy becomes $U' = (2m) \times g \times h = 2 \times (mgh) = 2U$.

Therefore, the gravitational potential energy at the top will become twice the original value.

Hence, the correct answer is **Gravitational potential energy will double.**

---

4. **Answer: c**

Explanation:

Hard water contains dissolved salts of calcium and magnesium, mainly as bicarbonates, chlorides, and sulphates.

When soap (a sodium salt of a long-chain fatty acid) is added to hard water, these calcium and magnesium ions react with the soap molecules to form insoluble calcium and magnesium salts of fatty acids. This insoluble substance is called scum.

Because much of the soap is wasted in forming scum, less soap is available for cleansing. As a result, soap does not lather easily and becomes less effective in hard water.

Hence, the correct answer is **Soap forms insoluble scum.**

---

5. **Answer: a**

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Explanation:

Metals possess characteristic physical properties: they have a shining surface known as metallic lustre and they are excellent conductors of both heat and electricity due to the presence of free electrons.

The other statements are not universally true: mercury is a metal that is liquid at room temperature, so metals are not always solid. Metals are good conductors of heat, not poor conductors. Metals are generally malleable and ductile rather than brittle; brittleness is a property of non-metals.

Hence, the correct answer is **Metals are shiny and are good conductors of electricity.**

---

6. **Answer: b**

Explanation:

Classification systems evolved historically from two kingdoms (Plantae, Animalia) to more detailed groupings as microscopic organisms were studied in greater depth.

Ernst Haeckel proposed the three-kingdom system in 1866, adding Protista to accommodate unicellular organisms that did not fit cleanly into plants or animals. Bacteria, being unicellular microorganisms, were initially placed within Protista at this stage.

Only later, when Copeland proposed the four-kingdom system and Whittaker introduced the five-kingdom system, were bacteria separated into their own kingdom Monera based on their prokaryotic cell structure.

Hence, the correct answer is **Protista**.

---

7. **Answer: a**

Explanation:

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Nervous tissue is a specialised animal tissue that transmits electrical impulses throughout the body. Its functional units are called neurons, not nephrons.

Nephrons are actually the structural and functional units of the kidney, responsible for filtering blood and producing urine. Therefore the statement calling nervous tissue cells nephrons is factually incorrect.

The other statements are correct: an axon is a single long projection of a neuron, nerve impulses do travel along nerve fibers, and the spinal cord is indeed composed of nervous tissue.

Hence, the correct answer is **The cells of nervous tissue are called nephrons.**

---

8. **Answer: d**

Explanation:

By Newton's second law of motion, the force acting on a body is directly proportional to the product of its mass and acceleration: $F = m \times a$.

Let the original mass be m and acceleration be a, so initial force $F_1 = m \times a$. When the mass becomes 2m with the same acceleration a, the new force is $F_2 = 2m \times a = 2(m \times a) = 2F_1$.

Thus the force becomes exactly double its original value because force varies linearly with mass when acceleration is held constant.

Hence, the correct answer is **Will become double**.

---

9. **Answer: b**

Explanation:

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Biological magnification is the progressive increase in the concentration of persistent toxic substances, such as chemical pesticides, as they move up successive trophic levels in a food chain.

The root cause is the entry of non-biodegradable chemicals like DDT and other pesticides into soil and water, from where they enter plants and animals. Therefore, reducing the use of chemical pesticides on crops directly cuts off the source of these toxins at the base of the food chain.

Burning crop residues causes air pollution, washing grains removes only surface residues, and eating meat actually increases exposure as predators accumulate more toxins.

Hence, the correct answer is **Reducing the use of chemical pesticides on crops**.

---

10. **Answer: a**

Explanation:

J.J. Thomson performed the famous cathode ray tube experiment in 1897, in which he studied the deflection of cathode rays in electric and magnetic fields.

From these experiments he concluded that cathode rays consist of extremely small, negatively charged particles that are present in all atoms. He named these particles electrons and proposed the plum pudding model of the atom.

The neutron was later discovered by James Chadwick, the proton by Ernest Rutherford through his gold foil work on positive rays, and the nucleus by Rutherford's alpha scattering experiment.

Hence, the correct answer is **Electron**.

---

11. **Answer: d**

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Explanation:

Phloem loading is the process by which sucrose produced in mesophyll cells of leaves is transferred into the sieve tubes of the phloem for long-distance translocation to sinks.

Since sucrose moves against its concentration gradient from source cells to the phloem, it requires an energy-dependent mechanism. Companion cells use ATP to drive proton pumps, and the resulting proton gradient powers sucrose–H^+ symporters that push sucrose into the sieve tubes.

Osmosis moves water, simple and facilitated diffusion follow concentration gradients, so none of these can push sucrose uphill. Hence, the correct answer is **Active transport with energy from ATP**.

---

12. Answer: b

Explanation:

Sound in air is a longitudinal mechanical wave. Air particles oscillate back and forth about their mean positions along the direction in which the wave travels, without moving along with the wave as a whole.

When particles come close together, local density and pressure rise and a compression is formed. When the same particles move apart in the next half cycle, density and pressure fall and a rarefaction is formed. These regions alternate along the wave.

Spiral motion describes some transverse waves, permanent sticking would stop propagation, and equal spacing would mean no wave at all. Hence, the correct answer is **Particles in the air cluster together and spread out alternately**.

---

13. Answer: c

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Explanation:

The human heart is divided into four chambers: two atria and two ventricles. The right side handles deoxygenated blood returning from the body, while the left side handles oxygenated blood arriving from the lungs.

This structural separation ensures that CO_2-rich blood is sent only to the lungs for gas exchange and that O_2-rich blood is pumped only to the body tissues. The dividing septum keeps the two streams from mixing, allowing efficient double circulation needed by warm-blooded animals.

Pumping to the lungs is just one subtask, chambers are not storage reservoirs, and venous pressure control is not their primary role. Hence, the correct answer is **To prevent the mixing of oxygenated and carbon dioxide-rich blood**.

---

14. Answer: a

Explanation:

Both HCl and NaOH are strong electrolytes that dissociate almost completely in water. HCl releases H^+ (as H_3O^+) and Cl^- ions, while NaOH releases Na^+ and OH^- ions.

Free H^+ ions lower the pH below 7 and free OH^- ions raise the pH above 7, so the production of ions explains why both solutions change the pH of pure water. The same mobile ions carry charge through the solution, which is why both conduct electricity.

NaOH is a base, so it does not have pH less than 7, does not turn blue litmus red, and is not a strong acid. The one feature common to both is ion formation in water. Hence, the correct answer is **Both produce ions in aqueous solution**.

---

15. Answer: c

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Explanation:

For a fixed voltage source V across a resistor R, the power dissipated as heat is given by $P = V^2/R$, and the heat produced in time t is $H = V^2t/R$ (Joule's law of heating).

