

1. Which of the following statements about colloidal solutions is correct?

- (a) The size of colloidal particles is not very small.
 (b) The components of colloidal solution are dispersed phase and periphery medium.
 (c) The particles of colloidal solution do not scatter the beam of light passing through them and make its path visible.
 (d) Colloidal solution is a homogeneous mixture.

[d]

Explanation -

Colloidal solution is a heterogeneous mixture. Even though they look homogeneous, they consist of two distinct phases – dispersed phase and dispersion medium.

Colloidal particles have very small size, usually between 1 to 1000 nanometers (nm). These particles are so small that they are not visible to the naked eye, but large enough to scatter light (Tyndall effect).

The particles in a colloidal solution scatter a beam of light (this is called the Tyndall effect), making the path of the light visible. This is why you can see dust particles in a dark room by shining a torchlight.

A colloidal solution is a heterogeneous mixture. Even though they look homogeneous, they have two distinct phases - the dispersed phase and the dispersion medium.

2. Oxygen molecule is a _____.

- (a) Monoatomic molecule
 (b) Tetraatomic molecule
 (c) Triatomic molecule
 (d) Diatomic molecule [d]

Explanation -

A molecule is a group of atoms joined together by chemical bonds. Atomicity tells how many atoms are present in a molecule.

A normal molecule of oxygen (O_2) is made up of two oxygen atoms, so it is called a diatomic molecule.

Monoatomic molecule: These are the molecules that contain only one atom. For example, noble gases like helium (He), neon (Ne) and argon (Ar) are monoatomic.

Tetraatomic molecule: These are the molecules that contain four atoms. For example, phosphorus vapour (P_4).

Triatomic molecule: These are molecules that contain three atoms. For example, ozone (O_3) and carbon dioxide (CO_2).

3. Which of the following examples describes uniform circular motion?

- (a) A car moving on a straight road
 (b) A monkey jumping from one tree to another
 (c) A drop of rain falling from the sky
 (d) Motion of clock hands [d]

Explanation -

The motion of clock hands is the best example of uniform circular motion.

Uniform circular motion is the motion in which an object moves on a circular path at a constant speed. In this motion, the speed of the object remains constant, but its direction keeps changing continuously, due to which its velocity keeps changing continuously.

A car moving on a straight road: This is an example of linear motion

A monkey jumping from one tree to another: This is a complex, erratic motion in which both direction and speed keep changing continuously.

A drop of rain falling from the sky: This is primarily linear motion under gravity, eventually attaining a terminal velocity due to air resistance.

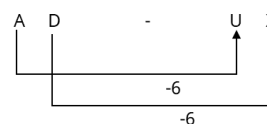
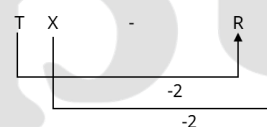
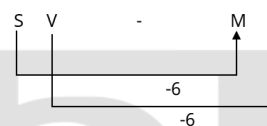
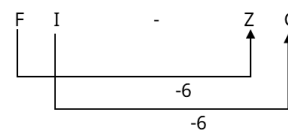
4. Based on the English alphabetical order, three of the following four letter-cluster pairs are alike in a certain way and thus form a group. Which of the following pair does not belong to that group?

(Note: Odd letter-cluster is not based on the number of consonants/vowels or their position in that letter-cluster.)

- (a) FI-ZC
 (b) SV-MP
 (c) TX-RV
 (d) AD-UX

[c]

व्याख्या -



Hence, 'TX - RV' is different from the rest.

5. K के किस मान के लिए समीकरण $\frac{0.009}{K} = 0.1$ सत्य है?

For what value of k is equation $\frac{0.009}{K} = 0.1$

true?

- (a) 0.0009
(b) 9
(c) 0.9
(d) 0.09

[d]

व्याख्या:-

$$\frac{0.009}{K} = 0.1$$

$$\Rightarrow \frac{9}{K(1000)} = \frac{1}{10}$$

$$\Rightarrow K = \frac{9}{100} = 0.09$$

6. In this question, a statement is given followed by two courses of action numbered I and II. You have to assume all the information given in the statement to be true and decide on the basis of the information given in the statement. The person has to decide which course of action(s) should be followed logically.

Statement:

Long queues are seen outside the electricity bill payment counters on 14th and 15th of every month, as 15th of every month is the last date for payment of electricity bill. Citizens have lodged complaints with the electricity department many times regarding this difficulty in payment.

Action:

(I) The electricity department should set up additional counters for payment collection on 14th and 15th of every month to make it easier for the citizens.

(II) The electricity department should increase the penalty for payment after the prescribed last date.

- (a) Neither I nor II follows
(b) Both I and II follow
(c) Only II follows
(d) Only I follows

[d]

व्याख्या:-

Action I -

Proposal: It is suggested to set up additional payment counters on 14th and 15th.

Rationale: This is a practical step towards solving the problem of citizens directly. This will reduce queues and make the process smooth.

Conclusion: This action is logically justified.

Action II -

Proposal: Increase the penalty on payment after the last date.

Rationale: This may increase the complaints of citizens. They are already facing problems in payment, increasing the penalty will not solve the problem but will increase the stress.

Conclusion: This action is logically unjustified.

So only action I can be followed

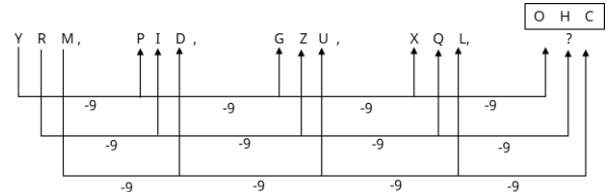
7. Which of the following options should come in place of the question mark (?) in the given series based on the English alphabetical order?

YRM, PID, GZU, XQL, ?

- (a) OHB
(b) OGC
(c) OHC
(d) PHC

[c]

व्याख्या -



? = OHL

8. How much time will it take for ₹1,500 to become ₹2,040 at 8% per annum simple interest?

- (a) 2 Years
(b) $4\frac{3}{4}$ Years
(c) $4\frac{1}{2}$ Years
(d) 3 Years

[c]

व्याख्या:-

Has been given,

Principal = Rs 1500

Amount = Rs 2040

Rate = 8%

According to the formula:

$$\text{Time} = \frac{\text{SI} \times 100}{\text{P} \times \text{R}} \quad [\text{P} = \text{Principal}, \text{R} = \text{Rate}, \text{SI} = \text{Simple Interest}]$$

Amount = Principal + Simple Interest

Simple interest = 2040 - 1500 = Rs 540

$$\text{Time} = \frac{540 \times 100}{1500 \times 8} = 4.5 \text{ years}$$

9. The force of attraction between two bodies which is directly proportional to the product of the masses of the bodies and inversely proportional to the square of the distance of separation is called_____.

- (a) Electromagnetic force
(b) Electromotive force
(c) Electrostatic force
(d) Gravitational force [d]

Explanation -

The given statement "The force of attraction between two bodies which is directly proportional to the product of the masses of the bodies and inversely proportional to the square of the distance of separation" is the definition of gravitational force as stated in Newton's law of universal gravitation.

$$\left[F = G \frac{m_1 m_2}{r^2} \right]$$

Where, F= force, m= mass of first body, m= mass of second body, r= distance between the two bodies, G= gravitational constant.

