Q.1 The laws of reflection hold **true** for which of the following mirror(s)?

(A) Concave mirror

(B) Convex mirror

(C) Plane mirror

A. only A and B

B. A, B and C

C. Only B and C

D. Only a and C

Answer: B

Sol: The correct answer is (B)

The laws of reflection hold true for **all types of mirrors.**

Explanation:

The laws of reflection are fundamental principles of light and apply universally to all reflecting surfaces. These laws state that:

1. **The angle of incidence is equal to the angle of reflection.**
2. **The incident ray, reflected ray, and the normal all lie in the same plane.**

These rules are independent of the shape of the reflecting surface. Therefore, **the correct answer is all three: (A), (B), and (C).**

Information Booster:

Use of Concave mirror:

- **S**aving and makeup mirror
- Reflectors in headlight and tourch
- Solar Cookers and concentrators
- Telescope
- Dentistry and ENT Examination
- Microscope and Reflecting mirror

Use of Convex mirror:

- Rear-View and Side-View Mirrors in Vehicles
- Surveillance and Security Mirrors
- Road Safety and Traffic Mirrors
- Hallways and Corridors in Buildings
- ATM and Bank Machines

Q.2 A man stands 10 m in front of a large plane mirror. How far must he walk before he is 5 m away from his image?

A. 4 m

B. 5 m

C. 7.5 m

D. 2.5 m

Answer: C

Sol: Correct Answer: (c) **7.5 m**

Explanation:

- **Initial Setup:**
- The man is 10 m away from the mirror.
- In a plane mirror, the image is formed at the same distance behind the mirror as the object is in front of it.
- Hence, the total distance between the man and his image is initially **20 m** (10 m + 10 m).
- **Required Condition:**
- The total distance between the man and his image must reduce to **5 m**.
- **Distance Calculation:**
- Let the man walk **x meters** toward the mirror.
- His new distance from the mirror will be (10 - x).

- The total distance between the man and his image will now be **2 × (10 - x)**.
- Setting this equal to the desired distance:

2 × (10 - x) = 5

- **Solve for x:**
- 20 - 2x = 5
- 2x = 20 - 5 = 15
- x = 7.5

The man must walk **7.5 meters** toward the mirror for the distance between him and his image to be 5 meters.

Q.3 The mass of the earth is_____.

A. $6 \times 10^{23} kg$
B. $6 \times 10^{24} kg$
C. $6 \times 10^{25} kg$
D. $6 \times 10^{22} kg$

Answer: B

Sol: The correct answer is **(B) 6 × 10²⁴ kg**

Explanation:
- The **mass of the Earth** is approximately **5.97 × 10²⁴ kg**, which is generally rounded off to **6 × 10²⁴ kg**.
- This value is derived from gravitational studies and Earth's average density and radius.
- The mass helps calculate the gravitational force and acceleration due to gravity on its surface.

Information Booster:
- Average radius of Earth: **6.4 × 10⁶ m**.
- Mean density: **5.5 g/cm³**.
- Acceleration due to gravity (g): **9.8 m/s²**.
- Earth's mass determines its **gravitational pull** and **orbital motion**.
- The Earth revolves around the Sun in about **365.25 days**.

Q.4 Select the correct pair from the following options.

A. Object's resistance to change its state of motion-Gravitation
B. Object's resistance to change its state of motion-Inertia
C. Object's resistance to change its state of motion-Momentum
D. Object's resistance to change its state of motion-Acceleration

Answer: B

Sol: **Correct Answer:** B) Object's resistance to change its state of motion - Inertia

Explanation:
An object's resistance to change its state of motion (whether at rest or in uniform motion) is known as **inertia**. This property is inherent in all matter due to its mass. The concept of inertia is fundamental to Newton's First Law of Motion, which states that an object will remain at rest or continue to move in a straight line with constant velocity unless acted upon by an external force.

Information Booster:
- **Inertia** is directly proportional to the mass of an object—the greater the mass, the higher the inertia.
- Newton's First Law of Motion is also called the Law of Inertia.
- **Gravitation** impacts all objects with mass, pulling them towards the Earth or other celestial bodies.
- **Momentum** is a vector quantity and depends on both mass and velocity.
- **Acceleration** is a result of applied force, as per Newton's Second Law.

- **Gravitation :** Refers to the force of attraction between two masses and is unrelated to an object's resistance to motion.
- **Momentum :** Refers to the quantity of motion an object possesses, calculated as the product of its mass and velocity, not its resistance to motion.
- **Acceleration :** Refers to the rate of change of velocity of an object, not its resistance to motion.

Q.5 The effect of Thrust depends on which of the following?

A. Area
B. Volume
C. Mass
D. Weight

Answer: A

Sol: The correct answer is (a) Area.
- **Thrust** is the total force acting **perpendicularly on a surface**.
- The **effect of thrust** on a surface is determined by the **area** over which it acts.
- For the same thrust, a smaller area results in **greater pressure**, and a larger area results in **less pressure**.

Information Booster:
- **Thrust** = Force acting **normally** on a surface.
- **Pressure** = Thrust / Area.
- SI unit of **pressure** is **Pascal (Pa)**, equivalent to **N/m²**.
- **Pressure** increases when the **area decreases** (inversely proportional).
- This is why sharp knives cut better — smaller area → higher pressure.

Additional Information:
- **Thrust** and **pressure** are related physical quantities used in fluid mechanics.
- In liquids and gases, **pressure acts equally in all directions** (Pascal's Law).
- **Applications**: Hydraulic press, brakes, and lifts work on pressure transmission.
- **Example**: A camel's broad feet exert less pressure on sand due to a larger area.
- **Unit of thrust** = **Newton (N)**, the same as force.

Q.6 The point at which all rays converge is termed as _____.

A. principle axis
B. pole
C. aperture
D. focus

Answer: D

Sol: Correct Answer: (d) focus
Explanation:
- The **focus** is the point on the principal axis where **parallel rays of light** after reflection (in mirrors) or refraction (in lenses) **converge**.
- It is also known as the **focal point**.

Information Booster:

- **Focal length:** Distance between **pole** and **focus**.
- **Principal Axis:** A straight line passing through the **center** of the mirror or lens.
- **Pole (P):** The **center point** of a spherical mirror or lens surface.
- **Aperture:** The **diameter** of the mirror or lens through which light enters.
- Focus is indicated by **F** in ray diagrams.

Additional Knowledge:

- **Option (a) Principal Axis:** Not a point; it is a **line**.
- **Option (b) Pole:** Middle point of mirror/lens surface, not where rays meet.
- **Option (c) Aperture:** Opening through which light passes; no convergence occurs there.

Q.7 When a ray of light travels from a denser medium to a rarer medium, the ray will:

A. slow down and bend away from the normal
B. speed up and bend towards the normal
C. slow down and bend towards the normal
D. speed up and bend away from the normal

Answer: D

Sol: The correct answer is: (d) speed up and bend away from the normal

Explanation:

- When light passes from a **denser medium (like glass, water)** to a **rarer medium (like air)**:

  - Its **speed increases**.

  - The ray **bends away from the normal**.

- This behavior is explained by **Snell's Law**:

$$n\ \sin i = n\ \sin r$$

where $n_1 > n_2$ (denser → rarer), so angle of refraction $r > i$.

Information Booster:

- **Denser to rarer medium** → speed increases, bends away from normal.

- **Rarer to denser medium** → speed decreases, bends towards normal.

- Critical Angle: the angle of incidence in denser medium for which the angle of refraction in rarer medium = 90°.

- Total Internal Reflection (TIR) occurs if angle of incidence > critical angle.

- Applications: Optical fibers, diamonds sparkle, mirages.

Q.8 Which of the following is true for resistors in parallel?

A. The equivalent resistance is greater than the smallest resistance.
B. The equivalent resistance is the sum of all resistances.
C. They have the same current.
D. They have the same voltage.

Answer: D

Sol: The Correct Answer is: **(d) They have the same voltage**

Explanation:

In a **parallel combination** of resistors, all resistors are connected across the **same two points**, so the **voltage across each resistor is equal**.

Key characteristics of parallel circuits:

- Voltage across each branch = Voltage of the source
- Current gets **divided** among the branches
- Equivalent resistance is always **less than the smallest individual resistance**
- Formula for equivalent resistance:

$$\frac{1}{R_{eq}} = \frac{1}{R_1} + \frac{1}{R_2} + \cdots + \frac{1}{R_n}$$

Information Booster:

• **Power dissipation** can be calculated separately for each resistor using $P = \dfrac{V^2}{R}$

• Used where **consistent voltage** is needed across multiple loads (e.g., home wiring).

• Adding resistors in parallel **decreases** the overall resistance of the circuit.

Q.9 Some features of a prokaryotic cell are mentioned below. Select the INCORRECT option.

A. Membrane-bound cell organelles present
B. Nuclear region known as nucleoid
C. Single chromosome

D. Very small in size

Answer: A

Sol: • Prokaryotic cells do not have membrane-bound organelles such as the nucleus, mitochondria, or endoplasmic reticulum. Instead, they have a simpler structure with a nucleoid (region containing the DNA), and the cell's metabolic processes occur in the cytoplasm or on the cell membrane.
Information Booster:
• **Nuclear region known as nucleoid**: In prokaryotic cells, the genetic material is not enclosed within a membrane-bound nucleus. Instead, it is found in a region called the nucleoid.
• **Single chromosome**: Prokaryotic cells typically have a single, circular chromosome that carries most of the genetic information.
• **Very small in size**: Prokaryotic cells are generally smaller than eukaryotic cells, typically ranging from 0.1 to 5 micrometers in size.

Q.10 _____are a kind of waste disposal system of the cell. They help to keep the cell clean by digesting any foreign materials as well as worn-out cell organelles.

A. Lysosomes
B. Golgi
C. Plastids
D. Mitochondria

Answer: A

Sol: The correct answer is (a) Lysosomes.
· Lysosomes are membrane-bound organelles found in animal cells. They contain digestive enzymes that break down excess or worn-out cell parts, as well as foreign substances like bacteria and viruses. This process helps to keep the cell clean by removing debris and recycling cellular components.
Information Booster:
· Golgi Apparatus:
· Also known as the Golgi complex, it modifies, sorts, and packages proteins and lipids for storage or transport out of the cell.
· Plastids:
· Found in plant cells, plastids are involved in the synthesis and storage of food. Chloroplasts, a type of plastid, are responsible for photosynthesis.
· Mitochondria:
· Known as the powerhouses of the cell, mitochondria generate ATP (adenosine triphosphate), the cell's main energy currency, through cellular respiration.

Q.11 What is called the powerhouse of the cell?

A. Nucleus
B. Cytoplasm
C. Chloroplast
D. Mitochondria

Answer: D

Sol: The correct answer is **(d) Mitochondria.**
Mitochondria are often referred to as the "**powerhouse of the cell**" because they are responsible for producing adenosine triphosphate (ATP), the primary energy currency of the cell, through a process known as cellular respiration.
Additional Information:
· Mitochondria convert nutrients into energy by breaking down glucose and oxygen, which results in the production of ATP, carbon dioxide, and water.
· They are **unique organelles that have their own DNA** and are involved in various other cellular processes, including the regulation of metabolism and the initiation of programmed cell death (apoptosis).
Other Option:
· **Nucleus**: The nucleus is the control center of the cell, housing genetic material (DNA) and regulating activities such as growth, metabolism, and reproduction, but it does not produce energy.
· **Cytoplasm**: The cytoplasm is the jelly-like substance within the cell that contains organelles and is the site of many metabolic processes, but it does not generate energy.
· **Chloroplast**: Chloroplasts are found in plant cells and are responsible for photosynthesis, converting sunlight into chemical energy, but they are not present in animal cells and do not produce ATP in the same way mitochondria do.

Q.12 Which of the following is the SI unit of electric charge and is equivalent to the charge contained in nearly 6×10^{18} electrons?

A. Coulomb
B. Siemens

C. Becquerel

D. Henry

Answer: A

Sol: **Correct Answer: (A) Coulomb**

Explanation:

- **Coulomb (C)** is the SI unit of **electric charge**.

- **1 Coulomb** is equivalent to the charge of approximately **6 × 10¹⁸ electrons**.

Information Booster:

- Named after **Charles-Augustin de Coulomb**, a French physicist.

- Charge of one electron = **1.6 × 10⁻¹⁹ C**, so 1 C = 6.25 × 10¹⁸ electrons.

Additional Information:

- Siemens: SI unit of **electrical conductance**.

- Becquerel: SI unit of **radioactivity**.

- Henry: SI unit of **inductance**.

Q.13 The most common cause of Goiters (irregular growth of the thyroid gland) worldwide is a lack of _____.

A. Potassium

B. Sodium

C. Iron

D. Iodine

Answer: D

Sol: The correct answer is (d) **Iodine.**

Explanation:
• **Goitre** is a swelling in the neck resulting from the **enlargement of the thyroid gland**, commonly caused by **iodine deficiency**.
• Iodine is essential for the production of **thyroid hormones (T3 and T4)** that regulate metabolism.

Information Booster:
• **Deficiency Disease:** Iodine Deficiency Disorder (IDD)
• **Prevention:** Use of iodised salt
• **Hormones Affected:** Thyroxine (T4) and Triiodothyronine (T3)
• **Severe Deficiency Leads To:** Cretinism and mental retardation in children
• **WHO Recommendation:** 150 micrograms of iodine per day for adults

Additional Knowledge:
• **Universal Salt Iodisation Programme** was launched in India in **1986** to prevent goitre and related disorders.
• **Goitre Belt:** The Himalayan region, due to iodine-deficient soil.
• **Other Causes:** Autoimmune diseases (Hashimoto's thyroiditis), thyroid nodules, or certain drugs.
• **Common Symptoms:** Neck swelling, fatigue, weight changes, and hormonal imbalance.

Q.14 DNA is a molecule that holds the genetic information in the cells of living organisms. DNA stands for ____?

A. Disulphate Nitric Acid

B. Deoxyribonucleic Acid

C. Dinitric Acid

D. Dioxide Nitrogen Acetate

Answer: B

Sol: **Correct Answer:** (B) Deoxyribonucleic Acid

Explanation:

- **DNA (Deoxyribonucleic Acid)** carries the **genetic instructions** used in the growth, development, and functioning of living organisms.

- It is found in the **nucleus** of cells and determines **hereditary characteristics**.

- The structure of DNA is a **double helix** discovered by **Watson and Crick**.

Information Booster:

- DNA is made of **nucleotides**, each containing **a sugar, a phosphate group, and a nitrogenous base**.

- Four bases in DNA: **Adenine (A)**, **Thymine (T)**, **Cytosine (C)**, **Guanine (G)**.

- **A pairs with T** and **C pairs with G**.

- DNA replication ensures genetic information is passed to **new cells**.

Q.15 Which of the following characteristics corresponding to plant functions is true for angiosperms?

A. They lack vascular tissue for nutrient transport.
B. They produce seeds enclosed within fruits.
C. They reproduce using spores.
D. They predominantly rely on wind for pollination.

Answer: B

Sol: **The correct answer is: (b) They produce seeds enclosed within fruits Explanation:**
· Angiosperms, or flowering plants, are characterized by the production of seeds enclosed within fruits.
· This is a key feature distinguishing them from gymnosperms, which have exposed seeds.
Information Booster:
· Angiosperms are the largest group of plants on Earth.
· Their seeds are protected by fruit, which aids in seed dispersal.
· Angiosperms can reproduce through both sexual and asexual means.
Additional Knowledge:
· **(a) They lack vascular tissue**: Incorrect; angiosperms have vascular tissue for nutrient transport.
· **(c) They reproduce using spores**: Incorrect; angiosperms reproduce via seeds.
· **(d) They predominantly rely on wind for pollination**: Incorrect; angiosperms often use insects or animals for pollination.

Q.16 Which biomolecules are responsible for catalysing biochemical reactions?

A. Polysaccharides
B. Enzymes
C. Nucleotides
D. Phospholipids

Answer: B

Sol:
The correct answer is (b) Enzymes
Explanation:
• Enzymes act as biological catalysts, accelerating biochemical reactions inside living organisms.
• They speed up metabolic processes without being consumed in the reaction.
• Most enzymes are proteins with highly specific active sites for substrates.
• They are involved in digestion, cellular respiration, DNA replication, and other essential life processes.