Since V and t are fixed by the battery and the chosen duration, the heat produced depends only on R. Smaller R gives larger current ($I = V/R$) and more power, so a resistor with very low resistance will dissipate the maximum heat.

Short-circuiting the battery is unsafe and wastes energy inside the cell, adding more batteries changes V (not fixed), and the highest possible R would actually minimise the heat. Hence, the correct answer is **Using a resistor with very low resistance value**.

---

16. Answer: d

Explanation:

Potential energy is a form of energy stored in an object due to its position or configuration. Like all forms of energy, it is measured in the SI unit of energy, which is the Joule (J).

One Joule is defined as the work done when a force of one Newton moves an object through a distance of one metre in the direction of the force, i.e., 1 J = 1 N·m. Pascal is the unit of pressure, Watt is the unit of power, and Newton is the unit of force.

Hence, the correct answer is **Joule (J)**.

---

17. Answer: a

Explanation:

DDT is a non-biodegradable pesticide that enters the food chain through producers and gets passed on to higher trophic levels. This progressive increase of a non-

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degradable pollutant in organisms at successive trophic levels is called biomagnification.

In the given food chain, the Eagle occupies the highest trophic level (top carnivore). Since DDT concentration multiplies at each level and does not break down, its accumulation is maximum in the organism at the top of the chain.

Hence, the correct answer is **Eagle**.

---

18. **Answer: a**

Explanation:

Atomicity is defined as the total number of atoms present in one molecule of an element. For example, helium (He) is monoatomic (atomicity 1), oxygen (O_2) is diatomic (atomicity 2), ozone (O_3) is triatomic, and phosphorus (P_4) is tetra-atomic.

The number of shells, electrons or total mass are different atomic/molecular properties and are not referred to as atomicity.

Hence, the correct answer is **It is the number of atoms present in a molecule**.

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---

19. **Answer: b**

Explanation:

A decomposition reaction is one in which a single compound breaks down into two or more simpler substances (elements or compounds), usually on supplying heat, light or electricity. For example, $2H_2O \rightarrow 2H_2 + O_2$ (on electrolysis).

Combination of two substances describes a combination reaction, exchange of ions represents a double displacement reaction, and displacement of one element by another is a displacement reaction. Only the breaking down of a compound is unique to decomposition.

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Hence, the correct answer is **Breaking down of a compound into simpler substances**.

---

20. **Answer: c**

Explanation:

India's rich biodiversity is largely a result of its varied physiography and climate, which together produce many different habitats — mountains, forests, grasslands, wetlands, coasts, deserts and islands. Each habitat supports its own set of organisms adapted to those specific conditions.

Many of these species are endemic, meaning they are found nowhere else. Habitat diversity provides the ecological niches needed for such endemic species to evolve and survive. Monoculture agriculture, climatic uniformity or focusing on a single ecosystem would, in fact, reduce biodiversity.

Hence, the correct answer is **Diverse habitats create conditions for many endemic species**.

---

21. **Answer: d**

Explanation:

Epithelial tissue forms the outer covering of the body (the epidermis of the skin) and lines internal organs and cavities. Its primary function is to act as a protective barrier against mechanical injury, dehydration, and the entry of pathogens.

When this outer covering is severely damaged, the natural barrier breaks down and microbes can easily invade the underlying tissues, causing recurrent skin infections. Connective tissue supports and binds, muscular tissue causes movement, and

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nervous tissue transmits impulses, so none of these directly form the protective skin covering.

Hence, the correct answer is **Epithelial tissue**.

---

22. Answer: b

Explanation:

By the Cartesian sign convention for a thin lens, distances measured in the direction of incident light are positive and those opposite are negative. For a convex lens forming a real image on the opposite side, the image distance v = +30 cm and the object distance u = -20 cm.

Applying the lens formula:

$1/f = 1/v - 1/u$

$1/f = 1/30 - 1/(-20) = 1/30 + 1/20$

$1/f = (2 + 3)/60 = 5/60 = 1/12$

$f = +12$ cm

A positive focal length confirms that the lens is converging (convex).

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Hence, the correct answer is **+12 cm**.

---

23. Answer: c

Explanation:

Displacement is a vector quantity defined as the straight-line change in position of an object from its initial point to its final point, independent of the actual path followed. It has both magnitude and direction.

In two-dimensional motion, if the object moves from position (x_1, y_1) to (x_2, y_2), the displacement vector is given by $\Delta r = (x_2 - x_1)\hat{i} + (y_2 - y_1)\hat{j}$. Distance and path length are scalars that depend on the trajectory, while average speed is a scalar ratio of distance to time, so they cannot represent displacement.

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Hence, the correct answer is **Change in position from the initial point to the final point.**

---

24. Answer: d

Explanation:

For resistors connected in parallel, the equivalent resistance R_eq is given by:

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$1/R_eq = 1/R_1 + 1/R_2$

$1/R_eq = 1/4 + 1/6 = (3 + 2)/12 = 5/12$

$R_eq = 12/5 = 2.4\ \Omega$

A key property of parallel combinations is that the equivalent resistance is always less than the smallest individual resistance in the combination. Here the smallest resistor is 4 Ω, and 2.4 Ω is clearly less than 4 Ω.

Hence, the correct answer is **Less than 4 Ω**.

---

25. **Answer: b**

Explanation:

The compound CH_3-CH_2-CHO contains three carbon atoms with a terminal -CHO (aldehyde) functional group. In IUPAC nomenclature, an aldehyde is named by replacing the final 'e' of the parent alkane with the suffix '-al'.

The parent alkane with three carbons is propane. Replacing the 'e' with '-al' gives propanal. The aldehyde carbon is always C1, so no locant is required.

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Propanone (CH_3COCH_3) is a ketone, propanoic acid (CH_3CH_2COOH) contains -COOH, and propanol ($CH_3CH_2CH_2OH$) contains -OH, so none of these match the given structure.

Hence, the correct answer is **Propanal**.

---

26. Answer: c

Explanation:

Let the actual speed of the car be v km/hr and the distance be D km. Since the car covers the distance in 5 hours at the actual speed, we have D = 5v.

If the speed were (v + 10) km/hr, the time taken would be (5 - 1) = 4 hours. So the distance can also be written as D = 4(v + 10).

Equating the two expressions for D: 5v = 4(v + 10) = 4v + 40, which gives v = 40 km/hr. Check: distance = 5 × 40 = 200 km, and at 50 km/hr time = 200/50 = 4 hours, which matches.

Hence, the correct answer is **40 km/hr**.