10. According to the activity series, iron is more reactive than _____.

- (a) Copper
(b) Potassium
(c) Calcium
(d) Sodium

[a]

Explanation -

According to the activity series, iron is (a) more reactive than copper.

Reactivity Series arranges metals in the decreasing order of their reactivity.

A general order of the activity series is as follows (from most reactive to least reactive):

- Potassium (K)
- Sodium (Na)
- Calcium (Ca)
- Magnesium (Mg)
- Aluminum (Al)
- Zinc (Zn)
- Iron (Fe)
- Lead (Pb)
- Hydrogen (H)

- Copper (Cu)
- Silver (Ag)
- Gold (Au)
- Platinum (Pt)

In this series, Iron (Fe) comes above Copper (Cu), which means Iron is more reactive than Copper. All other options (potassium, calcium, sodium) are more reactive than Iron.

11. Read the statements and conclusions given below carefully. You have to assume that the given statements are true even if they seem to be at variance with commonly known facts and decide which of the conclusions logically follows from the given statement(s).

Statements:

Some vegetables are fruits.

Some fruits are sweets.

Conclusion:

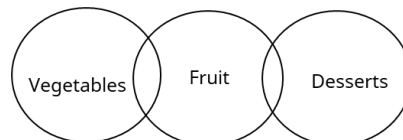
(I) Some fruits are vegetables.

(II) Some sweets are vegetables.

- (a) Only conclusion (II) follows from the statements.
(b) Both conclusion (I) and (II) follow from the statements.
(c) Neither conclusion (I) nor (II) follows from the statements.
(d) Only conclusion (I) follows from the statements.

[d]

व्याख्या -



Hence, it is clear from the Venn diagram that only conclusion - I follows.

12. Which of the following does not represent the properties of liquids?

- (a) Liquids flow and change their shape.
(b) Liquids do not have a definite volume.
(c) Liquids do not have a definite shape.
(d) Liquids take the shape of the container in which they are kept. [b]

Explanation -

Liquids have a definite volume, even if they do not have a definite shape. For example, 1 litre of water will always remain 1 litre, whether it is kept in a bottle or a glass, its volume will not change, only its shape will change. Gases do not have a definite volume, they occupy the entire available space.

Liquids can flow (i.e. they are fluid) and take the shape of the container in which they are kept.

They do not have a definite geometric shape of their own. This is a fundamental property of liquids.

13. Which of the following is not an example of combination reaction?

- (a) Formation of water from $H_2(g)$ and $O_2(g)$
 (b) Burning of natural gas
 (c) Calcium oxide reacts vigorously with water to form slaked lime
 (d) Silver chloride turns grey in sunlight [d]

Explanation -

Combination Reaction: A chemical reaction in which two or more reactants combine to form a single product.

General form: $A + B \rightarrow AB$

Silver chloride turns grey in sunlight:

Here, a single reactant (silver chloride) is breaking down into two or more products (silver and chlorine gas) in the presence of sunlight. This is a decomposition reaction, which is just the opposite of a combination reaction.

14. How much is 50% of 60 more than 30% of 40?

- (a) 15
 (b) 20
 (c) 13
 (d) 18

[d]

व्याख्या:-

$$50\% \text{ of } 60 = 60 \times \frac{50}{100} = 30$$

$$30\% \text{ of } 40 = 40 \times \frac{30}{100} = 12$$

Difference = (50% of 60) - (30% of 40)

$$\text{Difference} = 30 - 12 = 18$$

So, 50% of 60 is 18 more than 30% of 40.

15. The line joining the centre of curvature and pole of a given spherical mirror is called the _____.

- (a) Radius of curvature
 (b) Principal axis
 (c) Principal focus
 (d) Focal length [b]

Explanation -

The line joining the centre of curvature and pole of a given spherical mirror is called the (b) Principal axis.

Radius of Curvature: It is the distance between the pole and centre of curvature of a spherical mirror. It is a length, not a line.

Principal Focus: It is a point on the principal axis where light rays parallel to the principal axis meet (concave mirror) or appear to meet (convex

mirror) after reflection from the mirror. It is a point, not a line.

Focal Length: It is the distance between the pole and the principal focus. It is also a length, not a line.

16. The corresponding sides of two similar triangles are in the ratio 2 : 3. If the area of the smaller triangle is 36 sq cm, what is the area of the larger triangle?

- (a) 16 sq cm
 (b) 96 sq cm
 (c) 36 sq cm
 (d) 81 sq cm

[d]

व्याख्या:-

$$\frac{\text{Area of smaller triangle}}{\text{Area of larger triangle}} = \left(\frac{\text{small side}}{\text{big side}} \right)^2$$

$$\frac{36}{A_2} = \left(\frac{2}{3} \right)^2$$

$$\frac{36}{A_2} = \frac{4}{9}$$

$$A_2 = \frac{36 \times 9}{4}$$

$$A_2 = 9 \times 9$$

$$A_2 = 81 \text{ sq.cm}$$

Hence, the area of the larger triangle is 81 sq cm

17. Which one of the following is not a feature of epithelial tissue?

- (a) It has no intercellular space
 (b) It is separated from the underlying tissue by an extracellular fibrous basement membrane.
 (c) It is adjacent to each other
 (d) It covers most organs and cavities of the body [b]

Explanation -

Epithelial tissue is separated from underlying tissues (such as connective tissue) by a thin, acellular basement membrane, which is not fibrous but a special structure secreted by the cells. This membrane provides support and regulates the diffusion of substances.

- The cells of epithelial tissue are very tightly packed together, so that there is almost no intercellular space between them.

- Epithelial cells are very close to each other and are tightly arranged, forming a continuous layer.

- Epithelial tissue lines the outer surface of the body (skin), the surfaces of internal organs (such as the intestinal lining), and the lining of body cavities (such as the abdominal cavity).

18. What can be made from a cylindrical coil of many turns of insulated copper wire wound closely together?

- (a) Solenoid
(b) Straight conductor (Solenoid)
(c) Circular coil
(d) Toroid [a]

Explanation -

When insulated copper wire is wound closely together in the shape of a cylinder, it is called a solenoid. A solenoid is a special type of coil that produces an electric field.

Straight Conductor: It is just a straight wire, with no cylindrical arrangement of turns or coil.

Circular Coil: It has turns of wire, but they are in a flat circular shape, not a cylinder.

Toroid: A toroid is similar to a solenoid, but it is bent into a donut or ring shape, making it a closed circular loop. The question mentions a cylinder shape, which matches a straight solenoid.

19. If the mean of a distribution is 8.73 and its median is 11, then the mode of the distribution is _____ (using empirical relation).

- (a) 19.73
(b) 17.46
(c) 22
(d) 15.54

[d]

व्याख्या:-

According to the formula,

Mode $\approx 3 \times$ Median $- 2 \times$ Mean

Mean = 8.73, Median = 11

Mode $\approx 3 \times 11 - 2 \times 8.73$

Mode $\approx 33 - 17.46$

Mode ≈ 15.54

20. Two successive discounts of 25% and 10% on a deal are equivalent to a single discount of _____.

- (a) 32.5%
(b) 34.5%
(c) 32%
(d) 35%

[a]

व्याख्या:-

Two successive discounts are 25% and 10%

Let the marked price be 100.