Mechanism of Enzyme
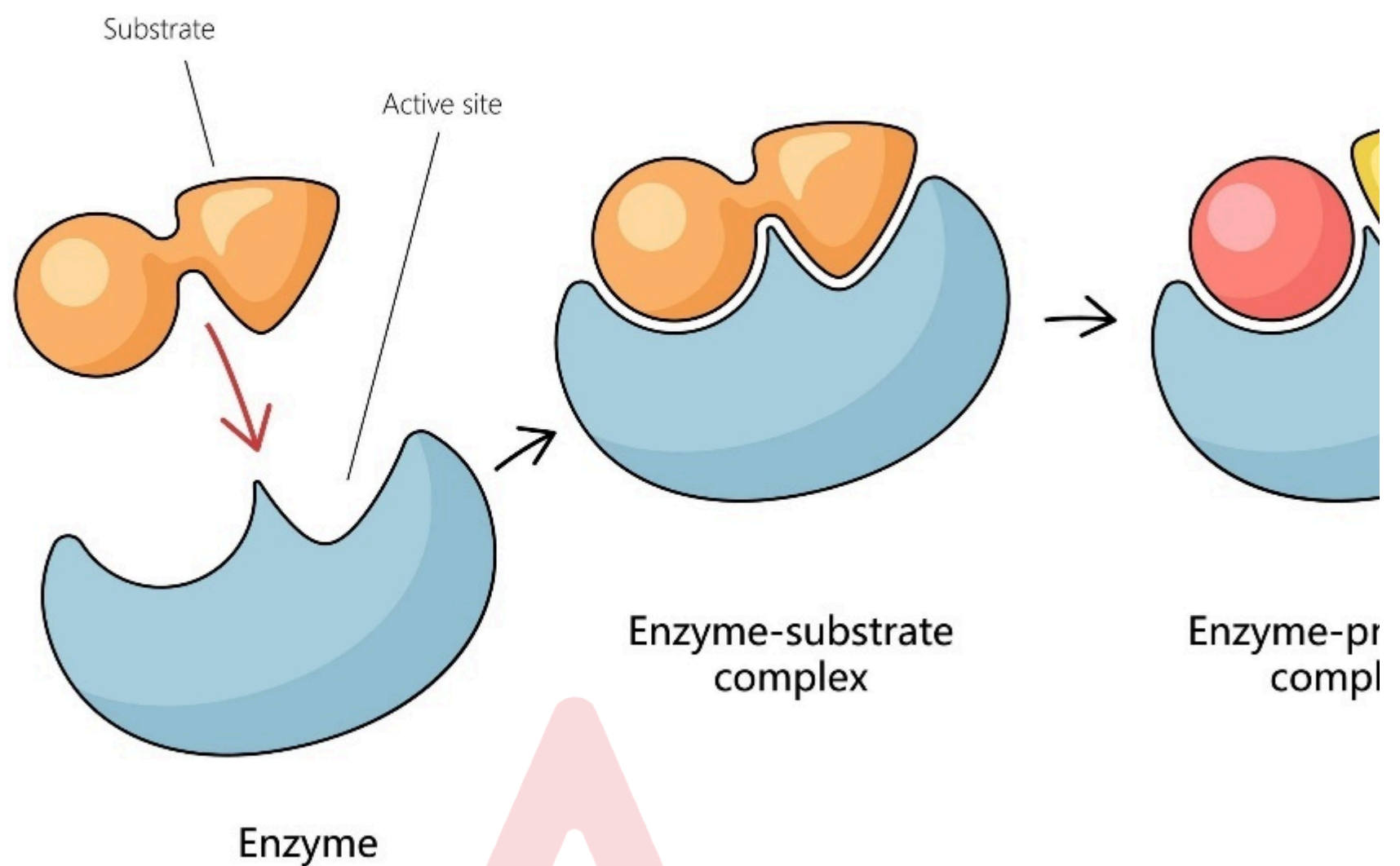
Information Booster:
• Enzyme activity depends on pH, temperature, and substrate concentration.
• Examples: amylase, pepsin, lipase, DNA polymerase, catalase.

Additional Knowledge:
Polysaccharides (Option a)
. Complex carbohydrates used for energy storage or structural functions, not catalysts.
Nucleotides (Option c)
. Monomers of DNA and RNA; not responsible for catalysis (except rare ribozymes).
Phospholipids (Option d)
. Major components of cell membranes; no catalytic role.

Q.17   Which functional group is polar, containing an unsymmetrical distribution of charge between oxygen and hydrogen atoms?

A. Ethers
B. Alcohols
C. Carboxylic acids
D. Esters

Answer: B

Sol: The correct answer is: **B) Alcohols**

Explanation:
Alcohols contain a hydroxyl group (-OH), which consists of an **oxygen atom** bonded to a **hydrogen atom**. This functional group is polar because **oxygen** is more electronegative than **hydrogen**, resulting in an **unsymmetrical distribution of charge**.
This polarity is responsible for alcohols' ability to form **hydrogen bonds**, influencing their physical properties, such as **boiling points** and **solubility in water**.

Information Booster:
- Alcohols can form **hydrogen bonds** with water molecules, which increases their **boiling points** and **melting points**.
- Alcohols are widely used as **solvents**, **antiseptics**, and in the **synthesis of other chemicals**.

Additional Knowledge:
- **Ethers**: Ethers have the general structure **R-O-R** (oxygen atom bonded to two carbon groups).

- **Carboxylic acids**: Carboxylic acids contain a **carboxyl group (-COOH)**, which is polar, but the charge distribution is more symmetrical compared to alcohols, and it can form strong **hydrogen bonds** due to the presence of both **hydroxyl** and **carbonyl groups**.
- **Esters**: Esters contain a **carbonyl group** adjacent to an **oxygen atom**. They are polar, but the polarity is less pronounced compared to alcohols because of the **partial positive charge** on the **carbonyl carbon**.

Q.18 Which of the following statements about the resistivity of metals is INCORRECT?

A. Resistivity is inversely proportional to the cross-sectional area of the metal.
B. Resistivity is inversely proportional to the number density of electrons.
C. Resistivity is directly proportional to the mass of the electron.
D. Resistivity is inversely proportional to the relaxation time of the electrons.

Answer: C

Sol: **The correct answer is: (c) Resistivity is directly proportional to the mass of the electron.**
Explanation:
· Resistivity in metals is not directly proportional to the mass of the electron.
· Instead, resistivity depends on factors like the electron density and the relaxation time of the electrons.
Information Booster:
· Resistivity is influenced by the electron density and the material's temperature.
· It is inversely proportional to the number density of electrons, meaning more electrons reduce resistivity.
· The mass of the electron does not directly impact resistivity.
Additional Knowledge:
· **(a) Resistivity is inversely proportional to the cross-sectional area**: This is a correct concept related to resistance, but not to resistivity.
· **(b) Resistivity is inversely proportional to the number density of electrons**: Correct; a higher number of electrons results in lower resistivity.
· **(d) Resistivity is inversely proportional to the relaxation time of the electrons**: Correct; longer relaxation time lowers resistivity.

Q.19 Which of the following statements is NOT correct regarding drugs?

A. Birth control pills essentially contain a mixture of synthetic estrogen and progesterone derivatives
B. Disinfectants are applied to inanimate objects such as floors, drainage systems, instruments, etc.
C. Norethindrone is an example of a synthetic progesterone derivative most widely used as an antifertility drug
D. Chlorine in the concentration of 0.2 to 0.4 ppm in aqueous solution and sulphur dioxide in very low concentrations are analgesics

Answer: D

Sol: **Correct Answer: (d) Chlorine in the concentration of 0.2 to 0.4 ppm in aqueous solution and sulphur dioxide in very low concentrations are analgesics**
Explanation

- **Statement (d) is incorrect** because **chlorine** and **sulphur dioxide** are **disinfectants / germicidal agents**, **NOT analgesics**.
- Analgesics are pain-relieving drugs (e.g., aspirin, paracetamol).

Other Statements:

(a) Birth control pills contain synthetic estrogen + progesterone derivatives
Correct – Used to prevent ovulation.

(b) Disinfectants are applied to non-living surfaces (floors, instruments)
Correct – They kill microorganisms on **inanimate objects**.

(c) Norethindrone is a synthetic progesterone derivative used as antifertility drug
Correct – Common component in oral contraceptives.

Additional Knowledge

- Antifertility drugs: **Norethindrone, Ethinyl estradiol**.
- Disinfectants: Chlorine, phenol, bleaching powder.
- Analgesics: **Aspirin, Ibuprofen, Paracetamol** (relieve pain, reduce fever).

Q.20 Which of the following is a soapy liquid with large molecular size of the order of 10^{-9} m?

A. Palmitic acid
B. Stearic acid
C. Lauric acid
D. Oleic acid

Answer: D

Sol: **Correct Answer: (d) Oleic acid**
Explanation:

- **Oleic acid** is a **long-chain fatty acid** ($C_{18}H_{34}O_2$) that forms **soapy, oily liquids** and has a **large molecular size ($\sim 10^{-9}$ m)**.
- It remains **liquid at room temperature** because it is **unsaturated** (one double bond), unlike other saturated fatty acids which are solid.

Information Booster:

- Oleic acid is the major component of:
  - **Olive oil**
  - **Animal fats**
  - **Vegetable oils**
- Used in making:
  - **Soaps**
  - **Detergents**
  - **Cosmetics**
- Micelles formed by fatty acids have a typical size in the range of **10^{-9} m** (nanometer scale).

Additional Knowledge:

- **Option (a) Palmitic acid:**
  - Saturated fatty acid (C16); **solid**, not a soapy liquid.
- **Option (b) Stearic acid:**
  - Saturated fatty acid (C18); **waxy solid** at room temperature.
- **Option (c) Lauric acid:**
  - Medium-chain fatty acid (C12); **solid** at room temperature and not typically described as a soapy liquid.

Q.21 How many oxygen molecules are there in Carbon Monoxide gas?

A. Three
B. One
C. Two
D. Four

Answer: B

Sol: The correct answer is (b) One.
• Carbon monoxide formula is **CO** → contains **1 carbon atom + 1 oxygen atom** → one oxygen **molecule** present as one O-atom bonded.
Information Booster:
• CO is **colourless, odourless** toxic gas.
• Produced from **incomplete combustion**.
• Forms **carboxyhaemoglobin** in blood → reduces oxygen carrying capacity.
• Heavier source: chimney, vehicle exhaust.
Additional Knowledge:
• CO_2 has **two** oxygen atoms.
• CO is a **reducing agent** in metallurgy.
• Detectable using CO sensors.
• Indoor CO poisoning cases rise in winters.

Q.22 Which biomolecules are responsible for catalysing biochemical reactions?

A. Polysaccharides
B. Enzymes
C. Nucleotides

D. Phospholipid
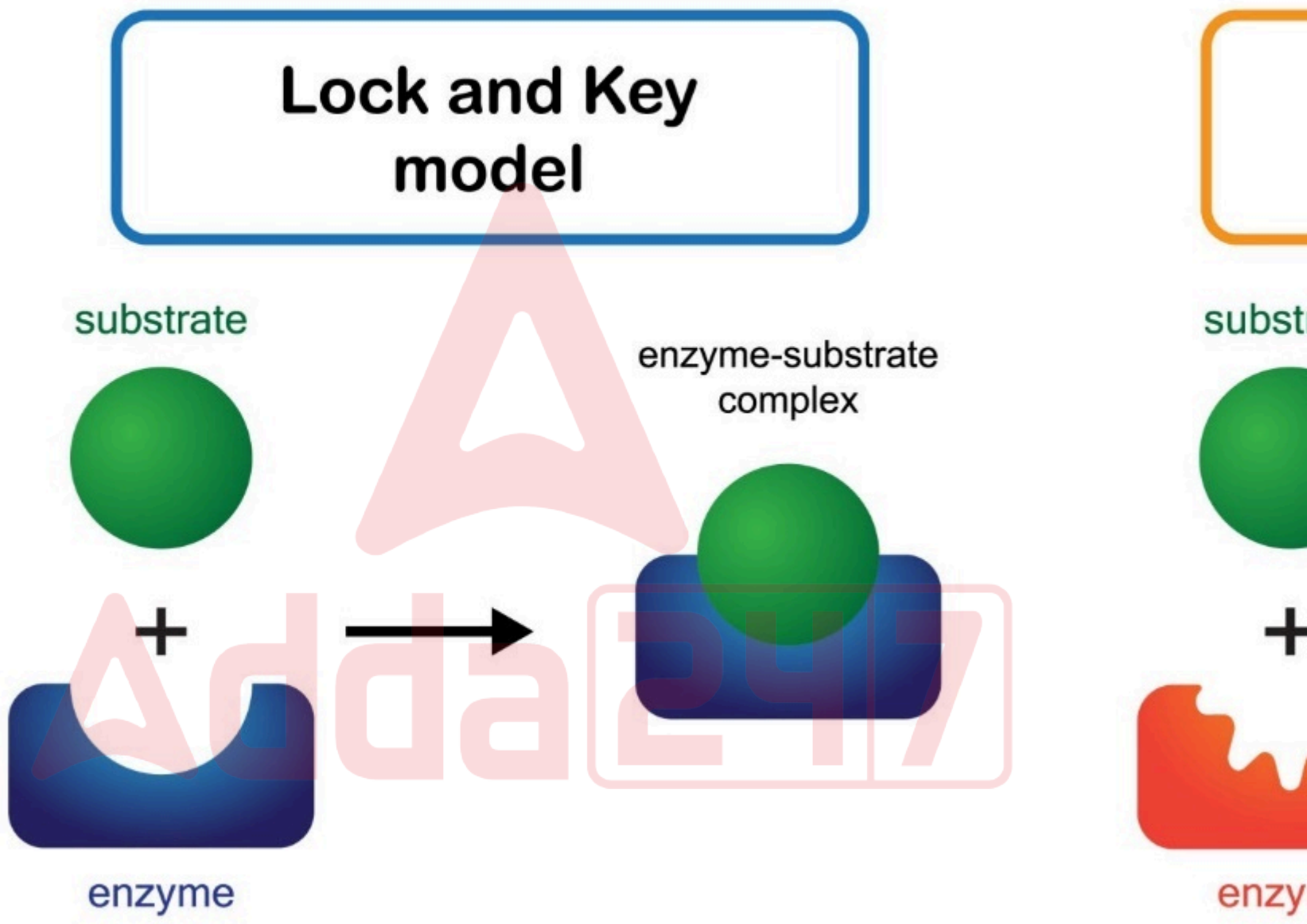
Answer: B

Sol:

The correct answer is (b) Enzymes
Explanation:
· **Enzymes** are highly specialized proteins that act as **biological catalysts** in biochemical reactions.
· They speed up chemical reactions in living organisms without being consumed in the process, enabling essential life processes like digestion and metabolism

Information Booster:
· Enzymes typically catalyze only one or a few reactions, a property known as **substrate specificity**.
· **Polysaccharides** (a) are complex carbohydrates (like starch/cellulose), and **Nucleotides** (c) are the building blocks of DNA/RNA. **Phospholipids** (d) are major c
Additional Knowledge:
· The process of enzyme action is often described by the **lock-and-key model** or the **induced-fit model**, where the substrate fits precisely into the enzyme's ac
· Factors like temperature, pH, and the concentration of the substrate or enzyme can significantly affect enzyme activity.

Q.23   The conversion between the solid and the gaseous phases of matter, with no intermediate liquid state, is called:

A. Sublimation
B. Solidification
C. Deposition

D. Vaporisation

Answer: A

Sol: The correct answer is (a) Sublimation.
• Sublimation: **solid → gas** directly without becoming liquid.
• Example: camphor, dry ice.
Information Booster:
• Reverse process (gas → solid) is **deposition**.
• Latent heat of sublimation involved.
• Occurs at specific pressure–temperature conditions.
• Used in freeze-drying.
Additional Knowledge:
• Phase diagram shows triple point where three phases coexist.
• Solidification = liquid → solid.
• Vaporisation = liquid → gas.
• Dry ice (CO_2) sublimes at −78.5°C.

Q.24 Which of the following statements best represents the mass number of an atom?

A. The average mass of all the isotopes of the element
B. The number of electrons in an atom
C. The total number of protons and neutrons in the nucleus
D. The number of protons in the nucleus

Answer: C

Sol: Correct Answer: C

Explanation:

- Mass number is the **sum of protons and neutrons** present in the nucleus.
- These particles (nucleons) contribute almost the entire mass of the atom, as electrons have negligible mass.

Information Booster :

- Mass number = **A**, Atomic number = **Z**.
- Neutron number = **A – Z**.
- Mass number is always a **whole number**, unlike atomic mass which may be fractional.
- Isotopes have the **same atomic number (Z)** but **different mass numbers (A)**.
- Mass number helps identify the **specific isotope** of an element (e.g., C-12, C-14).
- Nucleus size and stability largely depend on the **neutron–proton ratio**.
- Mass number does **not** indicate chemical behavior; that depends on electrons and atomic number.

Additional Knowledge:

- **(a)** Represents *average atomic mass*, calculated from all isotopes based on abundance.
- **(b)** Electrons determine chemical properties, not atomic mass.
- **(d)** Represents *atomic number*, which identifies the element but not its mass.

Q.25 The oxidation reaction that produces heat and light is_____.

A. Endotherm
B. Combustion
C. Exothermic
D. Neutral

Answer: B

Sol: The correct answer is (B) Combustion
Explanation:
Combustion is an oxidation reaction that releases **heat and light energy**. It usually involves a substance reacting rapidly with **oxygen**. This reaction produces flame, heat, and sometimes sound.

Information Booster:
- Examples: burning wood, LPG, petrol, coal.
- Combustion is a **rapid exothermic reaction**.
- Complete combustion forms **CO_2 + H_2O**.
- Requires fuel, oxygen, and heat (fire triangle).
- Used in engines, stoves, and power plants.

Additional Knowledge:
- Endotherm – Absorbs heat, not releases.
- Exothermic – Releases heat but not necessarily light.
- Neutral – No oxidation or heat/light production involved.

Q.26 The Kulsi River is a tributary of which major river?

A. Ganga
B. Yamuna
C. Brahmaputra
D. Godavari

Answer: C

Sol: The correct answer is option (c) Brahmaputra

Explanation

The **Kulsi River** is a **south-bank tributary** of the mighty **Brahmaputra River**. It flows through the northeastern part of India, specifically in the **Assam-Meghalaya region**. The river plays a significant role in the local ecosystem and is crucial to the water systems in the area.

Information Booster
· The Kulsi River is located on the **south bank of the Brahmaputra River**, which is one of the largest rivers in the world.
· The Brahmaputra itself flows across **India**, **Bangladesh**, and **China**, and is crucial for the livelihoods of millions of people.
· Tributaries like the Kulsi River contribute to the Brahmaputra's vast network of rivers, adding to its flow and ecological significance.

Additional Knowledge
· **Brahmaputra River:** The Brahmaputra is one of the longest rivers in the world, flowing through the Indian states of Assam, Arunachal Pradesh, and other parts of South Asia. It is known for its massive size, flooding issues, and biodiversity.
· **Role of Tributaries:** Tributaries like the Kulsi River support the Brahmaputra by adding water from various sub-catchments, affecting local agriculture, wildlife, and human settlements.

