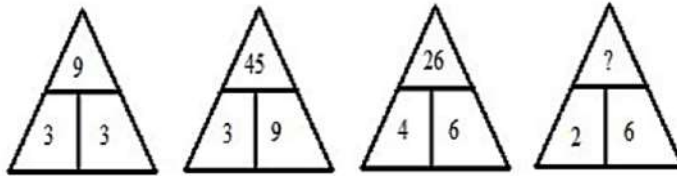# RBE NTPC 2025 Live Mock June 05,2025

Q. 1	The difference between two numbers is 45. When 20% of the larger number is added to 35% of the smaller number, we get a sum of 31. What is the sum of the original numbers? a) 125 ✓ b) 115 ✗ c) 131 ✗ d) 135 ✗
Explanation:	The correct answer is: a Let the nos. be a and b (a>b) ATQ, $a - b = 45, a = b + 45 \rightarrow (i)$ $\dfrac{1}{5}a + \dfrac{7}{20}b = 31$ $4a + 7b = 20 \times 31$ Put a = b+45 $4(b + 45) + 7b = 620$ $11b + 180 = 620$ $11b = 440$ $b = 40$ $a = 40 + 45 = 85$ $a + b = 85 + 40 = 125$

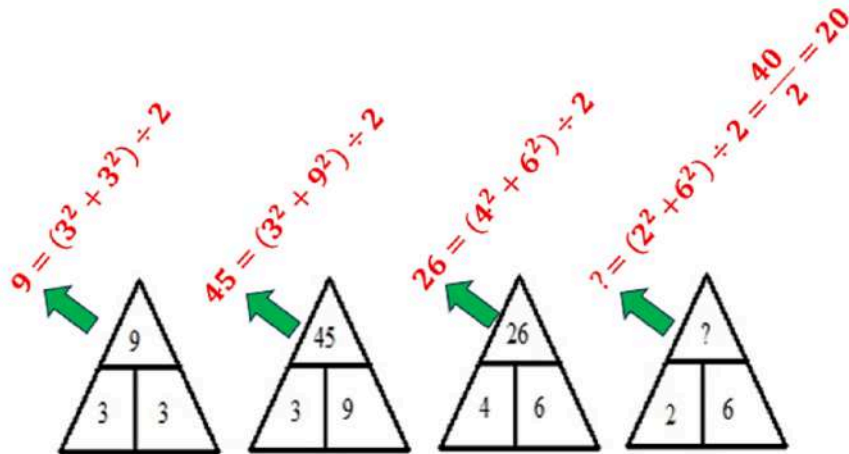| Q. 2	Study the given pattern carefully and select the number that can replace the question mark (?) in it.
	a) 40 ✗
	b) 100 ✗
	c) 20 ✓
	d) 80 ✗
Explanation:	

In the explanation:

$$9 = (3^2 + 3^2) \div 2$$
$$45 = (3^2 + 9^2) \div 2$$
$$26 = (4^2 + 6^2) \div 2$$
$$? = (2^2 + 6^2) \div 2 = \frac{40}{2} = 20$$