Selling price after two discounts =

$$100 \times \frac{75}{100} \times \frac{90}{100} = 67.5$$

Total discount = $100 - 67.5 = 32.5$

\therefore A single discount equivalent to two successive discounts of 25% and 10% is 32.5%.

21. Which two numbers should be interchanged to make the given equation correct?

$3 \times (9 + 7 - 5) + (64 \div 2) - 22 + 78 - 8 \times 4 = 82$
(Note: Whole numbers should be interchanged and not the individual digits of the given number.)

- (a) 7 and 5
(b) 3 and 4
(c) 2 and 4
(d) 64 and 78

[d]

व्याख्या -

$$3 \times (9 + 7 - 5) + (64 \div 2) - 22 + 78 - 8 \times 4 = 82$$

Interchanging the numbers from option (d)+

$$3 \times (9 + 7 - 5) + (78 \div 2) - 22 + 64 - 8 \times 4 = 82$$

$$3 \times 11 + 39 - 22 + 64 - 32 = 82$$

$$33 + 39 - 22 + 64 - 32 = 82$$

$$136 - 54 = 82$$

$$82 = 82$$

22. Find the value of the given expression.

$$19 - 20 \div 4$$

- (a) 19
(b) -1
(c) 14
(d) 24

[c]

व्याख्या:-

$$19 - 20 \div 4$$

$$19 - 5 = 14$$

23. A can do a certain work in the same time as B and C together can do it. If A and B together can do it in 10 days and C alone can do it in 50 days, then in how many days can A alone do it?

- (a) 20 days
(b) 15 days
(c) 25 days
(d) 30 days

[c]

व्याख्या:-

Has been given:

Efficiency of A = Efficiency of B + Efficiency of C
(A = B + C)

The work rate of (A + B) is $= \frac{1}{10}$ (A and B together take 10 days)

The work rate of C is $= \frac{1}{50}$ (C alone takes 50 days)

Substitute equation (1) into equation (2):

$$(B + C) + B = \frac{1}{10}$$

$$2B + C = \frac{1}{10}$$

Now substitute the value of C (from equation 3) in the above equation:

$$2B + \frac{1}{50} = \frac{1}{10}$$

$$2B = \frac{1}{10} - \frac{1}{50}$$

$$2B = \frac{5-1}{50}$$

$$2B = \frac{4}{50}$$

$$2B = \frac{2}{25}$$

$$B = \frac{1}{25}$$

Since B's one day's work is Rs $\frac{1}{25}$, it will take B alone 25 days to complete the work.

24. According to the '2024 State of the Rhino' report by the International Rhino Foundation (IRF), which rhino species could be seriously affected by climate change?

- (a) Greater one-horned rhinoceros
- (b) Sumatran rhinoceros
- (c) Javan rhinoceros
- (d) Black rhinoceros

[d]

व्याख्या -

The Sumatran Rhino is seriously threatened by the effects of climate change. According to the '2024 State of the Rhino' report, excessive rainfall and longer monsoon seasons are major challenges for the species. These changing weather patterns can cause flooding and habitat loss, increasing the risk of their numbers declining. Increasing humidity in the forests due to climate change can also affect their breeding and food availability. Protecting forests and climate adaptation measures are essential to conserve these rhinos so that their population can remain safe.

25. The resistance of a conductor of length 'L' and cross-section area 'A' is directly proportional to ____.

- (a) L/A
- (b) A
- (c) L²
- (d) A/L

[a]

Explanation -

The resistance of a conductor is related to its length 'L' and cross-section area 'A' in the following form:

Resistance of conductor (R) = Resistivity of conductor (ρ) × (Length (L) / Cross-section area (A))

It is written in the formula as follows:

$$R = \rho \frac{l}{A}$$

R = Resistance offered by the wire,

ρ = Resistivity,

l = Length of wire,

A = Area of wire

From this formula it is clear that:

Resistance (R) is directly proportional to the length (L) of the conductor. It means that resistance increases as the length increases.

Resistance (R) is inversely proportional to the cross sectional area (A) of the conductor. It means that resistance decreases as the area increases (e.g. thicker wire shows less resistance than thinner wire).

Hence, resistance (R) is directly proportional to L/A.

26. N Srikanth was appointed Additional Secretary in the Union ____ Ministry on 9 November 2023.

- (a) Housing and Urban Affairs
- (b) Finance
- (c) Power and New and Renewable Energy
- (d) Environment and Forests

[c]

व्याख्या -

On 9 November 2023, N Srikanth was appointed as Additional Secretary in the Union Ministry of Power and New and Renewable Energy. He is a 1998 batch IAS officer and hails from Andhra Pradesh cadre. Earlier, he has served as Energy Secretary in the Government of Andhra Pradesh. His appointment is aimed at accelerating the development of renewable energy in India and effectively implementing policy reforms in the energy sector. His expertise and administrative skills will effectively push forward new energy policies in this ministry.

27. Which of the following missions will lead to India's first human presence on the International Space Station (ISS)?

- (a) Axiom-4
- (b) VenSpac-4
- (c) Taxsci-4
- (d) Spacoon-4

[a]

व्याख्या -

India's first human presence on the International Space Station (ISS) was made possible by the Axiom-4 mission. This mission was conducted in collaboration with Axiom Space, NASA, and ISRO. This mission sent India's first human astronaut,

Group Captain Shubhanshu Shukla, to space. Shubhanshu Shukla flew to the International Space Station on 25 June 2025 under Axiom Mission 4 and stayed there for 18 days.

During this mission, he conducted several scientific experiments in microgravity, including topics such as crop growth, muscle weakness, and microbial adaptation. This mission has proved to be an important step for ISRO's Gaganyaan program, which plans to launch India's first human space mission in 2027.

During the Axiom-4 mission, India's scientists conducted several important experiments in space, which are helpful in the development of Indian space research. This mission provided India with an opportunity to establish a new milestone in the field of space travel and laid a strong foundation for future human missions.

28. In a certain code language,

A + B means 'A is the mother of B',

A - B means 'A is the brother of B',

A × B means 'A is the wife of B' and

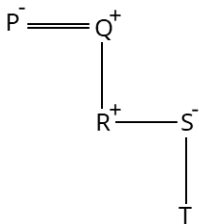
A ÷ B means 'A is the father of B'.

Based on the above, if 'P × Q ÷ R - S + T, then how is Q related to T?

- (a) Mother's father
(b) Brother
(c) Mother's brother
(d) Husband

[a]

व्याख्या -



It is clear from the diagram that Q is the father of T's mother.

29. Various organelles like mitochondria, ribosomes, etc. combine to form the basic unit of life, which is called?

- (a) Tissue
(b) Organ
(c) Cell
(d) Organ system [c]

Explanation -

Various organelles like mitochondria, ribosomes, etc. combine to form the basic unit of life, which is called cell.

Cell: It is the smallest structural and functional unit of life. All biological processes take place

inside the cell, and it is made up of various organelles (like mitochondria, ribosomes, endoplasmic reticulum, Golgi apparatus, nucleus, etc.) that perform specific functions.

Tissue: It is a group of cells with similar structure and function that work together to perform a specific function. For example, muscle tissue, nervous tissue.

Organ: It is a group of different types of tissues that work together to perform a specific function. For example, heart, lungs, stomach.

Organ System: It is a group of different organs that work together to perform a major bodily function. For example, digestive system, respiratory system.