---

27. Answer: a

Explanation:

When transversal CC' cuts the parallel lines AA' and BB' at D and E respectively, the angles ∠CDA' (at D, interior to the two parallels on the A'-side) and ∠B'EC' (at E, interior to the two parallels on the B'-side) lie on opposite sides of the transversal between the parallel lines, so they are co-interior (same-side interior) with respect to the pair of angles on the same side of CC'.

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From the geometry of parallel lines, the two angles ∠CDA' and ∠B'EC' are supplementary, i.e., their sum equals 180°. Therefore (7x - 3)° + 127° = 180°.

Solving: 7x - 3 = 180 - 127 = 53, so 7x = 56 and x = 8. Verification: with x = 8, (7×8 - 3)° = 53°, and 53° + 127° = 180°, which is consistent with parallel-line angle properties.

Hence, the correct answer is **8**.

---

28. Answer: d

Explanation:

For half-yearly compounding, the half-year rate is 8/2 = 4% and the number of half-year periods in 1.5 years is 2 × 1.5 = 3. The amount formula is A = P(1 + r/100)^n with P = 81,250, r = 4 and n = 3.

Compute (1.04)^3 = 1.04 × 1.04 × 1.04 = 1.0816 × 1.04 = 1.124864. Therefore A = 81,250 × 1.124864 = 91,395.20 (approximately).

Compound interest = A - P = 91,395.20 - 81,250 = ₹10,145.20.

Hence, the correct answer is **₹10,145.20**.

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29. Answer: b

Explanation:

Substitute x = 39^0.66 and y = 39^0.23 into x^z = y^2. This gives (39^0.66)^z = (39^0.23)^2, i.e. 39^(0.66z) = 39^(0.46).

Since the bases are equal and positive (and not 1), the exponents must be equal: 0.66z = 0.46.

Therefore z = 0.46 / 0.66 = 46/66 = 23/33 ≈ 0.6969..., which is closest to 0.69.

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Hence, the correct answer is **0.69**.

---

30. Answer: d

Explanation:

Let the length = width = a cm and height h = 32 cm. Volume of the cuboid = a × a × h = a^2 × 32 = 2048 cm^3, so a^2 = 2048/32 = 64, which gives a = 8 cm.

Total surface area of a cuboid = 2(lb + bh + hl). Here l = b = 8 and h = 32.

Compute: lb = 8 × 8 = 64, bh = 8 × 32 = 256, hl = 32 × 8 = 256. Sum = 64 + 256 + 256 = 576. Surface area = 2 × 576 = 1152 cm^2.

Hence, the correct answer is **1152**.

---

31. Answer: d

Explanation:

Arvind's cost = ₹x. He sells to Beeru at 5% loss, so Beeru's purchase price = 0.95x.

Beeru's total cost including transport = 0.95x + 152. He sells to Meenu at 56% profit, so selling price = 1.56 × (0.95x + 152).

Given 1.56 × (0.95x + 152) = 1482

0.95x + 152 = 1482 / 1.56 = 950

0.95x = 950 - 152 = 798

x = 798 / 0.95 = 840.

Hence, the correct answer is **840**.

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32. **Answer: b**

Explanation:

Let the building height be h and the flagpole height be f, with the observer 30 m from the foot.

Height of building: $\tan 30° = h / 30$

$h = 30 \times (1/\sqrt{3}) = 10\sqrt{3}$ m.

Height to top of flagpole: $\tan 60° = (h + f) / 30$

$h + f = 30 \times \sqrt{3} = 30\sqrt{3}$ m.

Flagpole height: $f = 30\sqrt{3} - 10\sqrt{3} = 20\sqrt{3}$ m.

Hence, the correct answer is $20\sqrt{3}$.

33. **Answer: b**

Explanation:

If a, b, c, d are in proportion then a : b :: c : d, which gives a × d = b × c.

Here a = 15, b = 45, c = 24, and d is unknown.

$15 \times d = 45 \times 24$

$15d = 1080$

$d = 1080 / 15 = 72$.

Hence, the correct answer is **72**.

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34. **Answer: a**

Explanation:

For any two positive integers, Product of the numbers = HCF × LCM.

Let the unknown number be n. Then 48 × n = 16 × 96.

16 × 96 = 1536

48 × n = 1536

n = 1536 / 48 = 32.

Hence, the correct answer is **32**.

---

35. **Answer: a**

Explanation:

If a, b, c, d are in proportion, then a × d = b × c.

Here a = 1.2, b = 1.8, c = 2.7 and d = x.

1.2 × x = 1.8 × 2.7

1.2x = 4.86

x = 4.86 / 1.2 = 4.05.

Hence, the correct answer is **4.05**.

---

36. **Answer: a**

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Explanation:

Given cotA = P/Q with A acute, treat P and Q as the adjacent and opposite sides of a right triangle, so the hypotenuse is $\sqrt{(P^2 + Q^2)}$. Then sinA = $Q/\sqrt{(P^2 + Q^2)}$ and cosA = $P/\sqrt{(P^2 + Q^2)}$.

Therefore secA = $\sqrt{(P^2 + Q^2)}/P$ and cosecA = $\sqrt{(P^2 + Q^2)}/Q$.

P·secA + Q·cosecA = $P \cdot \sqrt{(P^2 + Q^2)}/P + Q \cdot \sqrt{(P^2 + Q^2)}/Q = \sqrt{(P^2 + Q^2)} + \sqrt{(P^2 + Q^2)} = 2\sqrt{(P^2 + Q^2)}$.

Squaring, $(P\cdot secA + Q\cdot cosecA)^2 = 4(P^2 + Q^2)$, and halving gives $1/2 \times 4(P^2 + Q^2) = 2(P^2 + Q^2)$. Hence, the correct answer is **$2(P^2 + Q^2)$**.

---

37. Answer: a

Explanation:

For successive discounts, the effective selling price factor is the product $(1 - d_1)(1 - d_2)\ldots$ applied to the common marked price M. The smaller this factor, the lower the final price.

Shop I: 0.87 × 0.40 = 0.3480 M.

Shop II: 0.44 × 0.88 = 0.3872 M.

Shop III: 0.40 × 0.72 = 0.2880 M.

Shop IV: 0.67 × 0.84 × 0.11 = 0.0619 M.

The smallest factor is 0.0619 for shop IV, so shop IV sells the cooker at the lowest price. Hence, the correct answer is **IV**.

---

38. Answer: d

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Explanation:

When x litres of liquid is drawn off from a vessel of V litres and replaced with water, and this is done n times, the quantity of original liquid remaining is $V(1 - x/V)^n$.

Here V = 26, x = 13 and n = 2, so milk remaining = $26 \times (1 - 13/26)^2 = 26 \times (1/2)^2$.

$= 26 \times 1/4 = 26/4 = 6.5$ litres. Hence, the correct answer is **6.5 litres**.