Q.27 Who has been appointed as the second Chief of Defence Staff (CDS) in India?

A. Admiral R Hari Kumar
B. General Manoj Pande
C. General Manoj Mukund Naravane
D. Lt General Anil Chauhan

Answer: D

Sol:

The correct answer is (d) Lt General Anil Chauhan.
· Lt General Anil Chauhan was appointed as the second Chief of Defence Staff (CDS) of India in September 2022.
· The CDS is the highest-ranking officer in the Indian Armed Forces, responsible for enhancing coordination between the Army, Navy, and Air Force.
· Lt General Chauhan succeeded the first CDS, General Bipin Rawat, who tragically passed away in a helicopter crash in 2021.
· He brings with him extensive experience in defense, having served in key roles in the Indian Army, including heading the Eastern Command.

Q.28 On World Tourism Day, the ministry of Tourism launched which scheme?

A. Paryatan Saathi
B. Paryatan Saarthi
C. Paryatan Mitra
D. Paryatan Bot

Answer: C

Sol: Sol. On the occasion of World Tourism Day, the Ministry of Tourism launched "Paryatan Mitra" and "Paryatan Didi," a responsible tourism initiative aimed at improving tourist experiences across India. The initiative focuses on empowering local communities, especially women and youth, to serve as ambassadors and storytellers of their destinations, enhancing hospitality, cleanliness, and sustainability.

Q.29 The battle of Haldighati was fought in:

A. 1568
B. 1576
C. 1552
D. 1584

Answer: B

Sol:

The correct answer is (b) 1576.

· The Battle of Haldighati was fought on June 18, 1576, between the forces of Maharana Pratap of Mewar and the Mughal army led by Man Singh I of Amber, under the command of Emperor Akbar.

· This battle is significant in Indian history for the resistance shown by Maharana Pratap against the Mughal expansion in Rajasthan, even though the Mughals emerged victorious.

Information Booster:

· Maharana Pratap is remembered as a symbol of Rajput bravery and resistance.

· The battlefield of Haldighati is located in present-day Rajasthan.

· Though Maharana Pratap lost the battle, he continued to resist Mughal rule and never surrendered to Akbar.

· This battle is also notable for the valiant participation of Chetak, Maharana Pratap's loyal horse, who played a crucial role in the fight.

Q.30 Admission and allocation of new states is mentioned in which of the following Articles of the Indian Constitution?

A. Article 2
B. Article 1
C. Article 3
D. Article 4

Answer: A

Sol: The correct answer is **(a) Article 2**

Explanation:

Article 2 of the Indian Constitution deals with the **admission or establishment of new states** into the Union of India. It gives Parliament the authority to **admit new states** into the Union or **establish new states** on terms and conditions it deems fit.

Information Booster:

Admission or Establishment of New States – Article 2

Article 2 of the Indian Constitution empowers **Parliament** to **admit new states into the Union** or **establish new ones** on any terms and conditions it deems appropriate. This grants **complete legislative discretion** to Parliament.

It provides for two distinct powers:

1. **Admission of new states** that are already existing and duly established but not yet part of India.
2. **Establishment of new states** that are not yet in existence.

In essence, **Article 2** deals with adding or creating states **outside the existing territory** of the Indian Union.

Additional Knowledge:

Article   Provision

Article 1 Declares India as a Union of States; names the states and territories.

Article 3 Deals with the formation of new states and the alteration of existing states (boundary, area, name).

Article 4 Provides that laws under Articles 2 & 3 can also make supplemental provisions (e.g., representation, constitutional amendments).

Q.31 On 22 May 2025, Israeli forces reportedly fired warning shots near a delegation of diplomats visiting which area, leading to international condemnation?

A. Gaza Strip
B. Sinai Peninsula
C. Golan Heights
D. West Bank

Answer: A

Sol:

The correct answer is (a) Gaza Strip Explanation:

· The incident involving Israeli forces firing warning shots near diplomats (specifically UN and foreign officials) occurred on the edge of the **Gaza Strip** in May 2025.

· This area was near the **Rafah border crossing**, a crucial entry point for humanitarian aid and a major focus of ongoing military operations at that time.

Information Booster:

· The **Golan Heights** is a disputed territory bordering Syria, and the **West Bank** is a Palestinian territory also subject to tension, but neither was the site of this specific May 2025 incident involving diplomatic convoys.

· The **Sinai Peninsula** is part of Egypt.

Additional Knowledge:

· Such incidents highlight the extreme volatility and risks faced by humanitarian workers and diplomats operating near conflict zones.

· The **Rafah crossing** between the Gaza Strip and Egypt remains a key focal point for international diplomacy regarding aid delivery and civilian movement.

Q.32 Which of the following language is used for webpage development.

A. FORTRAN
B. C or C++
C. BASIC
D. HTML

Answer: D

Sol: **HTML** (HyperText Markup Language) is the standard language used for developing webpages. It is used to structure content on the web, including text, images, and other media. HTML defines the elements and layout of a webpage, allowing browsers to display the content correctly.

Important Key Points:

1. HTML: Used to structure and format content on webpages.

2. Webpage Development: HTML works alongside other technologies like CSS (for styling) and JavaScript (for functionality) to build interactive and well-designed webpages.

3. Markup Language: HTML is a markup language, not a programming language, and it defines the structure of web content.

Knowledge Booster:

• **FORTRAN:** An older programming language primarily used for scientific and engineering applications, not for webpage development.

• **C or C++:** These are general-purpose programming languages, typically used for system software and applications, not directly for web development.

• **BASIC:** An early programming language, also not used for webpage development.

Q.33 When was the Rural Landless Employment Guarantee Programme (RLEGP) launched?

A. 2 October 1985
B. 15 August 1983
C. 1 April 1980
D. 26 January 1982

Answer: B

Sol:

The correct answer is (b) 15 August 1983

Explanation:

· The Rural Landless Employment Guarantee Programme (RLEGP) was officially launched on **August 15, 1983**.1

· It was introduced by the central government with the aim of generating gainful employment for the **landless in rural areas**.2

· A primary objective was to improve and expand the employment opportunities for the rural landless, with a view to guaranteeing employment to at least one member of every landless household.3

Information Booster:

· The scheme was designed to focus on the creation of **durable community assets** (like village roads, drinking water wells, and minor irrigation works).

· It was a fully funded central sector scheme, meaning the entire cost was borne by the Central Government.4

Additional Knowledge:

· The RLEGP, along with other employment schemes like the National Rural Employment Programme (NREP), was later merged into the **Jawahar Rozgar Yojana (JRY)** in April 1989.

· The launch on **August 15th** was symbolic, coinciding with India's Independence Day.5

Q.34 What is the motto of INS Aravali?

A. "Ever Onward, Ever Secure"

B. "Strength through Vigilance"

C. "Maritime Security through Collaboration"

D. "Victory at Sea"

Answer: C

Sol:

The correct answer is (C) "Maritime Security through Collaboration"

Explanation:

· The **motto of INS Aravali** is "सामुद्रिकसुरक्षायाः सहयोगं", which translates to "**Maritime Security through Collaboration.**"

· It reflects the Indian Navy's vision of **cooperation, vigilance, and partnership** to ensure peace and security in the Indian Ocean Region (IOR).

· The motto aligns with the **MAHASAGAR vision** (*Mutual and Holistic Advancement for Security and Growth Across Regions*), positioning India as a **Preferred Security Partner**.

Information Booster:

· **Crest of INS Aravali:**

· **Mountain imagery** – Symbolising resilience of the Aravali range.

· **Rising sun** – Representing vigilance, resilience, and technological growth.

· The motto emphasizes **collaboration with regional and international partners** for maritime domain awareness (MDA).

Q.35 World water day is celebrated on _____.

A. 26 August

B. 15 August

C. 8 March

D. 22 March

Answer: D

Sol: The correct answer is **(D) 22 March.**

The theme of World Water day 2024 is **" Water for Peace".**

Information Booster:

- **26 August** is celebrated as Women's equality day/ Birth anniversary of Mother Teresa.
- **15 August** is celebrated as Independence day.
- **8 March** is celebrated as International Women's day.
- The theme for International Women's Day (IWD) in 2024 was **"Invest in women: Accelerateprogress"**

Q.36 The Vice-President of India is elected by the:

A. members of the houses of parliament and state legislative assemblies

B. members of the Rajya Sabha

C. members of the Lok Sabha

D. members of both houses of parliament

Answer: D

Sol: The Vice-President of India is elected by the members of both houses of parliament, not by the state legislative assemblies.

· The Vice-President is not directly elected by the public but is chosen by an electoral college consisting of the following members:

1. **Members of the Rajya Sabha (Council of States): The** elected and nominated members of the Rajya Sabha, which is the upper house of the Parliament of India, participate in the Vice-Presidential election.

2. **Members of the Lok Sabha (House of the People):** The elected members and nominated members of the Lok Sabha, which is the lower house of the Parliament of India, also participate in the Vice-Presidential election.

· The Vice-President serves as the ex-officio Chairman of the Rajya Sabha and plays a crucial role in the functioning of the upper house of parliament.

· The Vice-President shall hold office for a term of five years from the date on which he enters upon his office.

· As per the Constitution of India, the age for a candidate contesting elections for the post of Vice-President should be atleast 35 years of age

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Q.37 Which state hosts the Nehru trophy boat race?

A. Karnataka

B. Tamil Nadu

C. Kerala

D. Goa

Answer: C

Sol: **Correct Answer:** C) Kerala

Explanation: The **Nehru Trophy Boat Race** is an annual event held in the state of **Kerala**, specifically on the **Punnamada Lake** near **Alappuzha** (also known as Alleppey). This prestigious boat race is renowned for its **"Chundan Vallams"** or **snake boats**, which are traditional long boats propelled by numerous rowers in synchronized harmony.

Information Booster:

- **Inception:** The race was first conducted in **1952** to honor the visit of India's first Prime Minister, **Jawaharlal Nehru**, to Kerala. Impressed by the enthusiasm and vigor of the boatmen, Nehru donated a trophy, leading to the event being named the **Nehru Trophy Boat Race**.

- **Timing:** Traditionally, the race is held on the **second Saturday of August** each year, attracting thousands of spectators, including tourists from around the world.

- **Cultural Significance:** The event is not just a competition but a celebration of Kerala's rich cultural heritage, showcasing traditional music, vibrant festivities, and community participation.

Additional Information:

- **(A) Karnataka:** Known for festivals like **Mysore Dasara**, but not associated with the Nehru Trophy Boat Race.

- **(B) Tamil Nadu:** Celebrates events such as **Pongal** and **Jallikattu**, but does not host this boat race.

- **(D) Goa:** Famous for its **Carnival** and **Shigmo** festivals, but not linked to the Nehru Trophy Boat Race.

Q.38 In which year did RBI introduce the Base Rate system to enhance loan pricing transparency?

A. 2012

B. 2008

C. 2010

D. 2014

Answer: C

Sol: The correct answer is (c) 2010

Explanation:

• The Reserve Bank of India (RBI) introduced the Base Rate system effective from July 1, 2010.

• It replaced the earlier Benchmark Prime Lending Rate (BPLR) system, which lacked transparency.

• The objective was to ensure transparency in loan pricing and prevent banks from lending below the benchmark to certain preferred clients.

• Under the Base Rate system, no loan could be offered below the base rate (with limited exceptions).

Information Booster:
• The Base Rate was calculated using factors like the cost of funds, operating expenses, minimum margin to cover regulatory requirements, etc.
• It was applicable to all new loans and credit limits from July 2010 onward.

Q.39 When was the cement industry in India totally decontrolled?

A. 1982
B. 1991
C. 1989
D. 1980

Answer: B

Sol:

The correct answer is (b) 1991.
· The cement industry in India was totally decontrolled in **1991**.
Information Booster:
Historical Background:
· The cement industry in India was subjected to control measures and regulations since its establishment.
· Initially, the industry faced heavy government intervention in production, pricing, and distribution.
Phased Decontrol:
· The decontrol process began in a phased manner starting from 1977.
· Partial decontrol was implemented with the aim to encourage competition and efficiency.
Complete Decontrol in 1989:
· In 1989, the Indian government completely decontrolled the cement industry.
· This meant the removal of price and distribution controls, allowing market forces to determine prices.
Impact of Decontrol:
· Increased Production: Post-decontrol, there was a significant increase in cement production due to improved efficiency and competition.

Q.40 Which of the following statements is NOT true?

A. The Industrial Policy 1948 recommended setting up of a planning commission.
B. Self-reliant economy was the long-term objective of the Indian economy.
C. The first Five-Year Plan was launched for the period 1950 to 1955.
D. The Planning Commission was set up on 15 March 1950.

Answer: C

Sol: The correct answer is (c).
• First Five-Year Plan was **1951–1956**, not 1950–1955 → making (c) incorrect.
Information Booster:
• Industrial Policy Resolution (1948): public–private mixed economy.
• Planning Commission formed on **15 March 1950** by executive resolution.
• Self-reliance aimed at reducing foreign dependence.
Additional Knowledge:
• First Plan priorities: agriculture, irrigation, community development.
• Second Plan: Mahalanobis model, heavy industries.
• Planning Commission replaced by **NITI Aayog (2015)**.

Q.41 Which river originates near Mahabaleshwar in Maharashtra?

A. Krishna
B. Godavari
C. Mahanadi
D. Narmada

Answer: A

Sol:

Correct Answer: (a) Krishna
Explanation:
· The **Krishna River** originates from **Mahabaleshwar**, a hill station in the **Western Ghats** of Maharashtra.
· It is the **second-longest river** of Peninsular India.
Information Booster:

· Length: **about 1,400 km**.
· Major tributaries: **Tungabhadra, Bhima, Musi, Koyna**.
· Drains into **Bay of Bengal**, supporting agriculture in **Karnataka, Telangana, Andhra Pradesh**.
· Important for **irrigation and hydroelectricity**.
Additional Information (Why other options are incorrect):
· **(B) Godavari:** Originates near Nashik (Trimbak Plateau).
· **(C) Mahanadi:** Originates from Chhattisgarh (Sihawa Hills).
· **(D) Narmada:** Originates from Amarkantak in Madhya Pradesh.

Q.42   Which of the following countries is completely landlocked and shares an open border with India?

A. Bangladesh
B. Myanmar
C. Nepal
D. Afghanistan

Answer: C

Sol: **The correct answer is (C) Nepal**
Explanation:
● **Nepal** is a **completely landlocked country** with no access to the sea.
● It shares an **open border with India**, allowing free movement of people without visas or passports.
● India and Nepal share a long land boundary of about **1,770 km**.
Information Booster:
● Nepal is landlocked between **India (south, east, west)** and **China (north)**.
● Citizens of India and Nepal can travel and work freely in each other's countries.
● Nepal's major entry points from India include **Raxaul, Sunauli, Jogbani, Panitanki**, etc.
Additional Knowledge:
● **Bangladesh** – Not landlocked; has coastline along the Bay of Bengal.
● **Myanmar** – Not landlocked; has a long coastline.
● **Afghanistan** – Landlocked but **does NOT** share an open border with India

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Q.43   'A Meeting by the River' is a music album by which Indian musician, for which he won the Grammy for Best World Music Album in 1993?

A. Pandit Vishwa Mohan Bhatt
B. Pandit Shivkumar Sharma
C. Pandit Hariprasad Chaurasia
D. Pandit Ravi Shankar

Answer: A

Sol: **The correct answer is: (a) Pandit Vishwa Mohan Bhatt Explanation:**
· Pandit Vishwa Mohan Bhatt won the Grammy Award for the album "A Meeting by the River" in 1993.
· The album, featuring Bhatt and Ry Cooder, was celebrated for its fusion of Indian classical music and Western influences.
Information Booster:
· Vishwa Mohan Bhatt is a renowned Hindustani classical musician, known for his Mohan Veena.
· The album blended classical and folk music from both the East and West.
· The Grammy win helped introduce Indian classical music to a global audience.

Q.44   The Pradhan Mantri Grammen Sadak Yojana was launched in the year _____.

A. 2005
B. 2010
C. 2000
D. 1995

Answer: C

Sol: **The correct answer is: (c) 2000**

Explanation:

• **Pradhan Mantri Grammēn Sadak Yojana (PMGSY)** was launched in **2000**.
• Its main objective is to provide **all-weather road connectivity** to rural habitations.

Information Booster:

• Launched by **Government of India** under **Rural Development Ministry**.
• It improves **transport, market access, education, and health services** in rural areas.
• Major role in **reducing rural isolation** and supporting economic development.

Additional Knowledge:

• **2005:** National Rural Health Mission was launched.
• **2010:** National Solar Mission Phase-1 started.
• **1995:** Mid-Day Meal Scheme was expanded nationwide.

Q.45 The Karakattam (Karagattam) dance, known for its unique balancing of pitchers, is primarily prevalent in which of the following states of India?

A. Tamil Nadu
B. Kerala
C. Karnataka
D. Andhra Pradesh

Answer: A

Sol:

The correct answer is (a) Tamil Nadu
Explanation:
• Karakattam is a renowned folk dance of Tamil Nadu, performed in honour of the rain goddess Mariamman.
• Performers balance beautifully decorated pots (karakam) on their heads while executing rhythmic and complex dance movements.
• It is widely seen in temple festivals, rural celebrations, and cultural events across Tamil Nadu.
• The dance reflects devotion, festive spirit, and regional identity.
Information Booster:
• Two forms exist:
– Aatta Karakam – performed for entertainment during festivals.
– Sakthi Karakam – performed as a ritual inside temples.
• Instruments used include nadaswaram, thavil, and rhythmic percussion.
Additional Knowledge:
Kerala (Option b)
. Known for classical art forms like Kathakali and Mohiniyattam; not Karakattam.
Karnataka (Option c)
. Folk dances include Dollu Kunitha, Veeragase.
Andhra Pradesh (Option d)
. Known for Kuchipudi and regional folk dances; not Karakattam.