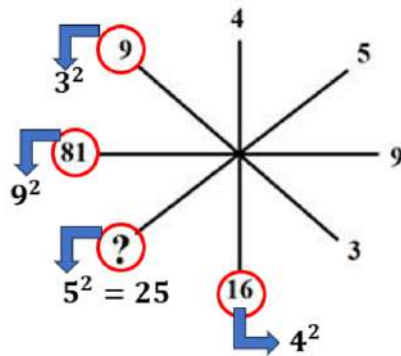| Q. 3	In a capitalist society the goods produced are distributed among people_____.
	a) not on the basis of what people need but on the basis of Purchasing Power ✔
	b) Not on the basis of Purchasing Power ✘
	c) On the basis of what people need and on the basis of Purchasing Power ✘
	d) Only on the basis of what people need ✘
Explanation:	The correct answer is: a
	Explanation:
	In a **capitalist society**, the distribution of goods and services is largely determined by **market forces**, specifically **demand and supply**, rather than by people's needs. The key principle of capitalism is **private ownership and free markets**, where individuals buy goods based on their **Purchasing Power**—meaning, their ability to afford them.
	• If a person has higher **Purchasing Power** (more financial resources), they can access more and better goods.
	• Those with **limited income** may struggle to obtain even essential items, regardless of their actual **need** for them.
	• Unlike **socialist** or **planned economies**, where resources may be allocated based on **needs**, capitalism relies on **consumer choices and market mechanisms** to determine who gets what.
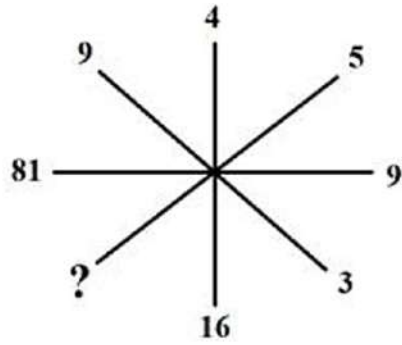
Q. 4	Study the given pattern carefully and select the number that can replace the question mark (?) in it.
	a) 50 ✗
	b) 30 ✗
	c) 25 ✓
	d) 40 ✗
Explanation:	

$$3^2$$ — 9

$$9^2$$ — 81

$$5^2 = 25$$ — ?

$$16 \rightarrow 4^2$$

Q. 5	Who was the founder of the Satavahana dynasty in India?
	a) Pushyamitra Shunga ✗
	b) Chandragupta-II ✗
	c) Menander ✗
	d) Simuka ✓
Explanation:	The correct answer is: d
	Simuka is recognized as the **founder** of the **Satavahana dynasty**, which ruled parts of **Deccan and Central India** after the decline of the **Maurya Empire**. He is believed to have established **Satavahana rule in the late 3rd century BCE or early 2nd century BCE**, laying the foundation for one of the earliest and most significant **dynasties of South India**.

Q. 6	The product of two numbers is 259200 and their LCM is 4320. The HCF of the same two numbers is:
	a) 60 ✓
	b) 58 ✗
	c) 65 ✗
	d) 45 ✗
Explanation:	The correct answer is: a
	Concept used = LCM×HCF = Product of two nos.
	Now,
	$4320 \times HCF = 259200$
	$HCF = 60$

Q. 7	The adjacent sides of a parallelogram are 45 cm and 36 cm in length. If the perpendicular distance between shorter sides is 15 cm, then what is the perpendicular distance between the longer sides?
	a) 16 cm ✗
	b) 9 cm ✗
	c) 12 cm ✓
	d) 10 cm ✗

Explanation:	Area of llgm $= \frac{1}{2} \times base \times height$ ⟹ $\frac{1}{2} \times 45 \times x = \frac{1}{2} \times 36 \times 15$ ⟹ $x = 12$ cm (Ans)

Q. 8	Which of the following is the correct option for using 'justify' alignment to a paragraph in a document?
	a) Aligns text only to the left ✗
	b) Aligns text only to the right ✗
	c) Aligns text to both left and right edges ✓
	d) Align text in the center ✗

Explanation:	The correct answer is: c **Explanation:** When a paragraph is set to **'justify' alignment**, the text is **evenly distributed** between the **left and right margins**, ensuring that each line fills the entire width of the page (except for the last line). This creates a **clean and structured** appearance, commonly used in newspapers, books, and formal documents.

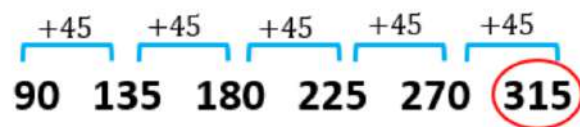| Q. 9	Select the number that can replace the question mark (?) in the following series.
	90, 135, 180, 225, 270, ?
	a) 350 ✗
	b) 315 ✓
	c) 345 ✗
	d) 400 ✗
Explanation:	+45 +45 +45 +45 +45 90 135 180 225 270 (315)