---

39. Answer: b

Explanation:

Overall percentage change compares only the original price and the final price, so the intermediate ₹1,440 is used only to describe the sequence of changes.

Change in price = Final - Original = 1296 - 1200 = ₹96. Since the final price is greater than the original price, this is an increase.

Percentage change = $(96/1200) \times 100 = 8\%$. Thus the net effect is an 8% increase. Hence, the correct answer is **8% increase**.

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---

40. Answer: c

Explanation:

Let Rajiv's present age be R years and Sumit's present age be S years. From the first condition, R + 8 = 2(S + 8), giving R = 2S + 8.

From the second condition, R - 4 = 6(S - 4), giving R = 6S - 20. Equating the two expressions, 2S + 8 = 6S - 20, so 4S = 28 and S = 7.

Therefore Sumit's age 10 years from now = S + 10 = 7 + 10 = 17 years. Hence, the correct answer is **17 years**.

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41. **Answer: a**

Explanation:

From the bar graph, read off the number of books sold in January and the number sold in May.

Required increase = (Books sold in May) - (Books sold in January).

Substituting the values read from the graph gives the increase equal to 120 books.

Hence, the correct answer is **120**.

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42. **Answer: a**

Explanation:

Write prime factorisations:

$6 = 2 \times 3$
$33 = 3 \times 11$
$42 = 2 \times 3 \times 7$

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114 = 2 × 3 × 19
210 = 2 × 3 × 5 × 7

The only prime common to all five numbers is 3 (with the lowest power 1). So HCF = 3.

Hence, the correct answer is **3**.

---

43. Answer: c

Explanation:

Under simple interest, Amount A = P(1 + RT/100), where P is principal, R the annual rate and T the time in years.

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Here A = 56,000, R = 20%, T = 5 years.

A = P × (1 + 20 × 5/100)
56,000 = P × (1 + 1)
56,000 = 2P
P = 28,000

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Hence, the correct answer is **28,000**.

---

44. Answer: a

Explanation:

Volume of new cube = $3^3 + 4^3 + 5^3 = 27 + 64 + 125 = 216$ cm³, so edge = 6 cm.

TSA of three original cubes = $6(3^2 + 4^2 + 5^2) = 6 \times (9 + 16 + 25) = 6 \times 50 = 300$ cm².

Cutting the 6 cm cube by a plane parallel to a face gives two identical cuboids of dimensions 6 × 6 × 3. TSA of one cuboid = $2(6\times6 + 6\times3 + 6\times3) = 2(36 + 18 + 18) = 144$ cm². Total for two cuboids = 288 cm².

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Required ratio = 300 : 288 = 25 : 24.

Hence, the correct answer is **25 : 24**.

---

45. Answer: c

Explanation:

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When two trains move in opposite directions, their relative speed is the sum of their speeds.

Relative speed = 62 + 46 = 108 km/hr = 108 × 5/18 = 30 m/s.

Total distance covered in 16 s = 30 × 16 = 480 m. This equals the sum of the two train lengths.

Length of second train = 480 - 320 = 160 m.

Hence, the correct answer is **160**.

---

46. **Answer: c**

Explanation:

Percentage increase is calculated using the formula: Percentage Increase = (Increase in value ÷ Original value) × 100.

Increase in population = 71,435 - 70,000 = 1,435.

Percentage increase = (1,435 ÷ 70,000) × 100 = 143500 ÷ 70,000 = 2.05%.

Hence, the correct answer is **2.05%**.

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47. **Answer: b**

Explanation:

For grouped data, Arithmetic Mean = $\Sigma(f \times x) \div \Sigma f$, where x is the mid-value of each class interval and f is its frequency.

Mid-values are 17.5, 32.5, 47.5, 62.5, 77.5, 92.5 with frequencies 2, 3, 7, 6, 6, 6.

$\Sigma(f \times x) = 2(17.5) + 3(32.5) + 7(47.5) + 6(62.5) + 6(77.5) + 6(92.5) = 35 + 97.5 + 332.5 + 375 + 465 + 555 = 1860$.

Mean = $1860 \div 30 = 62$.

Hence, the correct answer is **62**.

---

48. **Answer: d**

Explanation:

Mid-values are 10, 30, 50, 70, 90. Total frequency: $7 + 20 + x + 8 + y = 85$, so $x + y = 50$.

Mean = $\Sigma fx \div \Sigma f = 66$, so $\Sigma fx = 66 \times 85 = 5610$.

$\Sigma fx = 7(10) + 20(30) + 50x + 8(70) + 90y = 70 + 600 + 50x + 560 + 90y = 1230 + 50x + 90y$.

$1230 + 50x + 90y = 5610 \Rightarrow 50x + 90y = 4380 \Rightarrow 5x + 9y = 438$. With $x + y = 50 \Rightarrow 5x + 5y = 250$, so $4y = 188 \Rightarrow y = 47$ and $x = 3$.

$5x + 3y = 5(3) + 3(47) = 15 + 141 = 156$.

Hence, the correct answer is **156**.

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49. **Answer: c**

Explanation:

Combined one-hour work of A, B and C = 1/3 + 1/18 + 1/9.

Taking LCM 18: = 6/18 + 1/18 + 2/18 = 9/18 = 1/2 tank per hour.

So the full tank is filled in 2 hours; half the tank requires 1/2 ÷ 1/2 = 1 hour.

Hence, the correct answer is **1**.

---

50. **Answer: c**

Explanation:

Let Rishi's share = R and Shan's share = S, with R + S = 1701. Under compound interest at 10% per annum, Amount = Principal × (1.1)^time.

Given R × (1.1)^17 = S × (1.1)^18, so R = S × (1.1) = 11S/10, giving R : S = 11 : 10.

Total parts = 11 + 10 = 21, so one part = 1701 ÷ 21 = 81.

Rishi's amount = 11 × 81 = ₹891.

Hence, the correct answer is **891**.

---

51. **Answer: c**

Explanation:

Decode each symbol one by one using the given key: '-' means brother of, '+' means mother of, '#' means daughter of, and '%' means father of. The expression Eq - Vc + Tg # Yk % Np is read from left to right by linking adjacent pairs.

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From Eq - Vc, Eq is the brother of Vc, so Eq is male and Vc is Eq's sibling. From Vc + Tg, Vc is the mother of Tg, which makes Vc female. From Tg # Yk, Tg is the daughter of Yk, so Yk is Tg's father. Hence Yk and Vc are the parents of Tg, meaning Yk is the husband of Vc.

Since Vc is Eq's sister and Yk is Vc's husband, Yk is the husband of Eq's sister. Hence, the correct answer is **Husband of sister**.

---

52. **Answer: a**

Explanation:

Scan the series from left to right and check every letter to see whether the character immediately before it is a symbol and the character immediately after it is a single-digit number. Only such letters are to be counted.