Q.46 If 35 percent of 1728 is 44 percent more than U, then what is the value of U?

A. 421
B. 418
C. 420
D. 422

Answer: C

Sol: Given:

35% of 1728 is 44% more than U. Find the value of U

Solution:

35% of 1728 $= U \times \left(1 + \dfrac{44}{100} \right)$

$\dfrac{35}{100} \times 1728 = U \times 1.44$

$604.8 = U \times 1.44$

$$U = \frac{604.8}{1.44} = 420$$

Q.47 A sphere with inner radius 7 cm is fully filled with a chemical costing Rs.24 per cm^3. What will be the cost of the chemical (in Rs.), if 50% is taken from the sphere?

A. 17248
B. 16248
C. 34496
D. 34248

Answer: A

Sol: Given :

Inner radius of sphere (r) = 7 cm

Cost of chemical = ₹24 per cm³

Chemical taken out = 50% of total volume

Formula Used :

Volume of sphere:
V = $\frac{4}{3}\pi r^3$

Cost of chemical taken out:
$\mathrm{Cost = Volume\ taken \times Cost\ per\ cm^3}$

Solution :

Total volume of the sphere

V = $\frac{4}{3} \times \frac{22}{7} \times 7^3$

= $\frac{4}{3} \times \frac{22}{7} \times 343$

= $\frac{4}{3} \times 22 \times 49$

= $\frac{4312}{3}$ cm³

Volume of 50% chemical taken out

$\frac{1}{2} \times \frac{4312}{3} = \frac{2156}{3}$ cm³

Cost of chemical taken

$\mathrm{Cost} = \frac{2156}{3} \times 24$

= 2156×8

= 17,248

Q.48 A milkman prepared water and milk mixture in a can with the water to milk ratio 5 : 7. He accidentally spilled 18 litres of the mixture. He then filled the can with water equal to the spilled mixture. This made the water to milk ratio 9 : 7. How much milk (in litres) did the can initially have?

A. 48
B. 42
C. 54
D. 40

Answer: B

Sol: **Given:**

Initial water : milk ratio = 5 : 7

18 litres of mixture spilled and replaced by 18 litres of water

Final water : milk ratio = 9 : 7

Required: Initial quantity of milk

Concept Used:

When mixture is removed, components are removed in the same ratio

Adding pure water changes only water quantity, not milk

Total volume remains unchanged

Solution:

Milk spilled = $18 \times \dfrac{7}{12}$ = 10.5

Let total volume = V

Initial milk = $V \times \dfrac{7}{12}$

Final milk = $V \times \dfrac{7}{16}$

Now,

$$V\left(\dfrac{7}{12} - \dfrac{7}{16}\right) = 10.5$$

$$V\left(\dfrac{28}{48} - \dfrac{21}{48}\right) = 10.5$$

$$V \times \dfrac{7}{48} = 10.5$$

$$V = \dfrac{10.5 \times 48}{7} = 72$$

Initial milk quantity = $72 \times \dfrac{7}{12}$ = 42 litres

Alternate Solution:

Initial water : milk ratio = 5 : 7

Final water : milk ratio = 9 : 7

milk ratio is equal;

change in water ratio (9 - 5) = 18

4 unit = 18

1 unit = 4.5 litre

total final mixture = (9 + 7) × 4.5 = 16 × 4.5 = 72 litre

As quantity doesn't change; So,

Initial milk quantity = $72 \times \dfrac{7}{12}$ = 42 litres

Q.49 If A, B and C can complete a task alone in 15 days, 20 days and 25 days. respectively, then in how many days can they complete the same task if they work together?

A. $\dfrac{300}{47}$

B. $\dfrac{150}{47}$

C. $\dfrac{225}{47}$

D. $\dfrac{75}{47}$

Answer: A

Sol: Given:

A can complete the task in 15 days,

B can complete the task in 20 days,

C can complete the task in 25 days,

Formula Used:

$$\text{Total work rate} = \frac{1}{A} + \frac{1}{B} + \frac{1}{C},$$

$$\text{Time to complete the task} = \frac{1}{\text{Total work rate}}.$$

Solution:

A's work rate is $\dfrac{1}{15}$ per day

B's work rate is $\dfrac{1}{20}$ per day.

C's work rate is $\dfrac{1}{25}$ per day.

Total work rate(A + B + C) = $\dfrac{1}{15} + \dfrac{1}{20} + \dfrac{1}{25}$

LCM of 15, 20, and 25 = 300

Total work rate = $\dfrac{20}{300} + \dfrac{15}{300} + \dfrac{12}{300} = \dfrac{47}{300}$

Time to complete the task = $\dfrac{1}{\frac{47}{300}} = \dfrac{300}{47}$ **days**

Alternate Method:

Total work = Efficiency × Time

LCM of 15, 20, and 25 = 300

Efficiencies of A = $\dfrac{300}{15}$ = 20 , B = $\dfrac{300}{20}$ = 15, C = $\dfrac{300}{25}$ = 12

Time taken together by A + B + C = $\dfrac{300}{20 + 15 + 12} = \dfrac{300}{47} days$

Q.50 If the circumference of a circle is increased from 4π to 8π, then its area is:

A. Tripled
B. Halved
C. Quadrupled
D. Doubled

Answer: C

Sol: **Given:**

Initial circumference = 4π

Final circumference = 8π

Formula used:
Circumference of a circle: $C = 2\pi r$

Area of a circle: $A = \pi r^2$

$$r = \frac{C}{2\pi}, \quad A = \pi r^2$$

Solution:
nitial radius:
$$r_1 = \frac{4\pi}{2\pi} = 2$$

Initial area:
$$A_1 = \pi(2)^2 = 4\pi$$

Final radius:
$$r_2 = \frac{8\pi}{2\pi} = 4$$

Final area:
$$A_2 = \pi(4)^2 = 16\pi$$

Comparing areas:
$$\frac{A_2}{A_1} = \frac{16\pi}{4\pi} = 4$$

Correct answer is (c) **Quadrupled.**

Q.51 If 20 men working 5 hours a day complete a work in 4 days. Then in how many days will 10 men working 10 hours a day finish the same work? Assume that all men work at same efficiency.

A. 5 days
B. 40 days
C. 4 days
D. 2 days

Answer: C

Sol: **Given:**
20 men working 5 hours a day complete a work in 4 days.
All men work at same efficiency.
Formula Used:
$$D_1 \times T_1 \times M_1 = D_2 \times T_2 \times M_2$$
Solution:
Here, $D_1 = 4 \text{ days}$
$T_1 = 5 \text{ hours}$
$M_1 = 20 \text{ men}$
$T_2 = 10 \text{ hours}$
and $M_2 = 10 \text{ men}$
Putting this values in the above formula get,
$4 \times 5 \times 20 = D_2 \times 10 \times 10$
$=> D_2 = \frac{400}{100}$
$=> D_2 = 4$

Q.52 When α=30°, what is the value of $sin\alpha cos\alpha$?

A. $\dfrac{\sqrt{3}}{3}$

B. $\dfrac{\sqrt{3}}{2}$

C. $\dfrac{\sqrt{3}}{4}$

D. $\dfrac{3}{4}$

Answer: C

Sol: Given:

α = 30 degrees

Formula used:

sin 30° = $\dfrac{1}{2}$

cos 30° = $\dfrac{\sqrt{3}}{2}$

Solution:

Value of sin α × cos α = sin 30° × cos 30°

$= \dfrac{1}{2} \times \dfrac{\sqrt{3}}{2} = \dfrac{\sqrt{3}}{4}$

Q.53 Find the area of the triangle whose sides are 5 cm , 12 cm and 13 cm.

A. 46 sq. cm

B. 42 sq. cm.

C. 30 sq. cm.

D. 38 sq. cm.

Answer: C

Sol: Given:

a = 5 cm, b = 12 cm, c = 13 cm

Formula Used:

semi perimeter(s) = $\dfrac{a+b+c}{2}$

Area of triangle = $\sqrt{s(s-a)(s-b)(s-c)}$

Solution:

$s = \dfrac{5+12+13}{2} = \dfrac{30}{2} = 15$

$\text{Area} = \sqrt{15(15-5)(15-12)(15-13)}$

$= \sqrt{15 \times 10 \times 3 \times 2} = \sqrt{900} = 30 cm^2$

Q.54 How many prime numbers are there between 30 and 60?

A. 11

B. 5

C. 9

D. 7

Answer: D

Sol: **Given :**
Find the number of prime numbers between 30 and 60.

Concept Used :
A prime number has only two factors: 1 and itself.

Solution :
List and check primes between 30 and 60:

31, prime
32, 33, 34, 35, 36 (not prime)
37, prime
38, 39, 40 (not prime)
41, prime
42 (not)
43, prime
44, 45, 46 (not prime)
47, prime
48, 49, 50 (not prime)
51 (not prime)
53, prime
54, 55, 56 (not prime)
57 (not prime)
59, prime

Prime numbers are:
31, 37, 41, 43, 47, 53, 59

Total primes = 7

Q.55 The value of $\sqrt{324} + \sqrt{0.0324} - \sqrt{5.29} = $

A. 8.34
B. 6.12
C. 1.5
D. 15.88

Answer: D

Sol: **Given:**
$\sqrt{324} + \sqrt{0.0324} - \sqrt{5.29}$

Solution:

$\sqrt{324} + \sqrt{0.0324} - \sqrt{5.29}$

$= \sqrt{324} + \sqrt{\dfrac{324}{10000}} - \sqrt{\dfrac{529}{100}}$

$= 18 + \dfrac{18}{100} - \dfrac{23}{10}$

$= 18 + 0.18 - 2.3$

$= 18.18 - 2.3 = 15.88$

Q.56 A and B together can finish a piece of work in 10 days. B and C together can finish it in 15 days. A and C together can finish it in 18 days. In how many days will A, B and C finish it together?

A. 10 days
B. 7 days
C. 9 days
D. 8 days

Answer: C

Sol: Given:

A and B together can finish the work in 10 days.

B and C together can finish the work in 15 days.

A and C together can finish the work in 18 days.

Solution:

Let the total work = 1 unit.

Let A's 1-day work = A
Let B's 1-day work = B
Let C's 1-day work = C
From given conditions:

$A + B = \dfrac{1}{10}$

$B + C = \dfrac{1}{15}$

$A + C = \dfrac{1}{18}$

Add all three equations:

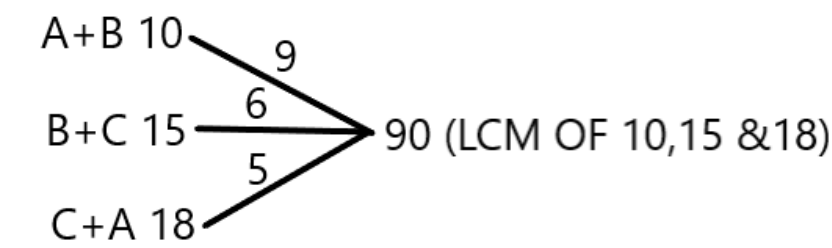$(A + B) + (B + C) + (A + C) = \dfrac{1}{10} + \dfrac{1}{15} + \dfrac{1}{18}$

$2A + 2B + 2C = \dfrac{9 + 6 + 5}{90} = \dfrac{20}{90} = \dfrac{2}{9}$

$A + B + C = \dfrac{1}{9}$

Time taken by A, B, and C together:

$\text{Time} = \dfrac{1}{A + B + C} = \dfrac{1}{\frac{1}{9}} = 9 \text{ days}$

Alternate Method:

Work done by (A + B + C) = $2 \times \dfrac{90}{20} = 9$

Q.57 A man travels at 50 km/hr for 2 hours, the next at 40 km/hr for 2.5 hours and the next at 60 km/hr for 3 hours. What is his average speed (in km/hr, rounded off to two decimal places) for the whole journey?

A. 50.67
B. 48.33
C. 46.67
D. 53.33

Answer: A

Sol: **Given:**

Speed = 50 km/hr, Time = 2 hours

Speed = 40 km/hr, Time = 2.5 hours

Speed = 60 km/hr, Time = 3 hours

Formula Used:

Total distance = Speed × Time

Average speed = Total distance ÷ Total time

Solution:

Distance for first part = 50 × 2 = 100 km

Distance for second part = 40 × 2.5 = 100 km

Distance for third part = 60 × 3 = 180 km

Total distance = 100 + 100 + 180 = 380 km

Total time = 2 + 2.5 + 3 = 7.5 hours

Average speed = $\dfrac{380}{7.5}$ = 50.67 km/hr

Q.58 On a marked price, the difference between the selling prices with a single discount of 40% and two successive discounts of 15% and 20% is ₹400, then find the marked price (in ₹).

A. ₹5,150

B. ₹4,900

C. ₹5,000

D. ₹4,950

Answer: C

Sol: **Given:**

Difference between SP at 40% single discount and SP at successive discounts of 15% & 20% = ₹400

Find the Marked Price (MP)

Formula Used:

Selling Price = MP × (1 − Discount%)

Solution:

Single discount = 40%

→ Selling Price$_1$ = 0.60 MP

Successive discounts = 15% & 20%

Net discount = 1 - (0.85 × 0.80)

= 1 - 0.68

= 32%

→ Selling Price$_2$ = 0.68 MP

Given difference:

SP$_2$ – SP$_1$ = 400

0.68 MP - 0.60 MP = 400

0.08 MP = 400

MP = $\dfrac{400}{0.08}$ = 5000

Thus, Marked Price = ₹5000

Q.59 A car runs for 11 hours. For the first 100 km, the car runs with a certain speed and then it increases its speed by 15 km/h to cover the remaining 280 km. How much time (in hours) does it take to cover the first 100 km?

A. 5
B. 7
C. 3
D. 4

Answer: D

Sol: Given:

Total time = 11 hours

First distance = 100 km at speed = x km/h

Second distance = 280 km at speed = x + 15 km/h

Formula Used:

Time = Distance ÷ Speed.

Solution:

From the condition;

$$\frac{100}{x} + \frac{280}{x+15} = 11$$

100(x + 15) + 280x = 11x(x + 15)

$100x + 1500 + 280x = 11x^2 + 165x$

$380x + 1500 = 11x^2 + 165x$

$11x^2 - 215x - 1500 = 0$

$11x^2 - 275x + 60x - 1500 = 0$

$(11x^2 - 275x) + (60x - 1500) = 0$

11x(x − 25) + 60(x − 25) = 0

(11x + 60)(x − 25) = 0

speed can't be negative, so

x = 25 km/h

So, time to cover first 100 km = 100 ÷ 25 = 4 hours

Q.60 If 'Head' appears consecutively in the first three tosses of a fair/unbiased coin, what is the probability of 'Head' appearing in the fourth toss also?

A. $\frac{1}{8}$

B. $\frac{7}{8}$

C. $\frac{1}{16}$

D. $\frac{1}{2}$

Answer: D

Sol: **Given:**

Coin is fair/unbiased → Probability(Head) = $\frac{1}{2}$, Probability(Tail) = $\frac{1}{2}$

Concept Used:

Since each toss of a fair coin is independent, the result of previous tosses does not affect the next.

P(Head on 4th toss) = $\frac{1}{2}$

Solution:

No matter what happened in the first three tosses (all Heads), the probability of Head in the fourth toss remains:

= $\frac{1}{2}$

Q.61 The sum of two positive numbers is 45 and their difference is 19. What are the numbers?

A. 32, 13
B. 30, 15
C. 25, 20
D. 31, 15

Answer: A

Sol: Given:

sum of two positive numbers is 45

difference of these numbers is 19

Numbers = ?

Solution:

Let the two numbers be x and y.

The sum of the numbers is 45

x + y = 45 (Equation 1)

The difference between the numbers is 19

x − y = 19 (Equation 2)

Add both the equations

$$(x + y) + (x - y) = 45 + 19$$

$$2x = 64$$

$$x = \frac{64}{2} = 32$$

Substitute x = 32 into equation (1)

$$32 + y = 45$$

$$y = 45 - 32 = 13$$

Thus the two numbers are 32 and 13.

Q.62 What is the value of $\log_{10}(0.00001)$?

A. -4
B. -5
C. 0
D. 4

Answer: B

Sol: Given:

$$\log_{10}(0.00001)$$

Concept Used:

$\log_{10} 10^n = n\log_{10} 10 = n \times 1 =$ n

$$\log 10^{10} = 1$$

Solution:

$$\log_{10}(0.00001)$$

$$= \log_{10}(10^{-5})$$

= $-5log_{10}10$

= -5

Q.63 A shopkeeper gives two successive discounts of 10% and 20% on the marked price of an article and still makes a profit of 8%. By what percent is the marked price greater than the cost price?

A. 30
B. 50
C. 28
D. 38

Answer: B

Sol: **Given:**
Successive discounts = 10% and 20%
Profit = 8%
Find: % by which Marked Price (MP) is more than Cost Price (CP).

Formula Used:

SP in terms of MP (Marked Price)

If successive discounts d_1% and d_2%:

SP = $MP \times \left(1 - \dfrac{d_1}{100}\right)\left(1 - \dfrac{d_2}{100}\right)$

SP in terms of CP (Cost Price)

If profit % is given:

SP = $CP \times \left(1 + \dfrac{\text{Profit }\%}{100}\right)$

Solution:
Successive discount factor:
$(1 - 0.10)(1 - 0.20) = 0.9 \times 0.8 = 0.72$
So,
SP = 0.72 MP

Profit relation:
SP = 1.08 CP
Now,

0.72 MP = 1.08 CP

MP = $\dfrac{1.08}{0.72}$ CP

MP = 1.5 CP

Thus, MP is:

1.5 CP = CP + 0.5 CP

So,
MP is 50% more than CP

Q.64 The opposite faces of a 6 cm side cube is coloured with black, red and green and cut into 1 cm cubes then the number of cubes with only one face is coloured which is red is -

A. 72
B. 36
C. 32
D. 16

Answer: C

Sol: Given:

A cube with a side length of 6 cm is colored on opposite faces with black, red, and green.
The cube is then cut into 1 cm cubes.