| Q. 10	What is the name of the physical feature that is the longitudinal valley lying between the Lesser Himalayas and the Siwalik in India?
	a) Duns ✓
	b) Doab ✗
	c) Bhabhar ✗
	d) Terai ✗
Explanation:	The correct answer is: a
	Explanation:
	Duns are **longitudinal valleys** that lie between the **Lesser Himalayas** (also known as the Middle Himalayas) and the **Siwalik range** in India. These valleys are **formed due to tectonic activities** as the Siwalik range was uplifted, creating a gap between the two mountain ranges. Duns are known for their **fertile land** and serve as significant agricultural regions.
	Famous Duns in India:
	• **Dehradun Valley** (Uttarakhand) • **Kotli Dun** (Himachal Pradesh) • **Patli Dun** (Uttarakhand)

Q. 11	Five boys are sitting on a bench in a hair salon.
	(i) P is sitting next to Q.
	(ii) S is sitting on the left end of the bench.
	(iii) T is sitting next to R.
	(iv) T is not sitting with P.
	(v) P is on the third position from the right.
	Where is R sitting?
	a) Between S and P ✗
	b) Between Q and T ✗
	c) Between P and T ✓
	d) Between S and T ✗

Explanation:	
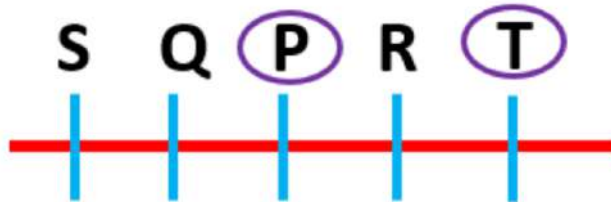
Q. 12	Choose the correct pair from the following options.
	a) Third Five-year Plan – Rapid industrialisation and basic industries ✗
	b) Fourth Five-year Plan - Family planning programme ✓
	c) First Five-year Plan – Mahalanobis model ✗
	d) Second Five-year Plan – Focus on agriculture ✗

Explanation:	The correct answer is: b
	Explanation:
	India's **Fourth Five-Year Plan (1969-1974)** placed **major emphasis on family planning** to curb population growth. It was during this period that **organized efforts** were made to control India's rising population through various policy initiatives and public awareness campaigns.

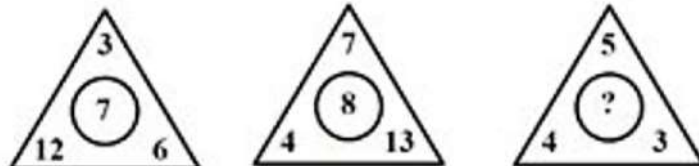| Q. 13	If Mohan secured 72% marks in physics and 68% in chemistry, what percentage of marks did Mohan get in both subjects together, assuming that the two subjects have equal weightage? a) 60% ✗ b) 70% ✓ c) 50% ✗ d) 55% ✗
Explanation:	The correct answer is: b Let the maximum marks for each subject is 100 Total marks = 200 Marks obtained = 72+68 = 140 Overall percentage = $\frac{140}{200} \times 100 = 70\%$

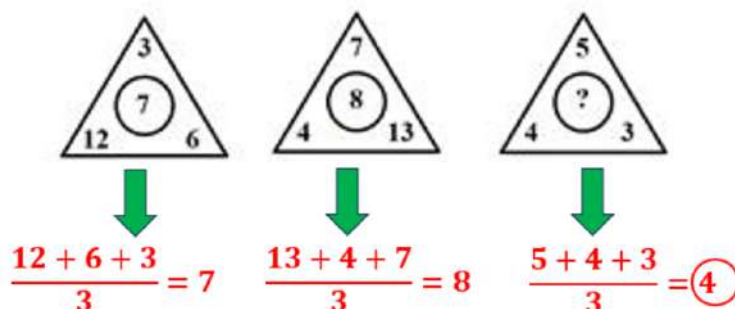| Q. 14	Study the given pattern carefully and select the number that can replace the question mark (?) in it. a) 4 ✓ b) 12 ✗ c) 9 ✗ d) 60 ✗
Explanation:	 $\frac{12+6+3}{3} = 7 \qquad \frac{13+4+7}{3} = 8 \qquad \frac{5+4+3}{3} = (4)$