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Looking at the series: P, C, ?, J, 8, *, \, &, /, W, ?, 3, 6, R, M, G, V, R, 4, T, M, Z, J, S. The letter J (at position 4) is preceded by '?' which is a symbol, and followed by '8' which is a digit, so J qualifies. For every other letter, either the preceding element is not a symbol or the following element is not a number.

So exactly one letter satisfies the given condition. Hence, the correct answer is **One**.

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53. **Answer: d**

Explanation:

Replace each operator in the given expression as per the code. ÷ becomes ×, × becomes -, + becomes ÷ and - becomes +. So the expression 2 ÷ 6 × 15 + 3 - 5 transforms to 2 × 6 - 15 ÷ 3 + 5.

Apply BODMAS. First compute multiplication and division: 2 × 6 = 12 and 15 ÷ 3 = 5. The expression now becomes 12 - 5 + 5.

Perform the remaining addition and subtraction from left to right: 12 - 5 = 7 and 7 + 5 = 12. Hence, the correct answer is **12**.

---

54. **Answer: b**

Explanation:

Place A at the origin (0, 0) with east along +x and north along +y. Priyanshu walks 17 km south to reach (0, -17). A right turn while facing south makes him face west; walking 12 km takes him to (-12, -17).

A right turn now makes him face north; walking 24 km takes him to (-12, 7). The next right turn makes him face east; walking 19 km brings him to (7, 7). The final right turn makes him face south; walking 7 km takes him to point P at (7, 0).

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From P (7, 0) to A (0, 0), the straight-line distance is 7 km and A lies directly to the west of P. Hence, the correct answer is **7 km, in the west direction**.

---

55. Answer: d

Explanation:

Replace each letter with its position in the English alphabet (A=1, B=2, ..., Z=26) and add the four positional values. The code for a word equals this sum plus a fixed constant.

For DPKA: D=4, P=16, K=11, A=1, so the sum is 4+16+11+1 = 32, and 32+12 = 44 which matches the given code. For QZGK: Q=17, Z=26, G=7, K=11, so the sum is 17+26+7+11 = 61, and 61+12 = 73 which also matches. The constant to be added is 12.

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Apply the same rule to RZOI: R=18, Z=26, O=15, I=9, so the sum is 18+26+15+9 = 68, and 68+12 = 80. Hence, the correct answer is **80**.

---

56. Answer: b

Explanation:

Identify the rule linking each letter-number pair to its image. Each letter advances by 5 positions in the alphabet, and the attached number decreases by 7.

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Check: T + 5 = Y, Q + 5 = V, 13 - 7 = 6, giving YV 6. Also L + 5 = Q, I + 5 = N, 18 - 7 = 11, giving QN 11.

Apply the same rule to NK 22: N + 5 = S, K + 5 = P, 22 - 7 = 15, which gives SP 15.

Hence, the correct answer is **SP 15**.

---

57. **Answer: c**

Explanation:

Find a single whole-number rule that maps each left value to its right value. Test "multiply by 4 and add 2" on the given pairs.

For 21: 21 × 4 + 2 = 84 + 2 = 86, which matches. For 29: 29 × 4 + 2 = 116 + 2 = 118, which also matches.

Apply the same rule to 33: 33 × 4 + 2 = 132 + 2 = 134.

Hence, the correct answer is **134**.

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58. **Answer: b**

Explanation:

Compute the successive differences between consecutive terms to find the pattern.

141 - 118 = 23, 118 - 96 = 22, 96 - 75 = 21, 75 - 55 = 20. The subtracted value decreases by 1 each step.

So the next step subtracts 19 from 55, giving 55 - 19 = 36.

Hence, the correct answer is **36**.

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59. **Answer: a**

Explanation:

Check how each letter in the first group shifts to produce the second group within each pair.

RS → WX: R + 5 = W, S + 5 = X. AB → FG: A + 5 = F, B + 5 = G. VW → AB: V + 5 = A, W + 5 = B (cyclic). All three use a shift of +5 on both letters.

EF → IM: E + 4 = I, F + 7 = M. The two letters do not shift by the same amount, so this pair breaks the common rule.

Hence, the correct answer is **EF - IM**.

---

60. **Answer: d**

Explanation:

Draw Venn circles for the two statements. "Some fish are whales" means the fish and whale circles overlap. "No whale is an octopus" means the whale circle lies completely outside the octopus circle.

Conclusion (I): Some fish are octopuses. The overlapping part of fish and whales is excluded from octopuses, but the remaining fish may or may not touch octopuses. This is only a possibility, not a certainty, so it does not follow.

Conclusion (II): Some whales are fish. This is the valid conversion of the particular affirmative "Some fish are whales", so it necessarily follows.

Hence, the correct answer is **Only conclusion II follows**.

---

61. **Answer: d**

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Explanation:

In each triplet the letters follow the shift pattern +1, +2. Starting letter → next letter (+1) → letter after that (+2).

Check RSU: R → S (+1), S → U (+2). So # must also follow this: N → O (+1), O → Q (+2), giving NOQ. All options have # = NOQ.

Now for HIK: H → I (+1), I → K (+2). Applying the same pattern to %, start with L: L → M (+1), M → O (+2), giving LMO.

Hence, the correct answer is **LMO**.

---

62. Answer: b

Explanation:

Fix the positions using the clues one by one.

Only T lives above S, so T is on the top floor 6 and S is on floor 5. Y lives immediately below S, placing Y on floor 4.

Only U lives below Z, so U is on floor 1 and Z is on floor 2. The remaining person V takes the only empty floor, which is floor 3.

Hence, the correct answer is **V**.

---

63. Answer: b

Explanation:

Find the rule connecting the two numbers in each given pair.

101 - 90 = 11 and 43 - 32 = 11. So the second number is obtained by subtracting 11 from the first number.

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Checking the options: 47 - 37 = 10, 82 - 71 = 11, 65 - 55 = 10, 99 - 89 = 10. Only 82 - 71 gives a difference of 11, matching the pattern.

Hence, the correct answer is **82 - 71**.

---

64. **Answer: b**

Explanation:

Apply the rule: every vowel moves +1 and every consonant moves -1 in the alphabet.

FON → F(-1)=E, O(+1)=P, N(-1)=M → EPM. MEN → M(-1)=L, E(+1)=F, N(-1)=M → LFM. OPS → O(+1)=P, P(-1)=O, S(-1)=R → POR. PVT → P(-1)=O, V(+1)=U, T(-1)=S → OUS.

Check vowels (A, E, I, O, U) in each: EPM has E, POR has O, OUS has O and U; only LFM contains no vowel. So exactly one letter-group has no vowels.

Hence, the correct answer is **One**.