30. The 63rd National Open Athletics Championships was held in _____ city.

- (a) Mumbai
(b) Hyderabad
(c) Bengaluru
(d) Bhopal

[c]

व्याख्या -

The 63rd National Open Athletics Championships were held at the Sri Kanteerava Stadium in Bengaluru. This prestigious competition ran from 30 August 2024 to 2 September 2024, in which top athletes of India participated. Many new national records were set in this event, and young athletes performed brilliantly. The main objective of the competition was to prepare the players for international level competitions. Athletes showcased their talent in various events, which helped to take Indian athletics to new heights. This championship further strengthened the sports culture in India.

31. Which of the following substances is not stored in the vacuoles of cells?

- (a) Mineral salts
(b) Sugars
(c) Proteins
(d) Amino acids [b]

Explanation -

Sugars (sucrose, glucose, etc.) are usually used as energy in cells, so they are not stored in vacuoles. Vacuoles are membrane-bound structures found in the cytoplasm that store various substances.

Water - Water is an important component in vacuoles, which helps maintain the shape and balance of the cell.

Mineral salts - Mineral salts such as potassium, calcium are stored in vacuoles.

Proteins - Certain proteins, especially in plant vacuoles, may accumulate.

Waste substances - Wastes and unwanted substances produced by the cell may also accumulate in vacuoles.

32. Study the given table and answer the question given below.

The table shows the number of different items X and Y sold in the year 2019 and 2020.

Year	Number of items X	Number of item Y
2019	125	150
2020	100	130

What is the absolute difference between the number of item X sold in the year 2019 and 2020?

- (a) 35
(b) 45
(c) 15
(d) 25

[c]

व्याख्या:-

Number of item X sold in the year 2019 = 125

Number of item X sold in the year 2020 = 100

Absolute difference = Number of item X sold in year 2019 - Number of item X sold in year 2020

Absolute difference = 125 - 100 = 25

33. Which indigenously developed technology was used in the AKASH-NG missile during the flight test in 2024?

- (a) Infrared Seeker
(b) Laser-guided Seeker
(c) Electro-optical Seeker
(d) Radio Frequency Seeker

व्याख्या -

During the flight test of Akash-NG missile in 2024, indigenously developed Radio Frequency Seeker was used.

Expansion:

Radio Frequency Seeker:

This is a type of sensor that detects the target by detecting radio waves.

Akash-NG Missile:

It is a new generation medium-range surface-to-air missile, developed by DRDO.

Indigenous Technology:

All the components used in the Akash-NG missile, including the radio frequency seeker, have been developed indigenously in India.

Flight Test:

The flight test of the Akash-NG missile was conducted in 2024, in which the missile

successfully intercepted an unmanned aerial target using indigenous radio frequency seeker.

34. A sum of money is divided between two friends in the ratio of 4 : 7. If the second part is ₹ 6 more than the first part, then what is the difference in the amount divided between the two friends?

- (a) ₹2
(b) ₹3
(c) ₹6
(d) ₹4

[c]

व्याख्या:-

Given ratio = 4 : 7

Let the first part = 4x

Let the second part = 7x

According to the question, the difference between the second part and the first part is ₹ 6

$7x - 4x = 6$

$3x = 6$

$x = 2$

Difference of amount divided between the two friends = $3x = 3 \times 2 = 6$

35. Choose the correct statement.

- (a) In the process of pollination, pollen grains are transferred from the stamen to the stigma.
(b) Pollination is the germination of pollen grains.
(c) Pollination is the visit of insects to the flower.
(d) Pollination is the growth of the pollen tube into the ovule. [a]

Explanation -

Pollination is the process in which pollen grains are released from the anther (part of the male reproductive organ) and transported to the stigma (part of the female reproductive organ). It is an essential step for sexual reproduction in plants.

Germination of pollen grains occurs after pollination, when pollen grains develop a pollen tube after reaching the stigma.

Insects may be the means of pollination (e.g. bee, butterfly), but pollination is not the visit of insects to the flower itself. Insects help in carrying pollen grains from one flower to another.

Pollination is the growth of the pollen tube in the ovule. - It is the part of the process before fertilization, which is called pollen tube growth, not pollination. Pollination is only the transfer of pollen grains.

36. Each vowel of the word JOURNALIST is replaced by the letter following it in the English alphabetical order and each consonant is replaced by the letter preceding it in the

English alphabetical order. How many letters will appear exactly twice in the group of letters thus formed?

- (a) one
(b) two
(c) none
(d) three

[c]

व्याख्या -

J	O	U	R	N	A	L	I	S	T
↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
-1	+1	+1	-1	-1	+1	-1	+1	-1	-1
↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
I	P	V	Q	M	B	K	J	R	S

No letter will appear twice in the new letter group.

37. Which of the following has the lowest pH value?

- (a) Gastric juice
(b) Lemon juice
(c) Blood
(d) Milk of magnesia [a]

Explanation -

The pH value indicates the acidity or alkalinity of a solution. The pH scale is from 0 to 14, where:
0-less than 7 - Acidic (the lower the pH, the more acidic)

7 - Neutral

More than 7-14 - Alkaline (the higher the pH, the more alkalinity)

Gastric juice - Its pH value is 1.2 (mainly due to hydrochloric acid).

Lemon juice - Its pH value is between 2 to 3 (mainly due to citric acid).

Blood - The pH value of our blood is very strictly controlled, which is about 7.4 (it is slightly alkaline).

Milk of magnesia - It is an antacid and its pH value is about 10 (it is an alkaline solution).

38. A fruit seller had some apples. He sells 40% of the apples and still has 240 apples. How many apples did he have in the beginning?

- (a) 600
(b) 588
(c) 372
(d) 400

[d]

व्याख्या:-

If the fruit seller sold 40% of the apples, he is left with 100% - 40% = 60% apples.

This 60% is equal to 240 apples.

So the total number of apples will be

$$240 \div 60\% = 240 \div \frac{60}{100} = 240 \times \frac{100}{60} \text{ l.}$$

$$240 \times \frac{100}{60} = 4 \times 100 = 400 \text{ Apple.}$$

So in the beginning he had 400 apples |

39. Select the option that gives the correct age range of puberty in males and females.

- (a) 8 - 11 years
(b) 6 - 10 years
(c) 11 - 17 years
(d) 9 - 12 years

[c]

व्याख्या -

Puberty usually occurs at the age of 10.5 - 17 years in females and 11.5 - 17 years in males. During this period, the body undergoes many biological and hormonal changes, such as an increase in growth rate, development of sexual organs, and physical maturity. Women begin to menstruate, while men experience muscle and voice changes. The age of puberty may vary depending on genetic, nutritional and environmental factors. A healthy lifestyle and balanced diet help to smoothen this process. It is considered an important stage of the body's natural growth.

40. In the Union Budget 2024, the government allocated funds for the development of the Vishnupad Temple corridor. Vishnupad Temple is located in which of the following states?

- (a) Bihar
(b) West Bengal
(c) Tamil Nadu
(d) Uttar Pradesh

[a]

व्याख्या -

Vishnupad Temple is a famous Hindu pilgrimage site located in Gaya district of Bihar state of India. This temple is situated on the banks of the Falgu River and is dedicated to Lord Vishnu. It is believed that here Lord Vishnu suppressed the demon Gayasur with his footprints, which are now inscribed on the 'Dharmashila' in the temple. The temple was rebuilt in 1787 by Maratha queen Ahilyabai Holkar. In the Union Budget 2024, the government has allocated special funds for the development of this temple, so that this place can develop as a world-class pilgrimage and tourist center.