Q. 15	The 'Servants of India Society' was founded by which of the following freedom fighters?
	a) Mahatma Gandhi ✗
	b) Motilal Nehru ✗
	c) Gopal Krishna Gokhale ✓
	d) Chittaranjan Das ✗
Explanation:	The correct answer is: c
	Explanation:
	The **Servants of India Society** was founded by **Gopal Krishna Gokhale** in **1905** with the aim of promoting **social service and national welfare** in India. Gokhale, a prominent leader of the Indian freedom movement, believed that **selfless service** and **education** were essential for India's progress. The society trained dedicated workers who would devote their lives to social reforms, education, and upliftment of the marginalized.

Q. 16	Green revolution can also be termed as:
	a) Blue revolution ✗
	b) Agricultural revolution ✓
	c) World revolution ✗
	d) White revolution ✗
Explanation:	The correct answer is: b
	Explanation:
	The **Green Revolution** refers to the significant advancements in **agricultural productivity** brought about by the adoption of **high-yielding crop varieties, chemical fertilizers, pesticides, and improved irrigation techniques**. This revolution took place primarily in the **1960s and 1970s**, dramatically increasing food grain production, especially in **India. Dr. M.S. Swaminathan** played a key role in implementing the Green Revolution in India.

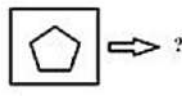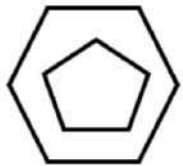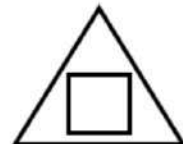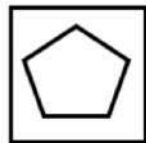| Q. 17	Study the given pattern carefully and select the number that can replace the question mark (?) in it.
	a) 21 ✔
	b) 36 ✘
	c) 9 ✘
	d) 15 ✘
Explanation:	 $16 = 3 \times 5 + 1$ (Sides of triangle)× (sides of pentagon) $31 = 5 \times 6 + 1$ (Sides of pentagon)× (sides of hexagon) $13 = 4 \times 3 + 1$ (Sides of square)× (sides of triangle) $21 = 5 \times 4 + 1$ (Sides of square)× (sides of pentagon)
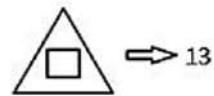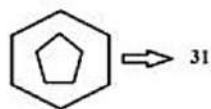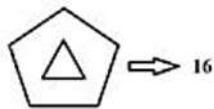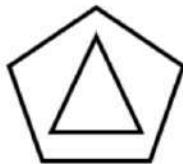
Q. 18	Which ecosystem is known as the "rainforest of the ocean" due to its high biodiversity?
	a) Mangrove forests　❌
	b) Coral reefs　✅
	c) Kelp forests　❌
	d) Seagrass meadows　❌
Explanation:	The correct answer is: b
	Explanation:
	Coral reefs are often called the **"rainforest of the ocean"** due to their **exceptional biodiversity**. They support nearly **25% of all marine life**, including fish, mollusks, crustaceans, and countless other organisms, despite covering less than **1% of the ocean floor**.
	Why are coral reefs so diverse?
	- They provide **complex structures** that serve as shelter, feeding grounds, and breeding areas for marine species. - Coral reefs promote **symbiotic relationships**, such as between **coral polyps and algae**, which enhance ecosystem productivity. - They act as **barriers**, protecting coastlines from erosion and storm surges while maintaining ecological balance.