Concept used:

For a cube of side n × n × n painted on all sides which is uniformly cut into smaller cubes.

Solution:

When a 6 cm cube is cut into 1 cm cubes, the total number of smaller cubes will be: 6 × 6 × 6 = 216

Cubes with only one face colored will be located on the faces of the larger cube but not on the edges or corners. Each face of the cube has: 6 × 6 = 36

Each edge of a face has 6 cubes, and each face has 4 edges: 4 × 6 = 24

Cubes at the corners, which are included in the edges, must not be double-counted: 24 − 4 = 20 (since each face has 4 corners).

The number of cubes with only one face colored red (excluding the edges and corners) on a single face is,

36 − 20 = 16

Since there are only 2 faces colored red and opposite each other, the total number of cubes with only one face colored red is,

2 × 16 = 32

Thus, the correct answer is (c).

Alternative method:

The number of cubes with only one face is coloured which is red is $= (n-2)^2 \times 2$
$(6-2)^2 \times 2$
$16 \times 2 = 32$

Q.65 An apple costs ₹6 each and a mango costs ₹5 each. X spends ₹42 on these fruits. The number of apples purchased is

A. 2
B. 3
C. 4
D. 5

Answer: A

Sol: Solution:

Given the cost of one apple = ₹6

The cost of one mango = ₹5

Then the cost of x apple and y mango:

6x + 5y = 42

6x = 42 - 5y

x = (42 - 5y)/6

Clearly, x is a whole number, only when (42 −5y) is divisible by 6.

Let, y = 0

x = (42 - 5 × 0)/6 = 42/6 = 7

But it is not in the given options

Let, y = 6

x = (42 - 5 × 6)/6 = (42 - 30)/6

x = 12/6 = 2

∴ **The minimum number of Apple X can buy is 2.**

Q.66 Rs. 15,500 were divided among A, B and C, such that 7 times the share of A = 4 times the share of B = 2 times the share of C. Find the share of A.

A. Rs. 2,580
B. Rs. 2,542
C. Rs. 2,480
D. Rs. 2,479

Answer: C

Sol: Given:

Rs. 15,500 is divided among A, B, C such that:

7A = 4B = 2C. Find A's share.

Solution:

Let 7A = 4B = 2C = k

Then:

$A = \dfrac{k}{7}$, $B = \dfrac{k}{4}$, $C = \dfrac{k}{2}$

Total:

$$k\left(\frac{1}{7} + \frac{1}{4} + \frac{1}{2}\right) = 15500$$

$$k\left(\frac{4 + 7 + 14}{28}\right) = 15500$$

$$k\left(\frac{25}{28}\right) = 15500$$

$$k = 15500 \times \frac{28}{25} = 17360$$

$$A = \frac{k}{7} = \frac{17360}{7} = \text{Rs. } 2480$$

Alternate Solution:

Given: $7A = 4B = 2C$
LCM(7,4,2) = 28

A : B : C
4 : 7 : 14

Total = 4+7+14 = 25u   25u = 15,500
                                 1u = 620

A = 4 × 620 = 2480

Q.67 Find a point on the y-axis which is equidistant from the points A (6, 5) and B (-4, 3).

A. (9, 0)
B. (0, 9)
C. (0, 0)
D. (9, 9)

Answer: B

Sol: **Given:**
Points: A = (6, 5), B = (−4, 3)
Let point P on the y-axis be (0, y), and it is equidistant from A and B.
Formula used:
Distance formula:
Distance $= \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$

Solution:
$PA = \sqrt{(6-0)^2 + (5-y)^2} = \sqrt{36 + (5-y)^2}$
$PB = \sqrt{(-4-0)^2 + (3-y)^2} = \sqrt{16 + (3-y)^2}$

Equating the distances:
$\sqrt{36 + (5-y)^2} = \sqrt{16 + (3-y)^2}$

Squaring both sides:
$36 + (5-y)^2 = 16 + (3-y)^2$
$36 + 25 - 10y + y^2 = 16 + 9 - 6y + y^2$
$61 - 10y + y^2 = 25 - 6y + y^2$

Canceling y^2 :

$61 - 10y = 25 - 6y$
$36 = 4y => y = 9$

So, the point is (0, 9)
Correct answer is (b) **(0, 9)**

Q.68 The coordinates of the centroid of the triangle ABC whose vertices are A(-5, 7), B(-4, -5) and C(4, 5), is

A. $(-\frac{5}{3}, \frac{7}{3})$
B. $(-\frac{7}{3}, \frac{5}{3})$
C. $(-\frac{4}{3}, \frac{7}{3})$
D. $(-\frac{5}{3}, -\frac{7}{3})$

Answer: A

Sol: **Given:**

Coordinates of A = (-5, 7)

Coordinates of B = (-4, -5)

Coordinates of C = (4, 5)

Formula Used:

The formula to find the coordinates of the centroid of a triangle is:

Centroid (G) = $\left(\dfrac{x_1 + x_2 + x_3}{3}, \dfrac{y_1 + y_2 + y_3}{3} \right)$

Where (x_1, y_1), (x_2, y_2), and (x_3, y_3) are the coordinates of the vertices of the triangle.

Solution:

Coordinates of A = (-5, 7)

Coordinates of B = (-4, -5)

Coordinates of C = (4, 5)

Substitute the coordinates into the formula for the centroid:

$x = \dfrac{-5 + (-4) + 4}{3} = \dfrac{-5}{3}$
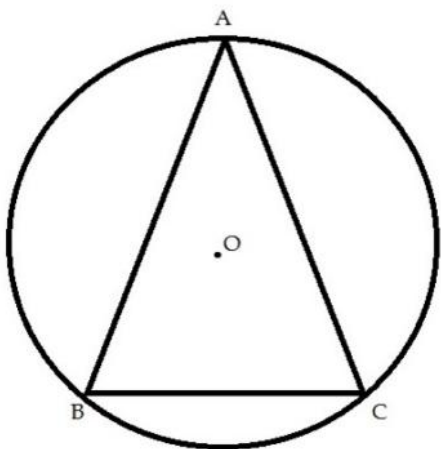
$y = \dfrac{7 + (-5) + 5}{3} = \dfrac{7}{3}$

Therefore, the coordinates of the centroid are: $(\dfrac{-5}{3}, \dfrac{7}{3})$

Q.69 ΔABC is inscribed in a circle with centre O. If AB = 35 cm, BC = 12 cm and AC = 37 cm, then what is the circumradius of a triangle?

A. 18.5 cm
B. 13.5 cm
C. 16.5 cm
D. 14.5 cm

Answer: A

Sol: **Given:**

ΔABC is inscribed in a circle with centre O
AB = 35 cm, BC = 12 cm and AC = 37 cm
Formula Used:
Length of circumradius = $\dfrac{a \times b \times c}{4 \times Area\,of\,triangle}$
Where a,b,c are sides of triangle
Area = $\sqrt{s(s-a)(s-b)(s-c)}$
Where s is semi perimeter

$$s = \frac{a+b+c}{2}$$

Solution:

$$s = \frac{a+b+c}{2} = \frac{(35+12+37)}{2} = \frac{84}{2} = 42cm$$

Area of ΔABC = $\sqrt{42(42-35)(42-12)(42-37)}$

$= \sqrt{42 \times 7 \times 30 \times 5}$

= 210 cm^2

Length of circumradius = $\dfrac{35 \times 12 \times 37}{4 \times 210} = \dfrac{15,540}{840} = 18.5cm$

Alternate Solution:

As we know 35, 12, 37 is a pythagorean triplet

So, diameter of the circle be the hypotenuse i.e = 37

so radius of incircle = $\dfrac{37}{2} = 18.5cm$

Q.70 A sum of money triples itself at a certain rate of compound interest in 5 years. In how many years will it amount to 9 times of itself?

A. 11 years
B. 7 years
C. 10 years
D. 19 years

Answer: C

Sol: **Given:**

A sum of money becomes 3 times in 5 years at compound interest.

Find: Time required for it to become 9 times.

Formula Used:

A = $P(1+r)^t$

Solution:

Given:

$(1+r)^5 = 3$

We need time (T) such that:

$(1+r)^T = 9$

But

$9 = 3^2$

So,

$(1+r)^T = (1+r)^{2 \times 5}$

Thus,

T = 10 years

Alternate Solution:

Q.71 At what time between 2 : 30 p.m. and 3 : 30 p.m. will the hands of a clock be together?

A. $11 + \dfrac{4}{16}$

B. $16 + \dfrac{4}{11}$

C. $14 + \dfrac{16}{11}$

D. $14 + \dfrac{6}{11}$

Answer: B

Sol: The hands will be together in a watch means angle between hands will be ZERO (0)

Hands between 2:30 to 3:00 cant be together

Angle = 0, H = 3

Formula used: $\text{Angle} = \left| (30 \times \text{Hour}) - \left(\dfrac{11}{2} \times \text{Minutes} \right) \right|$

$0 = 30 \times 3 - \left(\dfrac{11}{2} \times M \right)$

$90 = \left(\dfrac{11}{2} \times M \right)$

$M = \dfrac{180}{11}$

$\mathbf{M = 16 + \dfrac{4}{11}}$

Thus, correct option is (b).

Q.72 If the time in the mirror image of a 12 – hour clock is 3 : 55, what is the actual time?

A. 8 : 05

B. 8 : 25

C. 7 : 05

D. 7 : 25

Answer: A

Sol: Formula for Mirror Time in a 12-Hour Clock:

Actual Time=12:00−Mirror Time

Plug in the Mirror Time: Mirror time = 3:55

Actual Time=12:00−3:55

Perform Subtraction:

Subtract minutes: 60−55 = 05 minutes.

Subtract hours: 12−3−1=8 hours (adjusting for the minute borrow).

The actual time is **8:05**

Q.73 Select the term from among the given options that can replace the question mark (?) in the following series.

A, D, H, M, S, ?

A. X
B. Z
C. Y
D. F

Answer: B

Sol: Given:

A, D, H, M, S, ?

1	2	3	4	5	6	7	8	9	10	11	12	13
A	B	C	D	E	F	G	H	I	J	K	L	M
Z	Y	X	W	V	U	T	S	R	Q	P	O	N
26	25	24	23	22	21	20	19	18	17	16	15	14

Logic: Letter increase pattern +3,+4,+5,+6 ....

A+3 → D, D+4→ H, H+5 → M, M+6 → S, S+7 → **Z**

So, the next letter will be: **Z**

Thus, the correct option is: (b)

Q.74 A sequence is given, in which one term is missing. Choose the correct alternative from the given ones that will complete the sequence

CQ, AN, YK, WH, ?

A. UE
B. UD
C. VE
D. VD

Answer: A

Sol: Given:

CQ, AN, YK, WH, ?

Logic: 1st -2, 2nd-3

1	2	3	4	5	6	7	8	9	10	11	12	13
A	B	C	D	E	F	G	H	I	J	K	L	M
Z	Y	X	W	V	U	T	S	R	Q	P	O	N
26	25	24	23	22	21	20	19	18	17	16	15	14

1st letter:

C - 2 → A, A - 2 → Y, Y - 2 → W, W - 2 → U

2nd letter:

Q - 3 → N, N - 3 → K, K - 3 → H, H - 3 → E

So, the missing term is **UE**.

Thus, the correct option is (a).

Q.75 What should come in place of the question mark (?) in the given series?

99, 100, 102, 106, 114, ?

A. 130
B. 135
C. 125
D. 103

Answer: A

Sol: **Given:** 99, 100, 102, 106, 114, ?

Logic: Differences are doubling: +1, +2, +4, +8, next +16.

99 + 1 = 100

100 + 2 = 102

102 + 4 = 106

106 + 8 = 114

114 + 16 = 130

So, ? = 130.

Thus, the correct option is **(A)130.**

Q.76 Which number will replace the question mark (?) in the following series?

7, 16, 28, 40, ?, 72, 88, 106, 126

A. 60

B. 56

C. 52

D. 54

Answer: D

Sol: **Given**: 7, 16, 28, 40, ?, 72, 88, 106, 126

Prime Numbers: 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47, 53, 59, 61, 67..

Logic: Starting from the first prime number, sum of two alternate prime numbers gives the numbers of the given series.

2 + 5 = **7**, 5 + 11 = **16**, 11 + 17 = **28**, 17 + 23 = **40**, 23 + 31 = **54**, 31 + 41 = **72**, 41 + 47 = **88**, 47 + 59 = **106**, 59 + 67 = **126**

So, **54** will be the missing number.

Thus, the correct option is (d).

Q.77 Select the option that is related to the third word in the same way as the second word is related to the first word.

(The words must be considered as meaningful English words and must not be related to each other based on the number of letters/number of consonants/vowels in the word)

Teeth : Dentist :: Bones : ?

A. Cardiologist

B. Orthodontist

C. Orthopaedic

D. Dermatologist

Answer: C

Sol: **Given:** Teeth : Dentist :: Bones : ?

Teeth : Dentist → A Dentist is a specialist who treats teeth-related issues.

Bones : ? → We need a specialist who treats bone-related issues.

Option (a) : Cardiologist **(Incorrect)**

A Cardiologist specializes in treating heart-related diseases, not bones.

Option (b): Orthodontist **(Incorrect)**

An Orthodontist is a type of dentist who corrects misaligned teeth and jaws.

They do not deal with bones in general.

Option (c) : Orthopaedic **(Correct)**

An Orthopaedic doctor specializes in treating bone and joint disorders.

This matches the relation we are looking for.

Option (d) : Dermatologist **(Incorrect)**

A Dermatologist specializes in treating skin-related diseases, not bones.

Thus, the correct option is **(c) Orthopaedic**

Q.78 Select the option that is related to the third number in the same way as the second number is related to the first number.

15 : 90 :: 18 : ?

A. 126

B. 146

C. 164

D. 261

Answer: A

Sol: **Given**: 15 : 90 :: 18 : ?

Logic: Second = [(Number ÷ 3) + 1] × First
For, 15 : 90
15 uses Number = 15 → 15 × (5 + 1) = 90
Similarly,
18 uses Number = 18 → 18 × (6 + 1) = **126**
Thus, correct option is (a).

Q.79   Select the option that is related to the third letter-cluster in the same way as the second letter-cluster is related to the first letter-cluster.
PG : VM :: AB : ?

A. FH
B. GH
C. FG
D. HI

Answer: B

Sol:

1	2	3	4	5	6	7	8	9	10	11	12	13
A	B	C	D	E	F	G	H	I	J	K	L	M
Z	Y	X	W	V	U	T	S	R	Q	P	O	N
26	25	24	23	22	21	20	19	18	17	16	15	14

Given - PG : VM :: AB : ?
Step 1: Find positions of letters in the alphabet
Now check the difference:
P (16) → V (22) → +6
G (7) → M (13) → +6
Logic = Both letters increased by +6
Apply the same logic to AB
A + 6 = G
B + 6 = H
So the required pair is: GH
GH is option (B)
Correct Answer: (B) GH

Q.80   Pointing to a photo of an old man, Kalyani said, "He is the husband of the sister of my mother." How is the old man related to Kalyani?
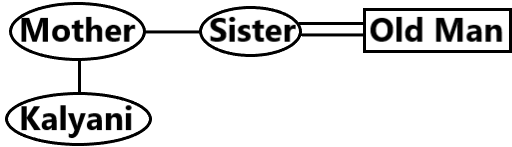
A. Uncle
B. Son
C. Father
D. Brother

Answer: A

Sol: Given:

Pointing to a photo of an old man, Kalyani said, "He is the husband of the sister of my mother."

Symbol in Diagram	Meaning
- / O	Female
+ / □	Male
=	Married Couple
—	Siblings
│	Difference Of Generation

From the given information blood relation diagram will be.


```
(Mother)——(Sister)══[Old Man]
   │
(Kalyani)
```

The old man is **Uncle** of Kalyani.
Thus, correct option is (a).

Q.81 In a certain code language, 'ABSENCE' is written as 'DWVZQXH' and 'SERVICE' is written as 'VZUQLXH. How will 'CONSENT' be written in that language?

A. EJPNGIW
B. FIQMHHQ
C. EIPMGHQ
D. FJQNHIW

Answer: D

Sol: Given: In a certain code language, 'ABSENCE' is written as DWVZQXH' and 'SERVICE' is written as 'VZUQLXH.

1	2	3	4	5	6	7	8	9	10	11	12	13
A	B	C	D	E	F	G	H	I	J	K	L	M
Z	Y	X	W	V	U	T	S	R	Q	P	O	N
26	25	24	23	22	21	20	19	18	17	16	15	14

Logic: Letters are increasing + 3 and decreasing - 5 place alternately.
For, ABSENCE - DWVZQXH
A + 3 = D, B - 5 = W, S + 3 = V, E - 5 = Z, N + 3 = Q, C - 5 = X, E + 3 = H
For, SERVICE - VZUQLXH
S + 3 = V, E - 5 = Z, R + 3 = U, V - 5 = Q, I + 3 = L, C - 5 = X, E + 5 = H
Similarly,
CONSENT - ?
C + 3 = **F**, O - 5 = **J**, N + 3 = **Q**, S - 5 = **N**, E + 3 = **H**, N - 5 = **I**, T + 3 = **W**
So, CONSENT is written as **FJQNHIW**.
Thus, correct option is (d).