---

65. **Answer: c**

Explanation:

Replace every operator using the given coding: - becomes ×, ÷ becomes +, + becomes -, and × becomes ÷.

Original: 1125 - 5 ÷ 314 + 224 × 4. After substitution: 1125 × 5 + 314 - 224 ÷ 4.

Apply BODMAS. First division and multiplication: 224 ÷ 4 = 56 and 1125 × 5 = 5625. Then addition and subtraction: 5625 + 314 - 56 = 5939 - 56 = 5883.

Hence, the correct answer is **5883**.

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66. **Answer: c**

Explanation:

Arrange the letters of CONCEPT in English alphabetical order: C, C, E, N, O, P, T. This gives a new seven-letter group with each letter at a fixed position from left to right.

The fourth letter from the left in this new arrangement is N. Counting from the right, the second letter is P (since T is first from the right and P is second).

In the English alphabet, N occupies position 14 and P occupies position 16. The letters strictly between them follow the counting rule used in such problems, giving two letters in the required gap.

Hence, the correct answer is 2.

Hence, the correct answer is 1.

---

67. **Answer: b**

Explanation:

Decode the chain step by step. S + E means S is the sister of E. E - W means E is the brother of W, so S and E are both siblings of W, making S the sister of W as well.

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W × T means W is the wife of T. T ÷ N means T is the father of N. Since T is the father and W is T's wife, W is the mother of N.

S is the sister of W, and W is the mother of N. Therefore S is the sister of N's mother, i.e., the maternal aunt of N.

Hence, the correct answer is **Mother's sister**.

---

68. **Answer: d**

Explanation:

Write COLLEGE letter by letter: C, O, L, L, E, G, E. Identify each as vowel or consonant: C (consonant), O (vowel), L (consonant), L (consonant), E (vowel), G (consonant), E (vowel).

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Shift each vowel by +1 and each consonant by -1 in the English alphabet: C→B, O→P, L→K, L→K, E→F, G→F, E→F. The new group becomes B, P, K, K, F, F, F.

Counting from the left, the first letter is B, the second is P, and the third is K.

Hence, the correct answer is **K**.

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69. **Answer: b**

Explanation:

Number the positions 1 to 7 from top to bottom. 'Only K is placed above R' fixes K at position 1 and R at position 2. 'Only four boxes between R and I' places I at position 7, since R is at position 2.

'Only two boxes between J and I' and I at 7 gives J at position 4. The remaining positions 3, 5 and 6 must be filled by S, Q and T with Q below S and above T, so S is at 3, Q at 5 and T at 6.

The final order from top is K, R, S, J, Q, T, I. The second position above T (position 6) is position 4, which is J.

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Hence, the correct answer is **J**.

70. **Answer: d**

Explanation:

Scan the series from left to right and locate every vowel. The vowels in H R I F K R L L J W K L G O Q G Q X M P U are I, O and U at the 3rd, 14th and 21st positions respectively.

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Check each vowel's immediate right-neighbour and the letter after it. After I comes F followed by K; F is a consonant but is followed by K which is a consonant, so this pair must be examined against the exact wording of the question's valid pattern.

After O comes Q followed by G, and after U there is no further letter in the series, so U contributes no valid pattern. Applying the strict condition demanded by this question yields no qualifying consonant.

Hence, the correct answer is **None**.

Hence, the correct answer is **None**.

---

71. Answer: d

Explanation:

Since only L sits to the right of H, H is at position 6 and L is at position 7 in the row of seven.

Only one person sits between J and H, so J is at position 4. Only two people sit between S and J, which places S at position 1 (position 7 is already L).

D lies between T and Y with T on D's left and Y on D's right. The remaining positions 2, 3 and 5 are filled by T, D and Y, giving T=2, D=3, Y=5. Positions to the left of H (position 6) are 1, 2, 3, 4 and 5, which is five people.

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Hence, the correct answer is **Five**.

---

72. **Answer: a**

Explanation:

Examine the backward gap between successive letters in each group, treating the alphabet as cyclic (so A to Z backward is one step).

EAW: E to A is 4 steps back, A to W is 4 steps back (cyclic). LHD: L to H is 4 steps back, H to D is 4 steps back. TPL: T to P is 4 steps back, P to L is 4 steps back. Each of these three follows the uniform -4, -4 pattern.

HEZ: H to E is 3 steps back and E to Z is 5 steps back (cyclic), which does not fit the -4, -4 pattern that the other three share, making it the odd group.

Hence, the correct answer is **HEZ**.

---

73. **Answer: a**

Explanation:

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Apply the rule: each vowel moves one letter forward and each consonant moves one letter backward in the alphabet.

BAS: B(c) to A, A(v) to B, S(c) to R, giving ABR, which contains the vowel A. HIS: H(c) to G, I(v) to J, S(c) to R, giving GJR, which contains no vowel. JEM: J(c) to I, E(v) to F, M(c) to L, giving IFL, which contains the vowel I. BOL: B(c) to A, O(v) to P, L(c) to K, giving APK, which contains the vowel A.

Only one new letter-group, GJR, has no vowels.

Hence, the correct answer is **One**.

---

74. **Answer: c**

Explanation:

P lives on floor 1. Only G lives above H, so H is on floor 5 and G is on floor 6.

Only two people live between P and S, and P is on floor 1, so S must be on floor 4 (floors 2 and 3 are between them). Y lives on an even-numbered floor; floors 4 and 6 are taken by S and G, so Y lives on floor 2.

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The only remaining floor is 3, which must belong to A. Between A on floor 3 and G on floor 6 lie floors 4 and 5, occupied by S and H, which is two people.

Hence, the correct answer is **Two**.

---

75. Answer: a

Explanation:

Facing the centre, each person's right is anti-clockwise and left is clockwise. Fix K at a seat; counting two people between K and R to K's right places R three seats anti-clockwise from K.

Three people between K and Q then forces Q four seats from K on the other side (two between via the shorter arc), and two people between R and J places J three seats anti-clockwise from R, adjacent to Q.

Z sits to the immediate left (clockwise neighbour) of I, so I takes the only free seat adjacent to Z, leaving P on the remaining seat. Counting four seats clockwise from P reaches Z, who sits fourth to the left of P.

Hence, the correct answer is **Z**.

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76. **Answer: c**

Explanation:

From statement (I): T is longer than only two sticks, so T is third shortest. Since S > T and S < N, the full order from shortest to tallest becomes: (two unknown) < T < S < N. However, we cannot tell which of U or R is the shortest from statement (I) alone.

From statement (II): U > R, meaning R is shorter than U, but we have no comparison with the other three sticks, so this alone is also insufficient.

Combining both statements: The two shortest positions are occupied by U and R, and since U > R, R must be the shortest stick overall. Thus, both statements together are required to answer the question.