Q. 19	₹21,150 is distributed among A, B, and C. The share of A is 4/5 of the share of B, and the share of B is 3/4 of the share of C. After receiving their respective sums, C gives some money out of her share to A so that after the transfer, the ratio of the sums A and C have is 7 : 9. What part of her initial share did C transfer to A?
	a) 1/10 ✔
	b) 1/5 ✘
	c) 1/12 ✘
	d) 1/8 ✘

Explanation:	The correct answer is: a
	A:B:C
	4:5
	3:4
	A:B:C = 12:15:20
	$47 unit \rightarrow 21150$
	$1 unit \rightarrow 450$
	Initial share of A = 12×450 = 5400
	Initial share of B = 15×450 = 6750
	Initial share of C = 20×450 = 9000
	Total share (A+C) = 5400+9000 = 14400
	New ratio of A:C after transfer = 7:9
	New share of A = $\frac{7}{16} \times 14400 = 6300$
	New share of C = $\frac{9}{16} \times 14400 = 8100$
	C transfer 900 to A = $\frac{900}{9000} = \frac{1}{10} part$

Q. 20	Which was the first dynasty of the Delhi Sultanate?
	a) Tughlaq dynasty ✗
	b) Khilji dynasty ✗
	c) Mamluk dynasty ✓
	d) Lodi dynasty ✗

Explanation:	The correct answer is: c
	Explanation:
	The **Mamluk dynasty** (also known as the **Slave dynasty**) was the **first ruling dynasty** of the **Delhi Sultanate**. It was founded by **Qutub-ud-din Aibak** in **1206**, after the death of **Muhammad Ghori**. The dynasty ruled until **1290** and laid the foundation for **Islamic rule in India**.
	1. Tughlaq dynasty (1320–1414)
	Founded by **Ghiyas-ud-din Tughlaq**, this dynasty expanded the **Delhi Sultanate** significantly. The most famous ruler, **Muhammad bin Tughlaq**, attempted ambitious but often impractical reforms—such as shifting the capital from Delhi to **Daulatabad** and introducing token currency.
	2. Khilji dynasty (1290–1320)
	The **Khilji's** replaced the **Mamluks** and were known for **military expansion** and **economic reforms**. The most notable ruler, **Alauddin Khilji**, introduced **market control policies**, defended India against Mongol invasions, and led successful campaigns, including the conquest of Gujarat and the siege of Chittorgarh.
	3. Lodi dynasty (1451–1526)
	The last dynasty of the **Delhi Sultanate**, established by **Bahlul Lodi**. His successors, **Sikandar Lodi** and **Ibrahim Lodi**, ruled until the dynasty was **defeated by Babur** in the Battle of Panipat (1526), marking the start of the **Mughal Empire**.

| Q. 21	Sultan told Ramesh, "I am the paternal grandfather of the only nephew of the only sibling of your brother's wife". In which of the following ways could Ramesh be related to Sultan? a) Son ✔ b) Cousin ✘ c) Nephew ✘ d) Father ✘
Explanation:	Sultan ↓ Ramesh — Brother = $wife$ — $sibling$ ↓ Nephew of the sibling Ramesh is the son of sultan.

Q. 22	In the given figure, if PB = 20 cm and OA = 15 cm, then find the shortest distance between the circle and P.
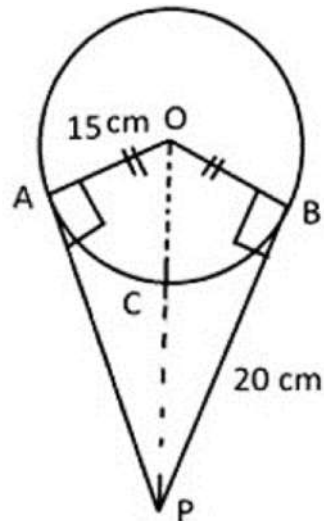
a) 10 cm ✔

b) 20 cm ✘

c) 15 cm ✘

d) 25 cm ✘

Explanation:	The correct answer is: a PA = PB = 20 cm [Tangents from same point] OA = OB = OC = 15 cm [Radius of circle] In triangle AOP, ∠OAP = 90° OP = $\sqrt{20^2 + 15^2} = 25$ cm Shortest distance = PC = OP − OC = 25 − 15 = 10 cm

Q. 23	Which strait connects the Black Sea to the Sea of Marmara and divides Europe from Asia?
	a) Dardanelles ✗
	b) Bosphorus ✓
	c) Kerch Strait ✗
	d) Strait of Messina ✗