41. In a certain code language, 'MEND' is written as '3186', and 'MINE' is written as '1623'. How will '.' be written in the same code language?

- (a) 1
(b) 6
(c) 2
(d) 3

[c]

व्याख्या -

Just as

$$\boxed{M} \boxed{E} \boxed{N} \boxed{D} - \boxed{3} \boxed{1} \boxed{8} \boxed{6}$$

$$\boxed{M} \boxed{I} \boxed{N} \boxed{E} - \boxed{1} \boxed{6} \boxed{2} \boxed{3}$$

Hence, I = 2

42. A force of 10 Newtons applied on a body results in a displacement of 2 meters in the direction of force. The work done by this force is ____.
- (a) 0 Joule
(b) 10 Joule
(c) 0.2 Joule
(d) 20 Joule [d]

Explanation -

The work done by a force applied on a body is calculated by the following formula:

$$\text{Work (W)} = \text{Force (F)} \times \text{Displacement (d)} \times \cos(\theta)$$

F = Magnitude of Force

d = Magnitude of Displacement

θ = Angle between force and displacement

Force (F) = 10 Newton

Displacement (d) = 2 meters

The displacement occurs in the direction of force, which means that the angle between force and displacement (θ) = 0 degrees.

$$\cos(0^\circ) = 1$$

Putting the values in the formula:

$$\text{Work (W)} = 10 \text{ Newton} \times 2 \text{ meter} \times \cos(0^\circ)$$

$$\text{Work (W)} = 10 \times 2 \times 1$$

$$\text{Work (W)} = 20 \text{ Joule}$$

43. What is the simplified value of the expression

$$\sqrt{\frac{1 + \cos\theta}{1 - \cos\theta}} ?$$

- (a) $\sec\theta - \cot\theta$
(b) $\operatorname{cosec}\theta - \cot\theta$
(c) $\operatorname{cosec}\theta + \cot\theta$
(d) $\sec\theta + \cot$ [c]

व्याख्या:-

Multiply the numerator and denominator by $(1 + \cos\theta)$:

$$\sqrt{\frac{(1 + \cos\theta)(1 - \cos\theta)}{(1 - \cos\theta)(1 + \cos\theta)}}$$

It becomes:

$$\sqrt{\frac{(1 + \cos\theta)^2}{1 - \cos^2\theta}}$$

Use Trigonometric Identity 1:

$$\sqrt{\frac{(1 + \cos\theta)^2}{\sin^2\theta}}$$

On taking the square root:

$$\frac{1 + \cos\theta}{\sin\theta}$$

Separate the posts:

$$\frac{1}{\sin\theta} + \frac{\cos\theta}{\sin\theta}$$

Convert to trigonometric ratios:

$$\csc\theta + \cot\theta$$

The simplified value is $\csc\theta + \cot\theta$.

44. In the following number-pairs, the second number is obtained by performing some mathematical operations on the first number. What numbers should come in place of X and Y so that the pattern followed by the two numbers on the left of :: is followed by the same pattern on the right of ::?

(Note: Operations must be performed on whole numbers without breaking the numbers into their constituent digits. Ex. 13 - Operations on number 13 such as addition/subtraction/multiplying 13 etc. can be performed. Breaking 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.)

$$X : 676 :: 17 : Y$$

$$(a) x = 28, Y = 361$$

$$(b) x = 21, Y = 396$$

$$(c) x = 23, Y = 400$$

$$(d) x = 25, Y = 324$$
 [d]

व्याख्या -

$$\begin{array}{ccc} X & : & 676 & :: & 17 & : & y \\ \downarrow & & & & \downarrow & & \\ (25 + 1)^2 = 676 & & & & (17 + 1)^2 = 324 & & \end{array}$$

Hence, $x = 25$ and $y = 324$.

45. A wall whose height is 5 times its width and its length is 8 times its height has a volume of 12.8 cubic metres. Find the width of the wall.
- (a) 40 centimetre
(b) 0.04 metre
(c) 4 metre
(d) 400 centimetre [a]

व्याख्या:-

Let the width of the wall be x .

The height of the wall will be $5x$ (because the height is 5 times the width).

The length of the wall will be $8 \times 5x = 40x$ (because the length is 8 times the height).

$$\text{Volume} = \text{length} \times \text{width} \times \text{height}$$

$$12.8 = 40x \times x \times 5x$$

--: 10 ::-

$$12.8 = 200x^3$$

$$x^3 = \frac{12.8}{200}$$

$$x^3 = 0.064$$

$$x = \sqrt[3]{0.064}$$

$$x = 0.4$$

Therefore, the width of the wall is 0.4 m.

46. Simplify the following expression.

$$9992 \times 10008$$

(a) 9999964

(b) 99999936

(c) 91999964

(d) 9999936

[b]

व्याख्या:-

Here is a short solution to simplify 9992×10008 :

We can solve this expression using the algebraic identity $(a-b)(a+b) = a^2 - b^2$:

$$9992 \times 10008 = (10000 - 8) \times (10000 + 8)$$

$$= 10000^2 - 8^2$$

$$= 100,000,000 - 64$$

$$= 99,999,936$$

47. The book 'Coaching Beyond: My Days with the Indian Cricket Team' is authored by R. Sridhar and its foreword is written by _____.

(a) Rahul Dravid

(b) Sourav Ganguly

(c) Sachin Tendulkar

(d) V.V.S. Laxman

[d]

व्याख्या -

The book 'Coaching Beyond: My Days with the Indian Cricket Team' is written by Indian cricket coach R. Sridhar. In this book, he has shared his experiences and journey with the Indian cricket team. This book reflects Sridhar's personal perspective, describing many interesting and inspiring incidents during his coaching of the Indian cricket team.

The foreword of the book is written by V.V.S. Laxman. Laxman has been a great batsman of Indian cricket and his experience has taken Indian cricket to new heights. In the book, Sridhar has minutely described his coaching journey, his relationships with the team players, and the struggles he went through with the Indian cricket team.

This book gives a fresh glimpse inside the world of Indian cricket and helps in understanding the struggles of the players, the success, and the hard work of the team. Laxman's introduction makes the book even more lively and impressive, making

the reader realise the hustle and bustle of Indian cricket and the importance of coaching.

48. A, B, C, D, E and F are seated around a circular table facing the centre. C sits immediate left of E. F is the immediate neighbour of A and C. D is not the immediate neighbour of E. What is the position of D with respect to F?

(a) Immediate left

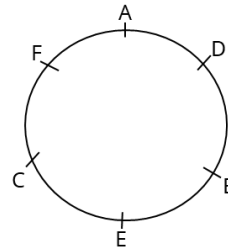
(b) Second to the left

(c) Third to the right

(d) Third to the left

[b]

व्याख्या -



It is clear from the diagram that the position of D with respect to F is second from the left.