Q.82 In a certain code language, 'LIPS' is written as 'HELO'. What is the code for 'GUNS' in that code language?

A. CQKP
B. CQJO
C. CQKO
D. CQJP

Answer: B

Sol: Given:
LIPS → HELO, GUNS → ?

1	2	3	4	5	6	7	8	9	10	11	12	13
A	B	C	D	E	F	G	H	I	J	K	L	M
Z	Y	X	W	V	U	T	S	R	Q	P	O	N
26	25	24	23	22	21	20	19	18	17	16	15	14

Logic: Each letter -4 in alphabetically.
LIPS → HELO
L - 4 → H
I - 4 → E
P - 4 → L

S - 4 → O
Similarly,
GUNS → ?
G - 4 → C
U - 4 → Q
N - 4 → J
S - 4 → O
So, GUNS → CQJO
Thus, the correct option is: (b).

Q.83 In a certain code, 'books are knowledge' is coded as 'mk xp zj', 'knowledge is power' is coded as 'zk xp vr', and 'power brings success' is coded as 'vr mk gt'. What is the code for 'is' in that code? (All codes are two-letter codes.)

A. xp
B. mk
C. vr
D. zk

Answer: D

Sol: Given:
In a certain code, 'books are knowledge' is coded as 'mk xp zj', 'knowledge is power' is coded as 'zk xp vr', and 'power brings success' is coded as 'vr mk gt'.

books   are   knowledge = mk xp zj

knowledge is power = zk xp vr

power brings success = vr mk gt

So, the code of '**is**' is '**zk**'.
Thus, correct option is (d).

Q.84 Amongst six friends A, B, C, D, E and F, each has a different height. A is taller than only three other friends. B is taller than F, D is taller than only one friend. C is taller than D but shorter than F. Who is the second tallest among all the friends?

A. B
B. C
C. A
D. F

Answer: D

Sol: Given: A is taller than only three other friends.
B is taller than F.
D is taller than only one friend.
C is taller than D but shorter than F.
From the given information arrangement will be:

B > F > A > C > D > E

So, **F** is the **second** tallest among all friends.
Thus, Option **D** is the correct answer.

Q.85 What will be the day of the week on 26 January 2028?

A. Wednesday
B. Tuesday
C. Friday
D. Monday

Answer: A

Sol: Every 400 years = 0 odd days
So, 2000 years = 0 odd days

Count odd days from 2000 to 2027
6 leap years → 6 × 2 = 12 odd days
21 normal years → 21 × 1 = 21 odd days
Total = (12 +21)= 33 odd days → 33 ÷ 7 = **5 odd days**
Add days from 1 Jan to 26 Jan 2028
26 days → 26 ÷ 7 =5 odd days
Total odd days =
5 (from years) + 5 (from Jan) = 10 odd days
10 ÷ 7 = 3 odd days (**Wednesday**)

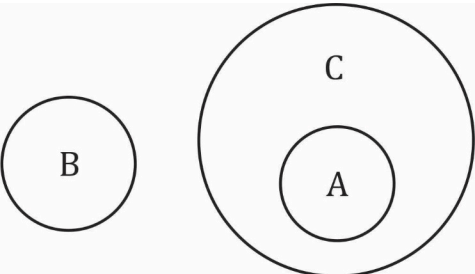| Odd Days	Day
0	Sunday
1	Monday
2	Tuesday
3	Wednesday
4	Thursday
5	Friday
6	Saturday

Q.86 Which Venn diagram correctly depicts the relationship between the following?
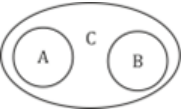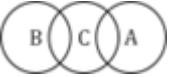(A) Computer
(B) Table
(C) Electronic

A.

B.

C.

D.
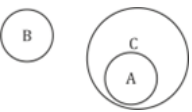
Answer: B

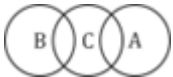**Sol: Given**: (A) Computer (B) Table (C) Electronic

Computer are **electronic**. But **table** is different from both.
Thus, correct option is (b).

Q.87 Which of the following correctly represents the relationship between?
A. Metal
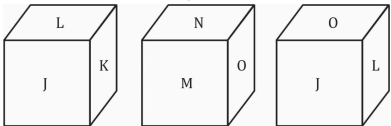B. Glass
C. Vessels

A. (A) (B) (C)

B. (B) (C/A)

C. (A) (C) (B)

D. (B)(C)(A)

Answer: D

Sol: **Given:** A. Metal B. Glass C. Vessels

(B)(C)(A)

Glass and **Metal** are not the only material used to make a **Vessel**.
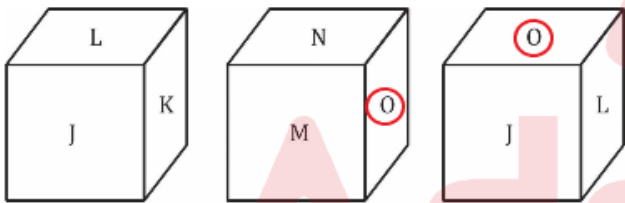Thus, correct option is (d).

Q.88 Three different positions of the same non-standard dice are shown. Which letter will be on the face opposite to the face with the letter 'M'?
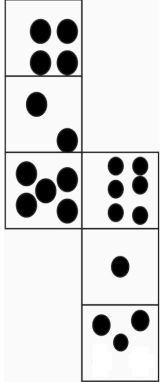

A. O
B. K
C. L
D. J

Answer: C

Sol: If two dice have the same face value in the given image then their clockwise or anticlockwise wise number are known as opposite numbers in dice.

O--L--J
0--M--N
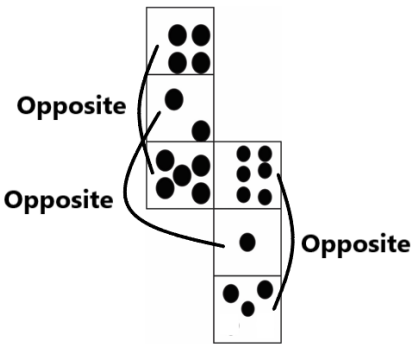So, opposite of M will be L.
Thus, the correct option is (c).

Q.89 How many dots lie opposite to the face having five dots, when the given figure is folded to form a cube?

A. 4
B. 3
C. 2
D. 1

Answer: A

Sol:

So, the opposite of **five dots** is **4**.
Thus, correct option is (a).

Q.90 Seven people G, H, I, K, L, M and S are sitting in a row, facing north. Only three people sit between I and S. M sits to the immediate left of S. No one sits to the right of H. Only two people sit between H and M. K sits to the immediate right of L. How many people sit between G and K?

A. One
B. Three
C. Four
D. Two

Answer: D

Sol: Given:

Seven people G, H, I, K, L, M and S are sitting in a row, facing north.
Only three people sit between I and S.
M sits to the immediate left of S.
No one sits to the right of H.
Only two people sit between H and M.
K sits to the immediate right of L.
From the given information seating arrangement will be;

I	L	K	M	S	G	H

Two people sit between G and K.
Thus, correct option is (d).

Q.91 Six students are sitting around a circular table facing the centre. Harley is an immediate neighbour of both Ella and Cooper. Glen is sitting first to the right of Ella. Fred is sitting second to the left of Harley. Denis is an immediate neighbour of both Fred and Glen. Who is sitting between Cooper and Denis?

A. Fred
B. Ella
C. Harley
D. Glen

Answer: A

Sol: Given:

Six students are sitting around a circular table facing the centre.
Harley is an immediate neighbour of both Ella and Cooper.
Glen is sitting first to the right of Ella.
Fred is sitting second to the left of Harley.
Denis is an immediate neighbour of both Fred and Glen.

From the given information seating arrangement will be;
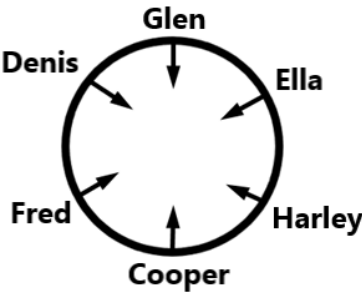
Fred is sitting between Cooper and Denis.
Thus, correct option is (a).

Q.92 Rohan said pointing to a girl, "She is the elder of the two sisters of the son of my father's wife." How is the girl related to Rohan?
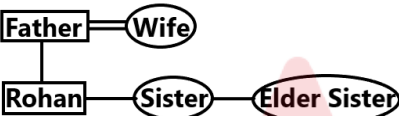
A. Father's Sister
B. Grandmother
C. Mother
D. Sister

Answer: D

Sol: Given:

Rohan said pointing to a girl, "She is the elder of the two sisters of the son of my father's wife."

Symbol in Diagram	Meaning
- / O	Female
+ / □	Male
=	Married Couple
—	Siblings
		Difference Of Generation

From the given information blood relation diagram will be.

The girl is **sister** of Rohan.
Thus, correct option is (d).

Q.93 Select the correct mirror image of the given figure when the mirror is placed at MN as shown below.

M

M p 3 9 b e

N

A. ə d ℓ Ɛ q M

B. ə d 6 Ɛ q W

C. ə q Ɛ ℓ d M
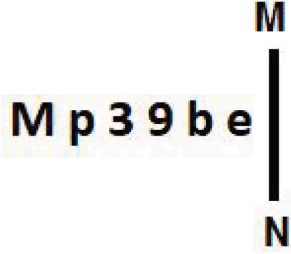
D. e d ℓ 3 p M

Answer: A

Sol: The mirror image of the given letter/ number as shown below.

M

Mp39be | ∂d66ↃM

N

| Letters	Mirror Images	Letters	Mirror Images	Letters	Mirror Images	Letters	Mirror Images
a	ɒ	h	ʜ	o	o	v	v
b	d	i	i	p	q	w	w
c	ɔ	j	ᒐ	q	p	x	x
d	b	k	ʞ	r	ɿ	y	ʏ
e	ɘ	l	l	s	ƨ	z	z
f	ʇ	m	m	t	ʇ		
g	ϱ	n	n	u	u		

Letters	Mirror Images	Letters	Mirror Images	Letters	Mirror Images	Letters	Mirror Images
A	A	H	H	O	O	V	V
B	ᙠ	I	I	P	ꟼ	W	W
C	Ɔ	J	ᒐ	Q	Ọ	X	X
D	ᗡ	K	ꓘ	R	я	Y	Y
E	ᴲ	L	⅃	S	ƨ	Z	Ƨ
F	ꟻ	M	M	T	T		
G	ᕫ	N	N	U	U		

| Numbers	Mirror Images	Numbers	Mirror Images	Numbers	Mirror Images
1	1	4	ᔕ	7	7
2	ς	5	ꙅ	8	8
3	Ɛ	6	ϱ	9	9

Thus, correct option is (a).

Q.94 The sequence of folding a piece of paper and the manner in which the folded paper has been cut is shown below. Choose the figure that would most closely resemble the unfolded form of the paper.
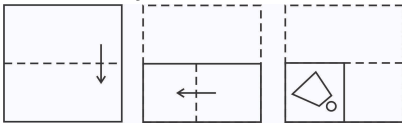
A.

B.

C.

D.
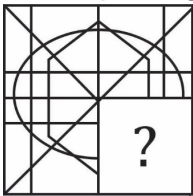
Answer: A
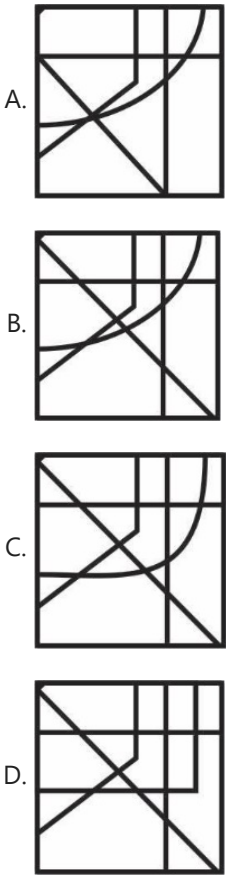
Sol: After unfolding the given figure following cuts will be shown as given below.
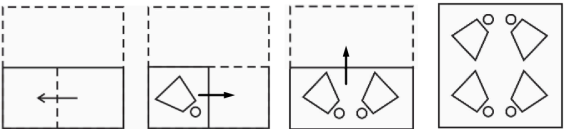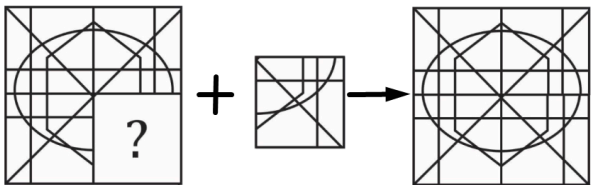

Thus, correct option is (a).

Q.95 Which option figure will replace the question mark (?) to complete the given pattern?

A.

B.

C.

D.

Answer: B

Sol: The missing figure that will complete the figure is shown below.

Thus, the correct option is (b).

Q.96 Select the most appropriate option to fill in the blank.

Pritha doesn't like you. You've got to _____ the fact that you're just not her type.

A. carry through
B. bear with
C. face up to
D. get on with

Answer: C

Sol: he correct option to fill in the blank is (c) **face up to**.

Explanation: The idiomatic collocation is "**face up to the fact (that) ...**", meaning **to accept and deal with an unpleasant or difficult truth** (कठिन/कटु सत्य का सामना करना और उसे स्वीकार करना). In the sentence, the speaker tells you to **accept** the reality that you're not her type—so **face up to** is the precise phrasal verb.

Example: You must **face up to** the fact that the project has failed and plan the next steps.

Explain why other options are incorrect.

· **(a) carry through**: Means **to complete something successfully** or **support someone through a difficulty** (किसी कार्य को पूरा करना/सहारा देना). It does **not** take the object "**the fact**" in this sense.

· **(b) bear with**: Means **to be patient with someone** (किसी के साथ धैर्य रखना) and is used in requests—"Please **bear with** me." It doesn't mean "accept a fact," so "**bear with the fact**" is unidiomatic.

· **(d) get on with**: Means **to continue doing something** or **to have a good relationship with someone** (आगे बढ़ना/किसी के साथ बनना). It doesn't fit the meaning "accept the fact."

Information booster (phrasal-verb collocations):

· **face up to** + **the fact/truth/responsibility** = accept an unpleasant reality.

· **bear with** + **me/us/someone** = be patient (used in polite requests).

· **get on with** + **work/someone** = continue with a task / have good relations.

Q.97 Select the most appropriate option to fill in the blank.

Often in our country the _____ forces of communalism and casteism severely impact the nation's unity.

A. substantive
B. constructive

C. disruptive
D. vigilant

Answer: C

Sol: The correct option to fill in the blank is (c) **disruptive**.
· The sentence talks about **forces of communalism and casteism** which affect the nation's unity in a **negative** way. Such forces **break**, **disturb**, or **destroy** unity. The word **"disruptive"** aptly describes forces that cause disturbance or interruption in normal harmony or functioning. (Hindi: विघटनकारी, बाधा उत्पन्न करने वाली, एकता को तोड़ने वाली)
Example:
· The **disruptive** activities of some groups disturbed the peace and unity of the city.
Explain why other options are incorrect:
· **(a) substantive**: Important, meaningful, having real substance or value. (Hindi: महत्त्वपूर्ण, सारगर्भित, ठोस) – This does not show any negative or harmful effect on unity.
· **(b) constructive**: Having a positive effect, helpful in building or improving something. (Hindi: रचनात्मक, निर्माणात्मक) – This is opposite in sense because communalism and casteism do not build unity, they damage it.
· **(d) vigilant**: Very watchful and alert to avoid danger or problems. (Hindi: सतर्क, चौकस) – This describes people who are careful, not harmful forces breaking national unity.
Thus, **"disruptive forces of communalism and casteism"** is the only phrase that logically and naturally fits the context of harming the nation's unity.

Q.98 Select the option that can be used as a one-word substitute for the given group of words.
One who knows everything and has infinite understanding

A. Orthodox
B. Orthopaedic
C. Omniscient
D. Omnivorous

Answer: C

Sol: The correct one-word for the given group of words is (right option) **Omniscient**.
Explanation: "Omniscient" means **all-knowing**, having complete or unlimited knowledge and understanding. यह उस व्यक्ति/सत्ता के लिए प्रयोग होता है जो सब कुछ जानता है।
Example: In the novel, the narrator is **omniscient** , revealing every character's thoughts.
Meanings of the given other options:
· **(a) Orthodox**: adhering to established or traditional beliefs; परंपरागत/रूढ़िवादी।
· **(b) Orthopaedic**: relating to the correction of deformities of bones or muscles; अस्थि-चिकित्सा संबंधी।
· **(d) Omnivorous**: eating both plant and animal matter; सर्वाहारी।

Q.99 Parts of the given sentence have been given as options. One of them contains a spelling error. Select the option that rectifies the error.
The Bechdel test is a test that uses a set criterion to evaluate a work of fiction based on its inclusion and represantation of female characters.

A. representation
B. incluson
C. charcter
D. critirion

Answer: A

Sol: Option (a) **representation** is the correctly spelt word that rectifies the spelling error.
In the sentence, the word is wrongly spelt as **"represantation"**, which is incorrect.
Correct spelling: representation – it means the act of showing, portraying or depicting someone or something in a particular way, especially in books, films, art, etc. (Hindi meaning: प्रतिनिधित्व / चित्रण / प्रस्तुति) It is used when we talk about how a group (like women, minorities, etc.) is shown in media or literature.
Example:
There has been a lot of discussion about the **representation** of women in mainstream cinema.
Parts of speech of the word:
· **Representation** is a **noun**. It names an idea or thing – the act or result of representing.
Meanings of all the given options:
· **(a) representation**: The way in which someone or something is shown or depicted; acting or speaking on behalf of someone. (Hindi: प्रतिनिधित्व / चित्रण / प्रस्तुति)
· **(b) inclusion**: The act of including someone or something as a part of a group or whole. (Hindi: समावेशन / शामिल करना)
· **(c) character**: A person in a story, play, film, or the qualities that make a person different from others. (Hindi: चरित्र / पात्र)
· **(d) criterion**: A standard or principle by which something is judged or decided (plural: **criteria**). (Hindi: मापदंड / कसौटी)

Q.100   In the given sentence, identify the part which contains an error.