Explanation:	The correct answer is: b
	Explanation:
	The **Bosphorus Strait** is a **narrow waterway** that connects the **Black Sea** to the **Sea of Marmara** and **divides Europe from Asia**. It runs through **Istanbul, Turkey**, serving as a crucial maritime route for trade and military navigation. The Bosphorus also plays an important role in Turkey's geopolitics, allowing ships access between the Mediterranean and the Black Sea.
	Other options explained:
	1. Dardanelles Strait
	• This strait connects the **Aegean Sea** to the **Sea of Marmara**, forming part of the navigational route between the **Mediterranean and the Black Sea** via the Bosphorus.
	• Historically significant, it has been the site of major battles, including the **Gallipoli Campaign** during **World War I**.
	2. Kerch Strait
	• This strait connects the **Black Sea** to the **Sea of Azov**, located between **Russia and Crimea**.
	• It is geopolitically important, particularly in conflicts concerning **Ukraine and Russia**.
	3. Strait of Messina
	• This strait separates the island of **Sicily from mainland Italy** (Calabria region).
	• It is important for maritime navigation between the **Tyrrhenian Sea** and the **Ionian Sea**, within the **Mediterranean region**.

Q. 24	P, Q, R, S and T are friends. R is taller than Q but shorter than S. T is taller than S and P is the Shortest of all. Who is the tallest among all? a) Q ✗ b) T ✓ c) S ✗ d) R ✗
Explanation:	$T > S > R > Q > P$ T is the tallest among all.

Q. 25	A sum of ₹30,000 is invested on compound interest of 7 (1/2)% p.a. What is the sum at the end of the second year? a) ₹34,668 ✗ b) ₹34,668.75 ✓ c) ₹34,658.75 ✗ d) ₹34,658 ✗
Explanation:	The correct answer is: b Rate $= 7\frac{1}{2}\% = \frac{3}{40}$ Time $= 2$ yrs Amount after 2 years $= 30000 \times \frac{43}{40} \times \frac{43}{40} =$ Rs 34668.75

Q. 26	Which Governor-General of British India helped Raja Ram Mohan Roy legally abolish the sati practice?
	a) Lord Ripon ✗
	b) Lord Curzon ✗
	c) Lord Cornwallis ✗
	d) Lord William Bentinck ✓
Explanation:	The correct answer is: d
	Explanation:
	Lord **William Bentinck**, who served as the **Governor-General of British India (1828–1835)**, played a **crucial role** in **abolishing the practice of sati** in **1829**. He worked closely with **Raja Ram Mohan Roy**, a social reformer who advocated against this inhumane practice, in which **widows were forced or encouraged to self-immolate on their husband's funeral pyre**.
	Bentinck issued the **Bengal Sati Regulation, 1829**, making the practice **illegal and punishable** under law. His decision marked a **significant step toward social reform**, paving the way for women's rights in India.

Q. 27	△ABC is a triangle whose vertices are A(0, 0), B(a, 5) and C(-5, 5). If the triangle is right-angled at A, then find the value of a.
	a) 2 ✗
	b) 5 ✓
	c) 3 ✗
	d) 6 ✗
Explanation:	The correct answer is: b
	The slope of a line passing through points (x_1, y_1) and (x_2, y_2) is given by
	$$\frac{y_2 - y_1}{x_2 - x_1}$$
	Use the property that the product of slopes of two perpendicular lines is -1
	The slope of AB is $m_{AB} = \frac{5-0}{a-0} = \frac{5}{a}$
	The slope of AC is $m_{AC} = \frac{5-0}{-5-0} = \frac{5}{-5} = -1$
	Now,
	$$m_{AB} \times m_{AC} = -1$$
	$$\frac{5}{a} \times -1 = -1$$
	$$\therefore a = 5$$

Q. 28	Cirrus and cumulus are types of _____.
	a) Mountains ✗
	b) Clouds ✓
	c) Waves ✗
	d) Soil ✗
Explanation:	The correct answer: b
	Explanation:
	Cirrus and cumulus are types of **clouds**, each having distinct characteristics and formations in the atmosphere.
	• **Cirrus Clouds** → Thin, wispy clouds that form at **high altitudes (above 20,000 feet)**. They indicate **fair weather** but can also signal an approaching **weather disturbance**. • **Cumulus Clouds** → Fluffy, cotton-like clouds that typically form at **lower altitudes** and are associated with **fair weather**. However, when they grow taller, they can develop into **cumulonimbus clouds**, bringing **thunderstorms**.