49. Find the mean score of the following distribution.

Obtained Marks	Number of students
25	5
30	6
35	3
40	1

(a) 32

(b) 30

(c) 29

(d) 31

[b]

व्याख्या:-

Marks Obtained (xii)	Number of students (fi)	Fixi
25	5	$25 \times 5 = 125$
30	6	$30 \times 6 = 180$
35	3	$35 \times 3 = 105$
40	1	$40 \times 1 = 40$

$$\text{Total Sum } \sum fi = 5 + 6 + 3 + 1 = 15$$

$$\sum fixi = 125 + 180 + 105 + 40 = 450$$

$$\text{Mean } (\bar{x}) = \frac{\sum fixi}{\sum fi}$$

$$\text{Mean } (\bar{x}) = \frac{450}{15}$$

$$\text{Mean } (\bar{x}) = 30$$

50. In an election between two candidates, 75% of the voters cast their votes. 2% of the voters were declared invalid. A candidate got 9261

votes which were 75% of the total valid votes.
What was the total number of voters enrolled in that election?

- (a) 18,000
(b) 16,800
(c) 10,000
(d) 16,400

[b]

व्याख्या:-

Has been given:

Percentage of voters who cast their vote = 75%

Illegal vote = 2%

Votes received by the candidate = 9,261

Votes obtained = 75% of valid votes

According to the formula:

Total valid votes = (Votes received by the candidate \div 75) \times 100

Total votes = (Total valid votes \div (100 - Percentage of invalid votes)) \times 100

Total Valid Votes = (9,261 \div 75) \times 100

Total Valid Votes = 12,348

total votes cast = (12,348 \div 98) \times 100

total votes cast = 12,600

Total number of votes = (12,600 \div 75) \times 100

Total number of votes = 16,800

\therefore The total number of votes is 16,800.

51. Arnab buys 9 oranges and 8 bananas for ₹ 276. When the price of an orange is reduced by 10%, and the price of a banana remains the same, the price of 5 oranges and 10 bananas becomes ₹ 210. Find the initial price of 4 oranges and 3 bananas?

- (a) ₹116
(b) ₹120
(c) ₹123
(d) ₹108

[a]

व्याख्या:-

First case: 9 oranges and 8 bananas for Rs 276.

$9x+8y=276$ (Equation 1)

Second case: The price of oranges decreases by 10% to 0.9S.

The cost of 5 oranges and 10 bananas is Rs. 210

$5(0.9x)+10y=210$

$4.5x+10y=210$ (Equation 2)

Multiply equation 2 by 2:

$9x+20y=420$ (Equation 3)

Subtract Equation 1 from Equation 3:

$(9x+20y)-(9x+8y)=420-276$

$12y=144$

$y=12$

Substitute $y=12$ into Equation 1:

$9x+8(12)=276$

$9x+96=276$

$9x=180$

$x=20$

Initial price of one orange (x) = Rs 20

Initial price of one banana (y) = Rs 12

Initial price of 4 oranges and 3 bananas:

$4x+3y=4(20)+3(12)=80+36=116$

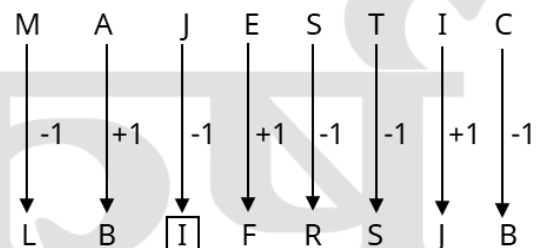
Hence, the initial price of 4 oranges and 3 bananas is ₹116.

52. If each consonant of the word MAJESTIC is replaced by the letter immediately preceding it in the English alphabetical order, and each vowel is replaced by the letter immediately following it in the English alphabetical order, then how many vowels will be present in the new group of letters thus formed?

- (a) Two
(b) One
(c) None
(d) Four

[b]

व्याख्या -



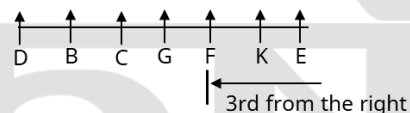
There is only one level in the new letter system.

53. Seven persons, B, C, D, E, F, G and K are sitting in a straight row facing north. Only two persons sit between D and G. Only one person sits to the right of K. Only one person sits between G and K. C sits somewhere to the right of B but somewhere to the left of E. Who sits third from the right end of the row?

- (a) F
(b) G
(c) C
(d) B

[a]

व्याख्या -



It is clear from the diagram that F will be at the third position from the right.

54. If $x : y = 8 : 3$, then $(x - y) : (x + y) = ?$
- (a) 11 : 5
(b) 2 : 5
(c) 5 : 2
(d) 5 : 11

[d]

व्याख्या:-

-: 12 :-

Has been given:

$$x:y=8:3$$

This means that we can let $x=8k$ and $y=3k$, where k is any non-zero constant.

We have to find the value of $(x-y):(x+y)$

$$x-y=8k-3k=5k$$

$$x+y=8k+3k=11k$$

$$(x-y):(x+y)=5k:11k = 5:11$$

55. Malaria parasite shows which type of asexual reproduction?

- (a) Regeneration
- (b) Binary fission
- (c) Budding
- (d) Multiple fission [d]

Explanation -

Malaria parasites (e.g. Plasmodium) show asexual reproduction in human body mainly by multiple fission.

Multiple fission :- In this process, a cell divides into many new cells. In malaria parasites (e.g. Plasmodium), it occurs in liver and red blood cells. One parasite cell divides into many daughter cells, producing a large number of new parasites. Binary fission:- In this process, a cell divides into two identical cells. It is a common mode of asexual reproduction, but it is not the main mode in malarial parasites.

Regeneration:- It is a type of asexual reproduction in which an organism regrows a lost part of its body. It does not occur in malarial parasites.

Budding:- In this process, a small bud or protrusion emerges from a cell, which later separates to form a new organism. It also does not occur in malarial parasites.

56. If the radius of a sphere is increased by 2 cm, then its surface area increases by 704 cm².

Using $\pi = \frac{22}{7}$, find the radius of the sphere after the increase.

- (a) 15 cm
- (b) 13 cm
- (c) 16 cm
- (d) 14 cm

[a]

व्याख्या:-

Has been given:

The radius of the sphere increases by 2 cm, and the surface area increases by 704 cm².

$$\pi = 22/7$$

Formulas used:

$$\text{Surface area of sphere} = 4\pi r^2$$

Let the original radius of the sphere be r cm.

$$\text{New radius} = (r + 2) \text{ cm}$$

Increase in surface area = Surface area with new radius - Surface area with original radius

$$\text{Surface area with new radius} = 4\pi(r + 2)^2$$

$$\text{Surface area including original radius} = 4\pi r^2$$

given:

$$\text{Increase in surface area} = 704 \text{ cm}^2$$

$$\Rightarrow 4\pi((r + 2)^2 - r^2) = 704$$

$$\pi = 22/7 \text{ on substituting:}$$

$$\Rightarrow 4 \times (22/7) \times ((r + 2)^2 - r^2) = 704$$

$$\Rightarrow (88/7) \times ((r^2 + 4r + 4) - r^2) = 704$$

$$\Rightarrow (88/7) \times (4r + 4) = 704$$

Multiply both sides by 7/88:

$$\Rightarrow 4r + 4 = (704 \times 7) / 88$$

$$\Rightarrow 4r + 4 = 56$$

Simplification:

$$\Rightarrow 4r = 56 - 4$$

$$\Rightarrow 4r = 52$$

$$\Rightarrow r = 52/4$$

$$\Rightarrow r = 13 \text{ सेमी}$$

∴ The original radius of the sphere was 13 cm.