It seems that (A)/ he hasn't met you (B)/ for a long time (C),/ is it ? (D)

A. A
B. B
C. C
D. D

Answer: D

Sol: Option (d) contains an error.

Detailed explanation of error: The sentence ends with a **question tag**. A tag must agree with the **finite verb** in the **main clause**. The main clause is **"It seems …"** (simple present). Therefore, the correct tag is **"doesn't it?"** (auxiliary *do* in the present simple + negative form because the statement is affirmative), **not** "is it?".

Grammatical rule used:

· **Question tags:**

· If the main clause is affirmative, the tag is negative; if negative, the tag is affirmative.

· The **auxiliary/modal** used in the main clause is repeated in the tag; if there is **no auxiliary**, use **do/does/did** according to tense and subject.

· The **pronoun** in the tag matches the subject: here, *it*.

· **Corrected sentence:** *It seems that he hasn't met you for a long time, **doesn't it?***

· **Example:** *She plays the piano, **doesn't she** ? / He isn't ready, **is he** ?*

· **Information booster:** When the reporting/introductory verb like *seem/appear/suppose* is the finite verb of the main clause, the tag matches that verb (**seems → doesn't it?**), **not** the verb inside the subordinate clause.

Q.101   Find the part of the sentence that contains an error:

That the report failed to address the root causes (1)/ of the community unrest were surprising (2)/ given the exhaustive data (3)/ compiled over several months. (4)

A. (1)
B. (2)
C. (3)
D. (4)

Answer: B

Sol: Option (b) contains an error.

Detailed explanation of error: The subject of the sentence is the entire that-clause "That the report failed to address the root causes," which is grammatically **singular**.

Therefore, the verb should be **was**, not **were**: "That the report failed … **was** surprising."

The remaining parts are fine: "of the community unrest" (correct prepositional phrase), "given the exhaustive data" (correct concessive/causal adjunct), and "compiled over several months" (reduced relative clause).

Grammatical rule used: A that-clause functioning as a **subject** takes a **singular** verb. Subject–verb agreement requires the finite verb to agree in number with the grammatical subject, not with nearby plural nouns.

Example: " **That** so many applicants withdrew **was** unexpected," not " **were** unexpected."

Information booster: When an -ing/reduced clause or a clause like what/that + clause acts as subject, default to singular verb (What he said **is** true; That they left early **was** wise), regardless of plural nouns contained inside the clause.

Q.102   Select the option that can be used as a one-word substitute for the given group of words.

Well known for bad qualities

A. Naughty
B. Notorious
C. Incongruous
D. Toxic

Answer: B

Sol: The correct one-word for the given group of words is (right option) **Notorious**.

Explanation: "Notorious" means **famous for a bad reason**, widely and unfavorably known. "Bad-name ke liye mashhoor"— कुख्यात.

Example: *The area is **notorious** for frequent power cuts and traffic jams.*

Meanings of the given other options:

· **(a) Naughty:** disobedient or mischievous (esp. of children); शरारती।

· **(c) Incongruous:** not in harmony or keeping with the surroundings; असंगत/बेमेल।

· **(d) Toxic:** poisonous; extremely harmful; विषाक्त/हानिकारक।

Q.103 What is the most appropriate antonym of "Abandon"?

A. Forsake

B. Uphold

C. Disown

D. Relinquish

Answer: B

Sol:

The correct antonym of the given word is (b) **Uphold**.

• Given word: **Abandon**

– *Meaning:* To leave someone or something behind, often permanently; to desert or give up something.

– *Hindi:* त्याग देना, छोड़ देना

• Example:

– He abandoned his car on the roadside during the storm.

• Correct answer word: **Uphold**

– *Meaning:* To support or maintain something, especially a principle or decision; to keep something going.

– *Hindi:* समर्थन करना, बनाए रखना

• Example:

– The court upheld the judge's decision in the case.

Synonyms: forsake, leave, desert, relinquish.

Antonyms: uphold, maintain, continue, keep.

Meanings of all the other given options:

• (a) Forsake ✖

– English: To abandon or desert.

– Hindi: त्यागना

• (c) Disown ✖

– English: To refuse to acknowledge or accept.

– Hindi: मना कर देना, नकार देना

• (d) Relinquish ✖

– English: To voluntarily give up something.

– Hindi: त्याग करना

Q.104 Choose the correct antonym for the given word.

Benign

A. Malignant

B. Kind

C. Gentle

D. Harmless

Answer: A

Sol: The correct antonym of the word "Benign" is (a) Malignant.

Benign: Refers to a condition, tumor, or growth that is not cancerous and is unlikely to be harmful. (सौम्य)

Example: The doctor confirmed that the tumor was benign and not a threat to her health.

Malignant: Refers to a severe and progressively worsening disease, particularly cancer, that is likely to be life-threatening. (घातक)

Example: Malignant tumors can spread quickly and require aggressive treatment.

Synonyms: harmless, gentle, non-threatening.

Antonyms: harmful, dangerous, deadly.

Meanings of other options:

· **Kind:** Reflects a caring or generous behavior, not directly opposite to 'benign.'

· **Gentle:** Soft or mild; not harsh or severe, also a synonym for benign.

· **Harmless:** Not able or likely to cause harm, a synonym for benign.

Q.105 Select the most appropriate synonym of the given word.

Rigid

A. Reliable

B. Bendable

C. Capable

D. Inflexible

Answer: D

Sol: The correct synonym of the given word is (d) **Inflexible**.

Rigid:

Meaning – Something that is **stiff, hard, or not easily bent**, or a person/mind that does not want to change rules, ideas or behaviour. It also implies strictness or lack of flexibility. (Hindi meaning: कठोर, सख्त, अडिग)

Example: *The school has **rigid** rules about uniform and punctuality.*

Inflexible (correct answer word):

Meaning – Not capable of being bent easily; not willing to change ideas, decisions, or plans; firm and unyielding. (Hindi meaning: अडिग, अकड़ू, न झुकने वाला)

Example: *His **inflexible** attitude made it difficult to reach any compromise.*

Synonyms (for 'rigid'): stiff, inflexible, unbending, strict.

Antonyms (for 'rigid'): flexible, pliable, yielding, adaptable.

Meanings of all the other given options:

· **(a) Reliable** – That can be trusted or depended on; dependable. (Hindi: भरोसेमंद, विश्वसनीय)

· **(b) Bendable** – That can be bent easily; flexible. (Hindi: आसानी से मुड़ने योग्य, लचीला)

· **(c) Capable** – Having the ability or skill to do something; competent. (Hindi: सक्षम, समर्थ)

· **(d) Inflexible** – Not flexible or adaptable; firm, rigid in attitude or form. (Hindi: अडिग, कठोर, न झुकने वाला)

Q.106 Change the given sentence from Active Voice to Passive Voice.

The batsman hit the ball for a six.

A. The ball was hit for a six by the batsman.

B. The ball had been hit for a six by the batsman.

C. For a six the ball was hit by the batsman.

D. The ball was being hit for a six by the batsman.

Answer: A

Sol: The correct passive voice of the given sentence is (a) "**The ball was hit for a six by the batsman.**"

· In the active voice, the structure is: **Subject + V₂ (transitive) + Object + rest**

· "The batsman (Subject) + hit (V₂) + the ball (Object) + for a six (rest)."

· To change into passive, the **object of the active sentence ("the ball")** becomes the **subject** in the passive; the verb "hit" (V₂) takes the passive form "was hit" and the subject "the batsman" is introduced with "**by**" as an agent.

· Tense is **Simple Past**, so the passive structure must be: **was/were + V₃**. Here, "hit" has the same form for V₂ and V₃.

Structure:

· **Active Voice:**

· Subject + V₂ + Object + (other words)

· → The batsman hit the ball for a six.

· **Passive Voice:**

· Object + was/were + V₃ + (other words) + by + Subject

· → The ball was hit for a six by the batsman.

Why other options are incorrect:

· (b) "**had been hit**" = Past Perfect Passive. The original sentence is in **Simple Past**, not Past Perfect. So tense is **changed incorrectly**.

· (c) "For a six the ball was hit by the batsman." – Though grammatically not wrong, this word order is **awkward and not the usual/standard form** used in exams. Standard passive keeps the subject ("The ball") first.

· (d) "was being hit" = **Past Continuous Passive**, but the original sentence is **not continuous**, it is a **completed action**. So the tense and aspect are wrong.

Q.107 Select the INCORRECTLY spelt word.

A. Lunacy

B. Chronic

C. Vehical

D. Handling

Answer: C

Sol: Option (c) is the **incorrectly spelt** word.

Correct spelling is: "**Vehicle**" – **a thing used for transporting people or goods from one place to another; any means of transport like a car, bus, truck, etc., is called a vehicle.** (Hindi meaning: वाहन, सवारी का साधन)

Example: *The police vehicle arrived at the crime scene within minutes.*

Meanings of all the given options:

· **(a) Lunacy:** Extreme folly or stupidity; the state of being mentally ill, especially severe mental illness. (Hindi meaning: पागलपन, उन्माद)

· **(b) Chronic:** Continuing or occurring again and again for a long time; long-lasting (especially of diseases or problems). (Hindi meaning: दीर्घकालिक, पुराना)

· **(c) Vehicle (correct spelling of "Vehical"):** A means of transport such as a car, bus, truck, etc., used to carry people or goods. (Hindi meaning: वाहन, सवारी)

· **(d) Handling:** The way someone deals with a situation or person; also the act of touching, moving, or controlling something. (Hindi meaning: संचालन, संभालना, निपटान)

Q.108 Select the most appropriate meaning of the given idiom.

Hold up one's head

A. Be confident
B. Be proud
C. Move forward
D. Make one proceed

Answer: B

Sol: Option (b) is the correct meaning of the given idiom.

Given Idiom – Hold up one's head:

· This idiom means *to feel or show pride and self-respect, especially because you have done nothing wrong or you have achieved something respectable.*

· It implies walking or living with dignity, बिना शर्मिंदगी के गर्व से सिर ऊँचा रखना, सीना तानकर चलना.

Example:

· After winning the case honestly, he could **hold up his head** in front of the entire community.

Other related idioms and their meanings:

· **Hold your head high** – to behave confidently and proudly, without shame (सिर ऊँचा रखकर आत्मसम्मान के साथ रहना)

· **Keep your chin up** – to stay cheerful and brave in a difficult situation (हिम्मत बनाए रखना, निराश न होना)

· **Walk tall** – to walk or behave in a proud and confident way (गर्व से चलना, आत्मविश्वास से भरपूर रहना)

· **Feel ten feet tall** – to feel very proud, happy, or confident (बहुत गर्वित और आत्मविश्वासी महसूस करना)

Why other options are incorrect:

· (a) **Be confident** – close in meaning but the core idea of the idiom is **pride with self-respect**, especially after right action; exam keys generally focus on "Be proud".

· (c) **Move forward** – means to go ahead or progress (आगे बढ़ना), not necessarily with pride.

· (d) **Make one proceed** – to cause someone to move ahead (किसी को आगे बढ़ने के लिए प्रेरित करना), which is not the meaning of the idiom.

Q.109 According to the passage, how is wisdom primarily acquired?

Read the following passage and answer the questions based on the passage:

While education and wisdom are often conflated in colloquial discourse, a discerning mind perceives a fundamental divergence between the two. Education is the formal acquisition of knowledge, often measured through degrees, academic accolades, and proficiency in structured disciplines. It is delivered through systematic curricula, institutionalized assessment, and theoretical frameworks. However, wisdom transcends this rigidity; it is the judicious application of knowledge to real-life contexts, enriched by experience, introspection, and emotional intelligence. An individual may be extensively educated yet remain bereft of wisdom if they lack the discernment to apply their learning ethically and effectively. Conversely, many wise individuals-farmers, artisans, elders-may not possess formal education, but their decisions exhibit prudence and sagacity cultivated through lived realities. Thus, education equips the mind, but wisdom enriches the soul. In an era dominated by information overload and algorithmic thinking, the schism between the two has widened. Educational institutions often prioritize rote memorization and standardized testing over critical thinking and moral reasoning. Consequently, society produces individuals proficient in problem-solving but deficient in decision-making that requires empathy, patience, or foresight. Wisdom, being innately human, cannot be downloaded or fast-tracked; it is earned through trial, failure, reflection, and a nuanced understanding of human nature. Furthermore, while education is temporally bounded-ending with formal schooling or academic milestones-wisdom is a lifelong pursuit. It does not boast certificates but manifests in humility, ethical consistency, and the ability to navigate ambiguity with grace. Ultimately, the highest form of intelligence lies not merely in knowing what is right, but in consistently choosing to do it, especially when it is inconvenient.

A. Through textbooks
B. Through emotional detachment
C. Through experience and reflection
D. Through algorithmic thinking

Answer: C

Sol: The correct answer is option (c).

Explain the right answer in detailed form. The passage says wisdom "is the judicious application of knowledge to real-life contexts, enriched by **experience, introspection, and emotional intelligence,**" and that it "is earned through **trial, failure, reflection,** and a nuanced understanding of human nature." These phrases directly attribute wisdom to lived experience and reflective thinking, not mere study.

Explanation of context of passage The author distinguishes **education** (formal, curriculum-driven, credential-focused) from **wisdom** (applied,

humane, experiential). The text emphasizes that wisdom grows through life's tests, self-analysis, and empathy.

Other options are incorrect because:

· (a) **Through textbooks**: Textbooks align with formal education, which the passage contrasts with wisdom; textbooks alone do not yield wisdom.

· (b) **Through emotional detachment**: The passage highlights **emotional intelligence** and empathy, the opposite of detachment.

· (d) **Through algorithmic thinking**: The author critiques algorithmic approaches as part of the modern widening schism, not a source of wisdom.

Q.110 What does the author mean by "wisdom enriches the soul"?

Read the following passage and answer the questions based on the passage:

While education and wisdom are often conflated in colloquial discourse, a discerning mind perceives a fundamental divergence between the two. Education is the formal acquisition of knowledge, often measured through degrees, academic accolades, and proficiency in structured disciplines. It is delivered through systematic curricula, institutionalized assessment, and theoretical frameworks. However, wisdom transcends this rigidity; it is the judicious application of knowledge to real-life contexts, enriched by experience, introspection, and emotional intelligence. An individual may be extensively educated yet remain bereft of wisdom if they lack the discernment to apply their learning ethically and effectively. Conversely, many wise individuals-farmers, artisans, elders-may not possess formal education, but their decisions exhibit prudence and sagacity cultivated through lived realities. Thus, education equips the mind, but wisdom enriches the soul. In an era dominated by information overload and algorithmic thinking, the schism between the two has widened. Educational institutions often prioritize rote memorization and standardized testing over critical thinking and moral reasoning. Consequently, society produces individuals proficient in problem-solving but deficient in decision-making that requires empathy, patience, or foresight. Wisdom, being innately human, cannot be downloaded or fast-tracked; it is earned through trial, failure, reflection, and a nuanced understanding of human nature. Furthermore, while education is temporally bounded-ending with formal schooling or academic milestones-wisdom is a lifelong pursuit. It does not boast certificates but manifests in humility, ethical consistency, and the ability to navigate ambiguity with grace. Ultimately, the highest form of intelligence lies not merely in knowing what is right, but in consistently choosing to do it, especially when it is inconvenient.

A. It enhances academic success

B. It fosters deeper moral insight

C. It improves verbal expression

D. It sharpens mathematical skills

Answer: B

Sol: The correct answer is option (b).

Explain the right answer in detailed form. The line "education equips the mind, but **wisdom enriches the soul**" contrasts cognitive skill with moral depth. "Enriches the soul" signals **ethical consistency, humility, empathy, and sound judgment**—traits repeatedly linked to wisdom in the passage.

Explanation of context of passage The essay asserts that while education builds knowledge structures, **wisdom** nurtures character—producing choices grounded in ethics and humanity, especially "when it is inconvenient."

Other options are incorrect because:

· (a) **Enhances academic success**: That is more aligned with education (degrees, accolades), not "soul enrichment."

· (c) **Improves verbal expression**: Language skill is not the focus; the passage stresses moral reasoning.

· (d) **Sharpens mathematical skills**: Again an academic-cognitive gain, not the moral/spiritual enrichment the author describes.

Q.111 Who, according to the author, can be wise despite lacking formal education?

Read the following passage and answer the questions based on the passage:

While education and wisdom are often conflated in colloquial discourse, a discerning mind perceives a fundamental divergence between the two. Education is the formal acquisition of knowledge, often measured through degrees, academic accolades, and proficiency in structured disciplines. It is delivered through systematic curricula, institutionalized assessment, and theoretical frameworks. However, wisdom transcends this rigidity; it is the judicious application of knowledge to real-life contexts, enriched by experience, introspection, and emotional intelligence. An individual may be extensively educated yet remain bereft of wisdom if they lack the discernment to apply their learning ethically and effectively. Conversely, many wise individuals-farmers, artisans, elders-may not possess formal education, but their decisions exhibit prudence and sagacity cultivated through lived realities. Thus, education equips the mind, but wisdom enriches the soul. In an era dominated by information overload and algorithmic thinking, the schism between the two has widened. Educational institutions often prioritize rote memorization and standardized testing over critical thinking and moral reasoning. Consequently, society produces individuals proficient in problem-solving but deficient in decision-making that requires empathy, patience, or foresight. Wisdom, being innately human, cannot be downloaded or fast-tracked; it is earned through trial, failure, reflection, and a nuanced understanding of human nature. Furthermore, while education is temporally bounded-ending with formal schooling or academic milestones-wisdom is a lifelong pursuit. It does not boast certificates but manifests in humility, ethical consistency, and the ability to navigate ambiguity with grace. Ultimately, the highest form of intelligence lies not merely in knowing what is right, but in consistently choosing to do it, especially when it is inconvenient.