Q. 29

Study the given pattern carefully and select the number that can replace the question mark (?) in it.

a) 9 ✗

b) 12 ✗

c) 3 ✗

d) 2 ✔

Explanation:

$$\frac{6 \times 5}{15} = 2 \qquad \frac{4 \times 6}{3} = 8 \qquad \frac{2 \times 9}{6} = 3$$

$$\frac{25 \times 3}{15} = 5 \qquad \frac{6 \times 2}{3} = 4 \qquad ? = \frac{4 \times 3}{6} = 2$$

Certain number　　　Certain number　　　Certain number

Q. 30	The number of pairs of twin primes between 1 and 100 are: a) 7 ✗ b) 9 ✗ c) 10 ✗ d) 8 ✓
Explanation:	The correct answer is: d • Twin primes are pairs of prime numbers that differ by 2 • Prime numbers are natural numbers greater than 1 that have no positive divisors other than 1 and themselves. The prime numbers between 1 and 100 are: 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47, 53, 59, 61, 67, 71, 73, 79, 83, 89, 97. Pairs of twin primes are: (3,5), (5,7), (11,13), (17,19), (29,31), (41,43), (59,61), (71,73) There are 8 pairs of twin primes between 1 and 100.

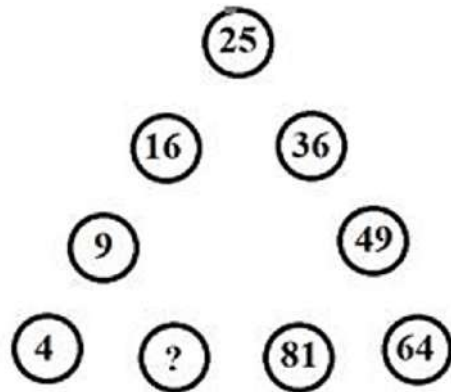| Q. 31	Who has won the women's singles title in 'Miami Open Champion 2025'? a) Iga Świątek ✗ b) Coco Gauff ✗ c) Aryna Sabalenka ✓ d) Elena Rybakina ✗
Explanation:	The correct answer is: c **Explanation:** **Aryna Sabalenka** won the **women's singles title** at the **2025 Miami Open**, defeating **Jessica Pegula** in the final with a score of **7–5, 6–2**. This victory marked her **eighth WTA 1000 title** and **19th career WTA Tour title**. Sabalenka dominated the tournament, not dropping a single set throughout her matches, further solidifying her position as one of the top players in women's tennis.

Q. 32	Ramani started a business with a capital of ₹8,000. Vanita joined the business after 4 months with a capital of ₹6,000. At the end of one year of business if they earned a profit of ₹3,600, then the share of Vanita is:
	a) ₹1,500 ✗
	b) ₹2,400 ✗
	c) ₹1,800 ✗
	d) ₹1,200 ✔
Explanation:	The correct answer is: d Profit = Investment × Time Ramani : Vanita 8000×12 : 6000×8 2 : 1 (ratio of profit) Share of Vanita = $\frac{1}{3} \times 3600 = Rs\ 1200$

Q. 33	Four words have been given, out of which three are alike in some manner and one is different. Select the odd one.
	a) Brahmaputra ✔
	b) Godavari ✗
	c) Cauvery ✗
	d) Krishna ✗
Explanation:	The Brahmaputra originates in Tibet, while the others originate in India's Deccan Plateau, and they all drain into the Bay of Bengal.