57. Ariel ranks 6th from the top and 18th from the bottom in her class. How many students are there in the class?

- (a) 23
- (b) 26
- (c) 22
- (d) 25

[a]

व्याख्या -

Total students in the class = Top rank + Bottom rank - 1

$$= 6+18-1$$

$$= 24-1$$

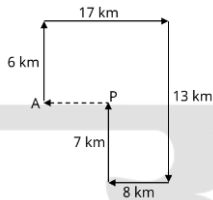
$$= 23$$

58. Johnny starts from point A and travels 6 km towards north. Then he turns right, travels 17 km, turns right and travels 13 km. Then he turns right and travels 8 km. He takes a last right turn, travels 7 km and stops at point P. How far (shortest distance) and in which direction should he drive to reach point A again? (Unless specified, all turns are 90 degree turns.)

- (a) 9km towards east
- (b) 9km towards west
- (c) 10km towards east
- (d) 10km towards west

[b]

व्याख्या:-



It is clear from the diagram that to reach point A from point P, Johnny will have to walk 9km towards west.

59. The power of a lens of focal length 'f' is proportional to ____.

- (a) $1/f^2$
- (b) f
- (c) f^2
- (d) $1/f$

[d]

Explanation -

The power 'P' of a lens of focal length 'f' is expressed by the following formula:

$$P = f_1$$

Where,

- P is the power of the lens, measured in diopre (D).
- f is the focal length of the lens, expressed in metre.

This formula clearly shows that the power of a lens is inversely proportional to its focal length. That is, the smaller the focal length, the greater is the power of the lens, and vice versa.

Among the given options, $1/f$ represents the correct relation.

60. In 2024, the Ministry of Women and Child Development launched the platform _____ to register and monitor complaints of sexual harassment of women at the workplace.

- (a) SHe-Box
- (b) Work Guard
- (c) Secure Her
- (d) WomenSafe

[a]

व्याख्या:-

In 2024, the Ministry of Women and Child Development launched a platform called SHe-Box (Sexual Harassment Electronic Box) to register and monitor complaints of sexual harassment of women at the workplace. The platform aims to empower women to register complaints of harassment at the workplace in a confidential and confidential manner. The SHe-Box portal provides a centralized online platform for women where they can register their complaints and track the status of the complaints.

This platform is available for women working in both government and private sectors and

ensures that harassment complaints are redressed promptly and appropriately. SHe-Box has provided a safety net for women at the workplace and also helps women become aware of their rights. Through this, women can raise their voice against harassment and get redressed in a timely manner.

The launch of SHe-Box is a significant step towards ensuring a safe and respectful workplace for women. This step reflects the government's commitment towards the safety of women at the workplace.

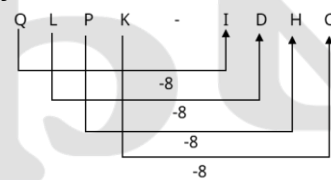
61. QLPK is related to IDHC in a certain way based on the English alphabetical order. In the same way, VQUP is related to NIMH. Following the same logic, TOSN is related to which of the following options?

- (a) GLFK
- (b) GLKF
- (c) LGKF
- (d) LGFK

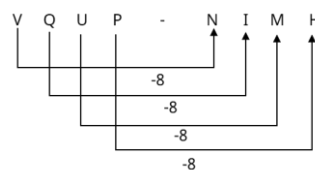
[c]

व्याख्या -

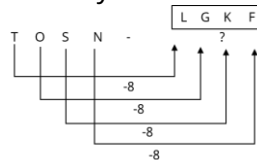
Just as



and



Similarly



62. Two trains running in the same direction at the speed of 40 km/h and 22 km/h cross each other completely in 1 minute. If the length of the first train is 125 m, then what is the length of the second train?

- (a) 150 m
- (b) 125 m
- (c) 175 m
- (d) 185 m

[c]

व्याख्या:-

given:

Speed = 40 km/h and 22 km/h

Length of first train = 125 m
 Time taken to cross each other = 1 minute = 60 seconds
 Relative speed in the same direction = difference in speed
 Speed = Distance/Time
 Relative speed = $40 - 22 = 18 \text{ km/hr} = 5 \text{ m/sec}$
 distance = $125 + L$
 Time = 60 seconds
 Speed = 5 m/s
 $125 + L = 60 \times 5 = 300$
 $L = 300 - 125 = 175$
 Hence, the length of the second train is 175 m.

63. Which rapper, best known for his indie album 'Halat', rose from the slums of Dharavi to become a pioneer in Indian hip hop music?

- (a) MC Altaf
 (b) Emiway Bantai
 (c) Naezy
 (d) Divine

[a]

व्याख्या -

DIVINE, whose real name is Vivian Fernandes, rose from Mumbai's Dharavi slum to become a pioneer in Indian hip hop and rap music. His indie album 'Halat' and other songs like 'Mere Gully Mein' brought him to the mainstream. He is considered one of the leading faces of the Indian hip hop revolution.

About the rest of the options:

MC Altaf – He is from Dharavi and has been a part of the Gully Boy movement, but the album 'Halat' is not associated with his name.

Emiway Bantai – Popular independent rapper, but not associated with the 'Conditions' album.

Naezy – also from Dharavi and a big name in gully rap, but the album 'Halat' belongs to Divine.

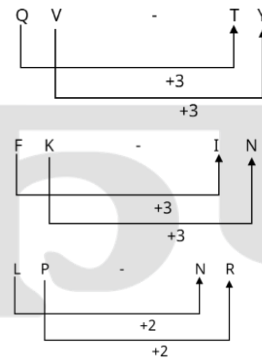
64. Three of the following four letter-cluster pairs are alike in a certain way based on the English alphabetical order and thus form a group. Which pair does not belong to that group?

(Note: Anomalous letter clusters are not based on the number of consonants/vowels or their position in the letter cluster.)

- (a) DI-GL
 (b) QV-TY
 (c) FK-IN
 (d) LP-NR

[d]

व्याख्या -



Hence, 'LP – NR' is different from the rest.

65. Which of the following molecules has triple bond property?

- (a) F₂
 (b) N₂
 (c) O₂
 (d) Cl₂ [b]

Explanation -

Chemical bonds are formed by sharing or transferring electrons between atoms. A triple bond means that two atoms share three electron pairs with each other.

- N₂ (Nitrogen atom): has 5 electrons in its outer shell. To form an N₂ molecule, each nitrogen atom shares three electrons, forming a triple bond between them. (N≡N) This bond is very strong, which is why nitrogen gas is inert.
- F₂ (Fluorine molecule): A fluorine atom (F) has 7 electrons in its outer shell. To form an F₂ molecule, each fluorine atom shares one electron, forming a single bond between them. (F-F)
- O₂ (Oxygen molecule): An oxygen atom (O) has 6 electrons in its outer shell. To form an O₂ molecule, each oxygen atom shares two electrons, forming a double bond between them. (O=O)
- Cl₂ (chlorine molecule): A chlorine atom (Cl) has 7 electrons in its outer shell. To form a Cl₂ molecule, each chlorine atom shares one electron, forming a single bond between them. (Cl-Cl)

66. In 2024, which of the following Indian banks launched Green Rupee Term Deposit?

- (a) Central Bank of India
 (b) HDFC Bank
 (c) State Bank of India
 (d) ICICI Bank

[c]

व्याख्या -

In 2024, State Bank of India (SBI) launched the Green Rupee Term Deposit scheme. The scheme is aimed at promoting investment in

environmentally sustainable and green financial projects. Under this scheme, SBI offers its customers an opportunity to invest in term deposits that fund projects that protect the environment. This initiative has been taken to promote environmental sustainability under the guidelines of the Reserve Bank of India.