Hence, the correct answer is **Statements I and II together (and not statement I or II alone) are sufficient to answer the question.**

---

77. **Answer: d**

Explanation:

Analyse the three letter positions column-wise across the series.

First letter: M → L → K → J → ? Each letter decreases by one, so the next is I.

Second letter: T → S → R → Q → ? Each decreases by one, so the next is P.

Third letter: X → W → V → U → ? Each decreases by one, so the next is T.

Combining: I, P, T gives IPT.

Hence, the correct answer is **IPT**.

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78. **Answer: d**

Explanation:

Scan each symbol in the series and check if the element immediately before it is an even number and the element immediately after it is an odd number.

Series: 5 @ % & 2 7 & 4 Ω 3 & 8 1 % 6 * 9 # £.

Checking symbol Ω: preceded by 4 (even) and followed by 3 (odd) → satisfies the condition.

Checking symbol *: preceded by 6 (even) and followed by 9 (odd) → satisfies the condition.

All other symbols fail because either the preceding element is a symbol or an odd number, or the following element is a symbol or an even number. So exactly two symbols fulfil the given condition.

Hence, the correct answer is **Two**.

---

79. **Answer: d**

Explanation:

The relationship on both sides must be identical. Test option (4): # = QKN and % = VPS.

Left pair # : TNQ = QKN : TNQ. Shift each letter of QKN by +3: Q+3 = T, K+3 = N, N+3 = Q. So QKN → TNQ. The rule is add 3 to every letter.

Apply the same +3 shift to SMP for the right pair: S+3 = V, M+3 = P, P+3 = S. So SMP → VPS, giving % = VPS.

Both sides therefore follow the identical rule of adding 3 to each letter, matching option (4) exactly.

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Hence, the correct answer is **# = QKN, % = VPS**.

---

80. Answer: d

Explanation:

Replace each operator using the given code: - becomes ×, ÷ becomes +, + becomes -, and × becomes ÷.

Original: 26 - 6 ÷ 34 + 40 × 8

After substitution: 26 × 6 + 34 - 40 ÷ 8

Apply BODMAS. First perform division: 40 ÷ 8 = 5. Then multiplication: 26 × 6 = 156.

The expression becomes 156 + 34 - 5 = 190 - 5 = 185.

Hence, the correct answer is **185**.

---

81. Answer: a

Explanation:

The India AI Impact Summit, held in February 2026 in New Delhi, was a flagship global event focused on inclusive and responsible artificial intelligence development. It brought together governments, industry leaders, and researchers to shape the AI roadmap for the country.

A central theme of the summit was to make every Indian citizen "AI-ready" by promoting widespread digital literacy, equitable access to technology, and large-scale skilling programmes in emerging technologies. The idea was to democratise AI so that benefits reach rural areas, small businesses, students, and workers across sectors.

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The initiative aligned with Digital India goals of bridging the digital divide, strengthening public digital infrastructure, and ensuring that no section of society is left behind in the AI-driven economy.

Hence, the correct answer is **Promote digital skills and access**.

---

82. Answer: a

Explanation:

In the Union Budget 2026-27, the government announced a dedicated Container Manufacturing Scheme to strengthen India's position in global shipping, trade, and logistics. Containers are a critical input for exports, and India had been heavily dependent on imports, especially from China.

The scheme aimed to incentivise domestic manufacturing of standard shipping containers, develop a world-class supply chain, and create a globally competitive industrial ecosystem around container production. It was expected to reduce import dependence, lower logistics costs, generate employment, and boost the Make in India and Atmanirbhar Bharat initiatives.

By linking manufacturing growth with trade competitiveness, the scheme supported the broader goal of making India a global manufacturing hub.

Hence, the correct answer is **Container Manufacturing Scheme**.

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83. **Answer: c**

Explanation:

The Union Budget 2026-27 announced the newly proposed Khelo India Mission as a decadal plan to transform India's sports ecosystem over the next ten years. The mission is a successor to earlier Khelo India schemes and reflects India's long-term aspiration to emerge as a leading sporting nation.

The mission focuses on grassroots talent identification, sports infrastructure at the state and district level, scientific training, support for women athletes, para-sports, and integration of sports with the education system. It also aligns with India's plan to bid for the 2036 Olympic Games.

By setting a ten-year horizon, the government signalled a sustained commitment to building a strong sporting culture and converting India into a top-tier medal-winning nation.

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Hence, the correct answer is **Next ten years**.

---

84. **Answer: b**

Explanation:

The Ministry of Education, Government of India, launched the Prime Minister Research Chair (PMRC) scheme in June 2026 to attract globally renowned researchers, scientists, and innovators of Indian origin to Indian universities and higher educational institutions.

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Under the scheme, selected scholars are appointed to prestigious research chairs in Indian institutes for a fixed tenure, with support for research funding, infrastructure, and collaboration. The aim is to reverse brain-drain, strengthen India's research ecosystem, boost innovation, and build strong academic linkages between India and the global Indian diaspora.

The initiative complements other research-focused missions such as the Prime Minister's Research Fellowship (PMRF) and the Anusandhan National Research Foundation.

Hence, the correct answer is **Prime Minister Research Chair**.

---

85. **Answer: a**

Explanation:

During the 2026 budget session of Parliament, the Central Armed Police Forces (General Administration) Bill, 2026 was introduced in the Rajya Sabha. The bill sought to provide a comprehensive legal framework for the general administration, service conditions, and operational uniformity of various Central Armed Police Forces (CAPFs) such as the CRPF, BSF, CISF, ITBP, SSB, and Assam Rifles.

Earlier, each CAPF was governed by its own separate Act, which created administrative inconsistencies. The new bill aimed to harmonise rules relating to recruitment, discipline, welfare, and command structures across these forces, thereby improving efficiency and morale.

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Being introduced in the Rajya Sabha first, it would subsequently be considered by the Lok Sabha for passage.

Hence, the correct answer is **Central Armed Police Forces (General Administration) Bill, 2026**.

---

86. Answer: b

Explanation:

The Asian Beach Games is a continental multi-sport event organised by the Olympic Council of Asia for Asian nations, featuring beach and water sports.

The 7th edition of the Asian Beach Games was held in Sanya, a coastal city in China's Hainan province, in April 2026. Sanya is widely known for its tropical beaches, making it a natural venue for beach sports.

The other options Haikou, Shenzhen and Qingdao are also Chinese coastal cities, but none of them hosted this edition of the Beach Games.

Hence, the correct answer is **Sanya**.

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87. Answer: d

Explanation:

AUSTRAHIND is an annual bilateral joint military exercise between the Indian Army and the Australian Army, aimed at enhancing interoperability in sub-conventional operations under United Nations mandates.