A. Scientists

B. School children

C. Elders and artisans

D. Technocrats

Answer: C

Sol: The correct answer is option (c).

Explain the right answer in detailed form. The passage explicitly states: "many wise individuals— **farmers, artisans, elders**—may not possess formal education, but their decisions exhibit prudence and sagacity cultivated through lived realities." Thus, wisdom is not exclusive to credentialed groups.

Explanation of context of passage This supports the central thesis that **wisdom transcends formal schooling**, emerging from life experience, community knowledge, and reflective practice.

Other options are incorrect because:
· (a) **Scientists**: They may be wise, but the text doesn't single them out as *lacking* formal education.
· (b) **School children**: Not mentioned; the passage emphasizes seasoned experience, which children generally lack.
· (d) **Technocrats**: Associated with technical/algorithmic skill—precisely the sphere the author critiques for not guaranteeing wisdom.

Q.112 What is the central contrast drawn in the passage?

Read the following passage and answer the questions based on the passage:

While education and wisdom are often conflated in colloquial discourse, a discerning mind perceives a fundamental divergence between the two. Education is the formal acquisition of knowledge, often measured through degrees, academic accolades, and proficiency in structured disciplines. It is delivered through systematic curricula, institutionalized assessment, and theoretical frameworks. However, wisdom transcends this rigidity; it is the judicious application of knowledge to real-life contexts, enriched by experience, introspection, and emotional intelligence. An individual may be extensively educated yet remain bereft of wisdom if they lack the discernment to apply their learning ethically and effectively. Conversely, many wise individuals-farmers, artisans, elders-may not possess formal education, but their decisions exhibit prudence and sagacity cultivated through lived realities. Thus, education equips the mind, but wisdom enriches the soul. In an era dominated by information overload and algorithmic thinking, the schism between the two has widened. Educational institutions often prioritize rote memorization and standardized testing over critical thinking and moral reasoning. Consequently, society produces individuals proficient in problem-solving but deficient in decision-making that requires empathy, patience, or foresight. Wisdom, being innately human, cannot be downloaded or fast-tracked; it is earned through trial, failure, reflection, and a nuanced understanding of human nature. Furthermore, while education is temporally bounded-ending with formal schooling or academic milestones-wisdom is a lifelong pursuit. It does not boast certificates but manifests in humility, ethical consistency, and the ability to navigate ambiguity with grace. Ultimately, the highest form of intelligence lies not merely in knowing what is right, but in consistently choosing to do it, especially when it is inconvenient.

A. Education vs. career
B. Intelligence vs. memory
C. Reading vs. writing
D. Formal learning vs. applied wisdom

Answer: D

Sol: The correct answer is option (d).

Explain the right answer in detailed form. The passage repeatedly opposes **education** (formal, measured by degrees, tests, curricula) to **wisdom** (applied discernment, ethically grounded, experiential). This is the governing contrast throughout.

Explanation of context of passage From the opening ("Education is the formal acquisition... However, wisdom transcends this rigidity...") to the conclusion ("the highest form of intelligence... consistently choosing to do [what is right]"), the structure is a sustained **education–wisdom** antithesis.

Other options are incorrect because:
· (a) **Education vs. career**: Career is not the focus.
· (b) **Intelligence vs. memory**: Mentioned tangentially (problem-solving vs decision-making), but not the central dichotomy.
· (c) **Reading vs. writing**: Not discussed as a contrast.

Q.113 . According to the author, why has the gap between education and wisdom widened in recent times?

Read the following passage and answer the questions based on the passage:

While education and wisdom are often conflated in colloquial discourse, a discerning mind perceives a fundamental divergence between the two. Education is the formal acquisition of knowledge, often measured through degrees, academic accolades, and proficiency in structured disciplines. It is delivered through systematic curricula, institutionalized assessment, and theoretical frameworks. However, wisdom transcends this rigidity; it is the judicious application of knowledge to real-life contexts, enriched by experience, introspection, and emotional intelligence. An individual may be extensively educated yet remain bereft of wisdom if they lack the discernment to apply their learning ethically and effectively. Conversely, many wise individuals-farmers, artisans, elders-may not possess formal education, but their decisions exhibit prudence and sagacity cultivated through lived realities. Thus, education equips the mind, but wisdom enriches the soul. In an era dominated by information overload and algorithmic thinking, the schism between the two has widened. Educational institutions often prioritize rote memorization and standardized testing over critical thinking and moral reasoning. Consequently, society produces individuals proficient in problem-solving but deficient in decision-making that requires empathy, patience, or foresight. Wisdom, being innately human, cannot be downloaded or fast-tracked; it is earned through trial, failure, reflection, and a nuanced understanding of human nature. Furthermore, while education is temporally bounded-ending with formal schooling or academic milestones-wisdom is a lifelong pursuit. It does not boast certificates but manifests in humility, ethical consistency, and the ability to navigate ambiguity with grace. Ultimately, the highest form of intelligence lies not merely in knowing what is right, but in consistently choosing to do it, especially when it is inconvenient.

A. Due to overuse of social media
B. Because wisdom is no longer valued
C. Because of rote learning and algorithmic methods
D. Because people stop learning after school

Answer: C

Sol: The correct answer is option (c).

Explain the right answer in detailed form. The text states, "In an era dominated by **information overload and algorithmic thinking**, the schism... widened. Educational institutions often prioritize **rote memorization and standardized testing** over critical thinking and moral reasoning." These are the exact causes the author identifies.

Explanation of context of passage The author argues contemporary systems reward **procedural proficiency** while neglecting **ethical discernment and empathy**, thereby expanding the education–wisdom divide.

Other options are incorrect because:
· (a) **Overuse of social media**: Not mentioned as a cause.
· (b) **Wisdom is no longer valued**: The passage doesn't claim society devalues wisdom; it claims systems prioritize other metrics.
· (d) **People stop learning after school**: The author actually says **wisdom is a lifelong pursuit**, so this option contradicts the text.

Q.114 Select the most appropriate synonym of the given word.
Incognito

A. Famous
B. Popular
C. Superfluous
D. Anonymous

Answer: D

Sol: The correct synonym of the given word is (d) **Anonymous**.
Given word – Incognito:
'Incognito' means having one's identity concealed, especially to avoid being recognized. A person travelling or living incognito uses a false name or disguise so that people do not know who they actually are.
(Hindi meaning: भेस बदलकर / गुमनाम रूप से / पहचान छिपाकर)
Example (Given word):
The movie star decided to travel **incognito** so that fans would not disturb him.
Correct answer word – Anonymous:
'Anonymous' means having no known name or identity, or not revealing one's name. It is used when a person's identity is hidden or not disclosed.
(Hindi meaning: गुमनाम / नामरहित / अज्ञात)
Example (Correct answer word):
The charity received a large **anonymous** donation from someone who did not want to be identified.
Synonyms of 'incognito': disguised, undercover, anonymous, unidentified.
Antonyms of 'incognito': known, identified, recognized, conspicuous.
Meanings of all the other given options:
· **(a) Famous**: very well-known by many people; प्रसिद्ध / मशहूर.
· **(b) Popular**: liked or admired by many people; लोकप्रिय / जनप्रिय.
· **(c) Superfluous**: more than what is needed; unnecessary or extra; अनावश्यक / ज़रूरत से ज़्यादा.

Q.115 Select the most appropriate option to substitute the highlighted segment in the given sentence. If there is no need to substitute it, select 'No substitution required'.
Strong winds and heavy rains **lashed a parts of Gujarat** as the cyclone Biparjoy approached the coast of the state.

A. lashed parts of Gujarat
B. No substitution required
C. lash a parts of Gujarat
D. was lashing the parts of Gujarat

Answer: A

Sol: The correct substitution of the highlighted words is (a) **lashed parts of Gujarat**.
Explanation: The noun **parts** is plural and countable; therefore, the article **"a"** (used only with singular countable nouns) is incorrect. The event is a **completed past action**, so **simple past** ("lashed") is apt and agrees with the rest of the sentence which describes a past event ("approached"). Also, using **no article** before a general plural noun ("parts of Gujarat") is idiomatic; "the parts" would imply a specific, previously identified set of parts.
Grammatical rule used:
· **Articles with countable nouns**: Use **a/an** with singular countables; omit the article with plural countables when speaking generally.
· **Tense choice for completed actions: Simple past** is preferred for finished actions/events in the past time frame.
Example:
· Incorrect: *A people were evacuated.*
· Correct: *People were evacuated.*
· Correct tense: *Heavy showers **lashed** coastal areas yesterday.*
Information booster: In news/reporting style, **simple past** narrates completed past events succinctly. **Past continuous** ("was lashing") highlights ongoing background actions and is used when another action interrupts or when focusing on duration/continuity.
Why others are incorrect:
· (b) **No substitution required** – retains the ungrammatical "**a parts.**"
· (c) **lash a parts of Gujarat** – wrong tense (**lash** instead of **lashed**) and wrong article.
· (d) **was lashing the parts of Gujarat** – tense/aspect shift unnecessary; "**the parts**" is awkward without prior specification.

Q.116 A sentence is provided in direct speech. From the four given options, choose the one that most accurately conveys the sentence in its corresponding indirect speech.

He asked me, "Have you done your homework?"

A. He asked me if I had done my homework.
B. He asked me have I done my homework.
C. He asked me whether I have done my homework.
D. He asked me whether had I done my homework.

Answer: A

Sol: The correct indirect speech is (a) **He asked me if I had done my homework.**
Rules of conversion (in detail):
· **Reporting verb "asked"** + **if/whether** for yes–no questions.
· **Backshift of tense**: Present Perfect (**have done**) → **Past Perfect (had done)** when the reporting verb is in the past (asked).
· **Question order → statement order**: **Subject + verb** (no inversion), and the **question mark** becomes a **full stop**.
· **Pronoun change**: you → I (according to the object me).
· **Example**: She asked him, "Have you finished?" → She asked him if he had finished.
· **Why other options are incorrect:**
· (b) Keeps interrogative inversion have I after asked me—ungrammatical. (Hindi: anuchit śabd-krama)
· (c) Tense not backshifted (have done)—violates sequence of tenses. (Hindi: kāl anukrama trutī)
· (d) Inversion had I persists in indirect form—incorrect.

Q.117 Choose the correct meaning of idiom:
Hobson's choice

A. A dilemma between two evils
B. A free and fair decision
C. No real choice at all
D. A selection made under duress

Answer: C

Sol: Option (c) is the correct meaning of the given idiom.
Hobson's choice: effectively "take it or leave it"; you are offered only one option, so there is **no genuine choice**—either accept what is given or get nothing. (Hindi: मजबूरी में एक ही विकल्प—लो या छोड़ो; असली विकल्प नहीं)
Example: The company offered Hobson's choice: accept the new contract or resign.
Other related idioms and their meanings:
· **Take it or leave it**: accept what is offered or nothing at all (Hindi: लो या छोड़ो).
· **Hobson-jobson** (not related in meaning, often confused): Anglo-Indian linguistic adaptation—listed here only to avoid confusion.
· **Between a rock and a hard place**: forced to choose between two unpleasant alternatives (Hindi: दो कठिन विकल्पों में फँसना).
· **Fait accompli**: a thing already done and therefore beyond change (Hindi: पूरा हुआ कार्य, बदला न जा सकने वाला).

Q.118 Parts of a sentence/paragraph are given below. While the first and the last parts (A and F) are in the correct order, the parts in between are jumbled up. Arrange the parts in the correct order to form a meaningful and coherent sentence/paragraph.
A. Throughout your life, you have the option of mastering a variety of abilities.
B. Some will be useful in very particular scenarios,
C. while others will be useful in a wider range of situations.
D. Certain talents, on the other hand, have such a broad impact on your life
E. that it would be almost irresponsible not to master them.
F. One of them is writing.

A. C, B, D, E
B. E, D, C, B
C. B, C, D, E
D. D, E, B, C

Answer: C

Sol: Option (c) is the correct order of the given sentences.
Explanation (why B, C, D, E is the correct sequence):
· **Link from A → B:**
· A introduces the general idea: *"Throughout your life, you have the option of mastering a variety of abilities."*
· The next logical step is to **classify** these abilities. Sentence **B** does exactly this: *"Some will be useful in very particular scenarios,"* which clearly continues the idea of "variety of abilities" by describing one type of use.
· **Continuation B → C:**
· B mentions "some" abilities, and **C** balances it with a contrast group: *"while others will be useful in a wider range of situations."*

· The conjunction **"while"** in C is a classic connector that pairs naturally with the "some will…" in B, forming a **B–C pair** describing two categories of abilities:

· Some are useful in specific situations (B).

· Others are useful in broader situations (C).

· **Progression C → D:**

· After defining two general types, the paragraph introduces a **third special category** with stronger importance using **contrast phrase** "on the other hand" in D:

· *"Certain talents, on the other hand, have such a broad impact on your life"*

· The phrase **"on the other hand"** signals a **shift** or **special emphasis**, indicating that these talents are different and even more significant than those mentioned in B and C.

· **Completion D → E:**

· D creates an expectation by saying these talents have a broad impact. **E** completes this idea:

· *"…that it would be almost irresponsible not to master them."*

· The **"that" clause in E** grammatically depends on D:

· "have such a broad impact on your life **that** it would be almost irresponsible not to master them."

· So, D and E form a **single complete thought** and must come together in that order: **D → E.**

· **Smooth flow A B C D E F (complete paragraph):**

· A: General statement about mastering abilities.

· B: Some abilities are useful in particular situations.

· C: Others are useful in a wider range of situations.

· D: Certain talents are even more impactful.

· E: Therefore, not mastering them would be almost irresponsible.

· F: Writing is given as a **specific example** of such a crucial talent.

Thus, the coherent order of the middle parts is **B, C, D, E**, which corresponds to **option (c).**

Q.119 Select the INCORRECTLY spelt word.

A. Perliament
B. Delegation
C. Executive
D. Orchestra

Answer: A

Sol: Option (a) is the **incorrectly** spelt word.

Correct spelling is: " **Parliament**" — the supreme legislative body of a country; a formal assembly for law-making and debate, typically consisting of elected representatives and often two houses. (Hindi: संसद)

Example: Important bills were debated in **Parliament** during the winter session.

Meanings of all the given options:

· (a) **Perliament** (*X*) → **Parliament** (✓): national legislature/assembly (Hindi: संसद).

· (b) **Delegation**: a group of representatives; the act of entrusting authority (Hindi: प्रतिनिधिमंडल, प्राधिकरण सौंपना).

· (c) **Executive**: relating to executing/implementing laws; a person with managerial authority (Hindi: कार्यपालक, प्रशासनिक).

· (d) **Orchestra**: a large group of instrumentalists playing together (Hindi: वाद्यवृंद).

Q.120 Parts of sentences are given below in jumbled order. Arrange the parts in the correct order to form meaningful sentences.

a) this is a powerful means by which many who have wielded
b) writing can instil a number of emotions
c) a pen has been able to connect with readers and trigger massive changes
d) within a reader; joy, grief, love, anger, jealousy, etc.

A. b, d, a, c
B. b, a, c, d
C. c, d, a, b
D. a, b, c, d

Answer: A

Sol: Option (a) is the correct order of the given sentences.

Correct arranged sentence:

Writing can instil a number of emotions within a reader; joy, grief, love, anger, jealousy, etc. This is a powerful means by which many who have wielded a pen have been able to connect with readers and trigger massive changes.

Explanation (why this order is correct):

· • Introductory idea – Part b:

· b) writing can instil a number of emotions

· This naturally introduces the **main topic:** "**writing**" and what it can do.

· A sentence usually starts with a broad, general statement.

· • Completion of object – Part d:

· d) within a reader; joy, grief, love, anger, jealousy, etc.

· This completes the idea started in **b** – "a number of emotions *within a reader*…"

· So **b + d** form one complete, meaningful sentence:

· *Writing can instil a number of emotions within a reader; joy, grief, love, anger, jealousy, etc.*

· • **Use of demonstrative pronoun "this" – Part a:**

· **a) this is a powerful meby which many who have wielded**

· The word "**this**" must refer back to some previous idea.

· It refers to the power of writing described in **b + d**, so **a** logically follows after we have a complete idea.

· • **Completion of relative clause – Part c:**

· **c) a pen has been able to connect with readers and trigger massive changes**

· Part **a** contains the relative phrase "many who have wielded…", and **c** completes it with "**a pen has been able to connect...**"

· Thus **a + c** together form:

· *This is a powerful means by which many who have wielded a pen have been able to connect with readers and trigger massive changes.*

So, the only sequence that satisfies **logical flow, pronoun reference ("this"), and grammatical completeness** is:

→ **b → d → a → c**

Why other options are incorrect (brief):

· **(b) b, a, c, d**

· After **b**, we suddenly bring "**this is a powerful means...**" without finishing "**a number of emotions ... within a reader**".

· Part **d** is left hanging at the end and breaks the natural flow.

· **(c) c, d, a, b**

· Starting with "**a pen has been able to...**" (c) looks like a continuation, not an opening statement.

· Also, "this is a powerful means" (a) doesn't clearly refer to anything clearly stated before it.

· **(d) a, b, c, d**

· Starting with "**this is a powerful...**" is wrong because "this" has no previous reference.

· Pronouns like **this/that/these/those** usually refer back to an idea already mentioned.