Under the Green Rupee Term Deposit Scheme, investors can invest in this scheme with a minimum amount of Rs 1,000. The scheme is available in specific tenures of 1,111 days, 1,777 days and 2,222 days. Investors get lower interest rates than the normal term deposit rates, while additional interest rates are offered for senior citizens. The scheme also has the facility of premature withdrawal, and investors can also avail loan or overdraft facility against their amount.

This scheme is a strong step towards environmental protection, which provides investors an opportunity to fulfill their social and environmental responsibility.

67. Select the triad from the given options which follows the same pattern as followed by the two triads given below. Both the triads follow the same pattern.

FB-IE-LM

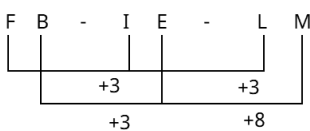
JF-MI-PQ

- (a) HD-KG-NP
- (b) LH-OK-RS
- (c) NI-QN-TU
- (d) KG-NJ-QS

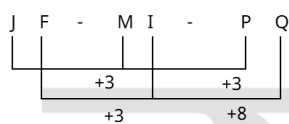
[b]

व्याख्या -

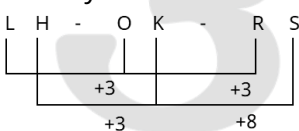
Just as



and



similarly



68. A 20% reduction in the price of sugar allows the buyer to get 2.5 kg more for ₹ 160. What is the actual price of sugar per kg?

- (a) ₹12

- (b) ₹15
- (c) ₹16
- (d) ₹20

[c]

व्याख्या:-

Has been given:

The price of sugar has decreased by 20%.

2.5 kg extra sugar is obtained for Rs 160.

Let the original price of sugar be Rs x.

$$\text{Then, the decrease in price per kg} = x \times \frac{20}{100} = \frac{4x}{5}$$

The amount of sugar that could originally be

$$\text{purchased for Rs 160} = \frac{160}{x}$$

The amount of sugar that can be purchased for Rs

$$160 \text{ at the reduced price} = \frac{160}{\left(\frac{4x}{5}\right)} = \frac{800}{4x}$$

according to question,

$$\Rightarrow \frac{800}{4x} = \frac{160}{x} + 2.5$$

$$\Rightarrow \frac{800}{4x} - \frac{160}{x} = 2.5$$

$$\Rightarrow \frac{(800 - 640)}{4x} = 2.5$$

$$\Rightarrow 160 = 10x$$

$$\Rightarrow x = 16$$

The actual price of sugar is Rs. 16 per kg.

69. In a certain code language, 'cafe hotel room' is written as 'aa bb ee', 'room kitchen hall' is written as 'ff aa bb', and 'hall hotel garden' is written as 'ee ff tt'. How will 'garden' be written in the same code language?

- (a) ee
- (b) bb
- (c) ff
- (d) tt

[d]

व्याख्या -

Just as

Cafe [hotel] [room] - [aa] [bb] [ee]

[room] Kitchen [hall] - [ff] [aa] [dd]

[Hall] [hotel] garden - [ee] [ff] [tt]

similarly

garden - tt

70. Which of the following options should come in place of question mark (?) to complete the given series logically?

125, 128, 133, 140, 149, ?

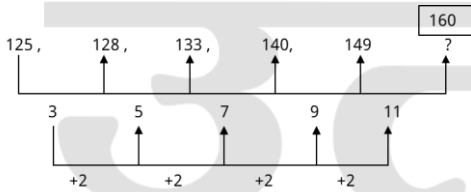
- (a) 158
- (b) 154

(c) 160

(d) 156

[c]

व्याख्या -



? = 160

71. In the following number-pairs, the second number is obtained by performing some mathematical operations on the first number. What numbers should come in place of X and Y so that the pattern followed by the two numbers on the left of :: is followed by the same pattern on the right of ::?

(Note: Operations must be performed on whole numbers without breaking the numbers into their constituent digits. Ex. 13 - Operations on number 13 such as addition/subtraction/multiplying 13 etc. can be performed. Breaking 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.)

X : 803 :: 469 : Y

(a) X = 545, Y = 727

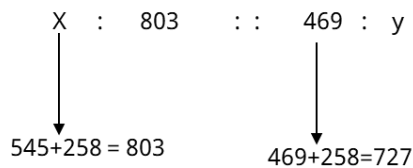
(b) X = 558, Y = 712

(c) X = 512, Y = 792

(d) X = 526, Y = 758

[a]

व्याख्या -



Hence x = 545 and Y = 727.

72. Which of the following options should come in place of the question mark (?) in the given series based on the English alphabetical order?

BJL, EMO, HPR, KSU, ?

(a) NVY

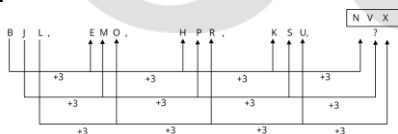
(b) NUY

(c) NUW

(d) NVX

[d]

व्याख्या -



? = NVX

73. Read the statements and conclusions given below carefully. You have to assume that the given statements are true even if they seem to be at variance with commonly known facts and decide which of the conclusions logically follows from the given statement/statements.

Statements:

All water is milk.

No milk is oil.

Conclusions:

(I) Some milk are water.

(II) No oil is water.

(a) Only conclusion (II) follows from the statements.

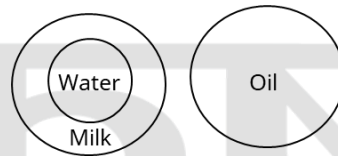
(b) Neither conclusion (I) nor (II) follows from the statements.

(c) Only conclusion (I) follows from the statements.

(d) Both conclusion (I) and (II) follow from the statements.

[d]

व्याख्या -



It is clear from the Venn diagram that both the conclusions follow.

74. If each consonant of the word GRAVITY is changed to the letter immediately preceding it in the English alphabetical order, and each vowel is changed to the letter immediately following it in the English alphabetical order, then how many consonants will be present in the new group of letters thus formed?

(a) seven

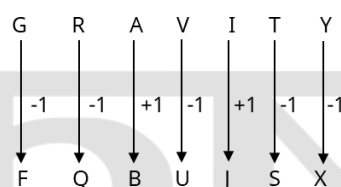
(b) six

(c) three

(d) two

[b]

व्याख्या -



The series number in the new letter group is 6.

75. If 'I' means '+', 'J' means 'x', 'K' means '÷' and 'L' means '-', then what will come in place of question mark '?' in the following equation?

(35 L 19) J 4 I 26 L (7 J 3) I 11 = ?

(a) 105

(b) 120

(c) 60

(d) 80

[d]

व्याख्या -

(35 L 19) J 4 I 26 L (7 J 3) I 11 = ?

according to questio

 $(35 - 19) \times 4 + 26 - (7 \times 3) + 11 = ?$ $16 \times 4 + 26 - 21 + 11 = ?$ $64 + 26 - 21 + 11 = ?$ $101 - 21 = ?$ $80 = ?$