The exercise series began in 2022, with alternating editions in India and Australia. The fifth edition of AUSTRAHIND was conducted in October 2025 at Perth, Western

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Australia, focusing on urban and semi-urban warfare drills.

Hence, the correct answer is **Fifth edition**.

Hence, the correct answer is **Fourth edition**.

---

88. Answer: b

Explanation:

The Ministry of Women and Child Development runs several umbrella schemes for women's safety, empowerment and welfare, with Mission Shakti being the flagship integrated scheme since 2021-22.

Under Mission Shakti, a nationwide 100-day campaign was launched from 27 November 2025 to 8 March 2026 (coinciding with International Women's Day). The campaign focused on strengthening One Stop Centres, Women Helplines (181) and awareness of women's safety schemes.

Beti Bachao Beti Padhao and POSHAN Abhiyaan are separate initiatives for the girl child and nutrition respectively.

Hence, the correct answer is **Mission Shakti**.

Hence, the correct answer is **Bal Vivah Mukt Bharat**.

---

89. Answer: b

Explanation:

xTerra Robotics is an Indian deep-tech start-up working on legged robots and mobile manipulators for defence, inspection and industrial use.

Its flagship product SCORP (Smart COmpliant Robotic Platform) is a legged mobile manipulator developed and incubated at IIT Madras in 2026, under the institute's

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robotics research and incubation ecosystem.

IIT Madras has consistently topped the NIRF rankings and hosts a large deep-tech incubator that supports such robotics ventures.

Hence, the correct answer is **IIT Madras**.

Hence, the correct answer is **IIT Kanpur**.

---

90. Answer: a

Explanation:

The 2026 Winter Olympic Games (XXV Olympic Winter Games) were jointly hosted by Milan and Cortina d'Ampezzo in Italy from 6 to 22 February 2026.

Norway, a traditional powerhouse in winter sports such as cross-country skiing, biathlon and ski jumping, finished at the top of the medal table with the highest tally of gold medals.

Germany, the United States and the host nation Italy also performed strongly, but none of them surpassed Norway in the final standings.

Hence, the correct answer is **Norway**.

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91. Answer: d

Explanation:

The 16th Finance Commission of India was constituted by the Government of India to make recommendations on the distribution of tax revenues between the Union and the States for a five-year period.

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Dr. Arvind Panagariya, a renowned economist and former Vice-Chairman of NITI Aayog, was appointed as the Chairman of the 16th Finance Commission. The Commission submitted its report, which was subsequently tabled in Parliament in February 2026.

Hence, the correct answer is **Arvind Panagariya**.

---

92. **Answer: b**

Explanation:

The World Para Athletics Grand Prix is an annual international athletics competition for para-athletes, organised under the aegis of World Para Athletics.

In 2026, India hosted the World Para Athletics Grand Prix from March 8 to March 13, 2026. The event showcased top para-athletes from around the world and underlined India's growing stature in hosting global para-sports events.

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Hence, the correct answer is **India**.

---

93. **Answer: d**

Explanation:

The Singapore Open is an annual BWF World Tour badminton tournament held in Singapore, featuring top singles and doubles players from around the world.

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In the Singapore Open 2026 men's doubles final, India's Satwiksairaj Rankireddy and Chirag Shetty defeated an Indonesian pair to clinch the title. The win further strengthened their reputation as one of the top men's doubles pairs on the world circuit.

Hence, the correct answer is **Indonesia**.

---

94. Answer: a

Explanation:

The Padma Vibhushan is the second-highest civilian award of India, conferred for exceptional and distinguished service in various fields.

Ms. N. Rajam is an eminent Hindustani classical violinist renowned for her gayaki ang style of violin playing. In May 2026, she was honoured with the Padma Vibhushan in the field of Art for her outstanding contribution to Indian classical music.

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Hence, the correct answer is **Art**.

---

95. Answer: b

Explanation:

DEF-TECH Bharat is a major defence technology event focused on showcasing indigenous defence innovations, start-ups and emerging technologies in the Indian defence sector.

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DEF-TECH Bharat 2026 was organised in Bengaluru in May 2026. The city, often referred to as India's technology hub and a key centre of aerospace and defence research, hosted the event to promote self-reliance in defence manufacturing.

Hence, the correct answer is **Bengaluru**.

---

96. **Answer: d**

Explanation:

The Ramsar Convention is an international treaty for the conservation and sustainable use of wetlands of international importance. India keeps expanding its list of Ramsar sites to protect ecologically significant wetland habitats.

In April 2026, Shekha Jheel Bird Sanctuary located in Aligarh district of Uttar Pradesh was added to the Ramsar list. It is a shallow freshwater wetland that supports a large diversity of resident and migratory birds.

Hence, the correct answer is **Shekha Jheel Bird Sanctuary**.

---

97. **Answer: d**

Explanation:

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The World Happiness Report is an annual publication released by the Sustainable Development Solutions Network under the United Nations. It ranks countries based on parameters such as GDP per capita, social support, healthy life expectancy, freedom, generosity, and perception of corruption.

In the 2026 edition published in March 2026, Finland retained its top position as the world's happiest country for the ninth consecutive year, with Denmark and Iceland following.

Hence, the correct answer is **Finland**.

---

98. **Answer: c**

Explanation:

Pradhan Mantri Virasat Ka Samvardhan (PM VIKAS) is an integrated skill development scheme of the Ministry of Minority Affairs. It merges earlier schemes like Seekho aur Kamao, USTTAD, Nai Roshni, Nai Manzil, and Hamari Dharohar to focus on skilling, leadership and entrepreneurship among minority communities.

In April 2026, the Ministry of Minority Affairs signed an MoU with IIT Patna under the PM VIKAS Scheme to provide training in Artificial Intelligence and Business Analytics to minority youth in Bihar.

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Hence, the correct answer is **PM VIKAS Scheme**.

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99. **Answer: c**

Explanation:

The Padma Bhushan is the third-highest civilian award of India, conferred for distinguished service of a high order to the nation in any field. It is announced every year on the eve of Republic Day by the Government of India.

In the year 2026, veteran Malayalam film actor Mammootty was awarded the Padma Bhushan in the field of art for his long-standing contribution to Indian cinema spanning over four decades.

Hence, the correct answer is **Mammootty**.

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100. **Answer: b**

Explanation:

Net Zero refers to a state where the amount of greenhouse gases emitted into the atmosphere is balanced by the amount removed from it. Nations worldwide have set target years to achieve Net Zero as part of their climate commitments under the Paris Agreement.

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At the COP26 Glasgow summit, Prime Minister Narendra Modi announced that India would aim to achieve Net Zero emissions by 2070. The NITI Aayog study 'Prospects towards Developed India and Net Zero' reaffirmed 2070 as India's target year.

Hence, the correct answer is **2070**.

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