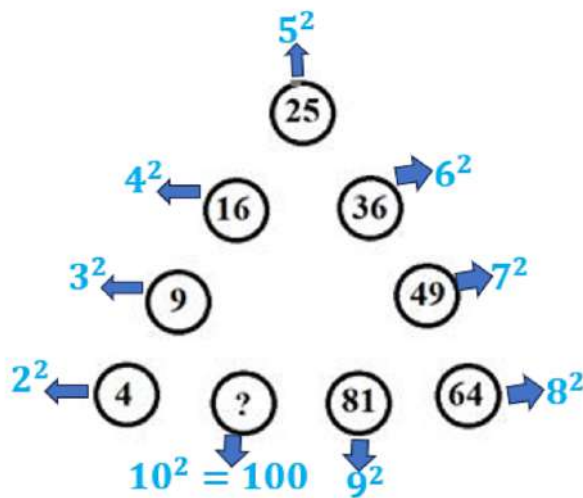| Q. 34	The Doctrine of Lapse was an annexation policy devised by which of the following Governor-Generals of India?
	a) Lord Wellesley　✗
	b) Lord Dalhousie　✓
	c) Lord Mayo　✗
	d) Lord Canning　✗
Explanation:	The correct answer is: b
	Explanation:
	The **Doctrine of Lapse** was an annexation policy introduced by **Lord Dalhousie**, the **Governor-General of India from 1848 to 1856**. According to this policy, if an Indian ruler died without a natural heir, their kingdom would be annexed by the **British East India Company** instead of allowing the ruler to adopt an heir.
	This policy led to the British annexation of several princely states, including:
	• **Satara (1848)** • **Nagpur (1853)** • **Jhansi (1854)** • **Awadh (1856)**
	The Doctrine of Lapse was one of the key factors that fuelled resentment among Indian rulers and contributed to the Revolt of 1857.

Q. 35	Study the given pattern carefully and select the number that can replace the question mark (?) in it.

(25)

(16)   (36)

(9)   (49)

(4)   (?)   (81)   (64)

a) 2   ✗

b) 100   ✓

c) 8   ✗

d) 10   ✗

Explanation:

5^2
↑
(25)

4^2 ← (16)   (36) → 6^2

3^2 ← (9)   (49) → 7^2

2^2 ← (4)   (?)   (81)   (64) → 8^2

$10^2 = 100$ 9^2

Q. 36	The ascending order of the fractions $\frac{2}{3}, \frac{1}{2}$ and $\frac{1}{6}$ is:
	a) $\frac{1}{6}, \frac{1}{2}, \frac{2}{3}$ ✓
	b) $\frac{1}{6}, \frac{2}{3}, \frac{1}{2}$ ✗
	c) $\frac{2}{3}, \frac{1}{2}, \frac{1}{6}$ ✗
	d) $\frac{2}{3}, \frac{1}{6}, \frac{1}{2}$ ✗
Explanation:	The correct answer is: a
	Fractions are $\frac{2}{3}, \frac{1}{2}, \frac{1}{6}$
	Take LCM of $(3,2,6) = 6$
	Now,
	$\frac{2}{3} \times 6 = 4$
	$\frac{1}{2} \times 6 = 3$
	$\frac{1}{6} \times 6 = 1$
	So, Ascending order of fractions are $\frac{1}{6}, \frac{1}{2}, \frac{2}{3}$

Q. 37	Which of the following is the festival that celebrates Marathi New Year?
	a) Pongal ✗
	b) Ugadi ✗
	c) Makar Sankranti ✗
	d) Gudi Padwa ✓
Explanation:	The correct answer is: d
	Explanation:
	Gudi Padwa is the festival that marks the **Marathi New Year** and is celebrated predominantly in **Maharashtra** and **Goa**. It falls on the **first day of Chaitra month** as per the **Hindu lunisolar calendar**, typically in **March or April**. The festival is associated with **new beginnings, prosperity**, and **victory**, and is observed by hoisting the **Gudi**, a decorated pole with a silk cloth, neem leaves, and a kalash (copper or silver pot) on top.
	Other options explained:
	• **Pongal** → A **harvest festival** celebrated in **Tamil Nadu**, marking the transition of the Sun into the **Makara (Capricorn) zodiac sign**.
	• **Ugadi** → Celebrates the **New Year** in **Andhra Pradesh, Telangana, and Karnataka**, based on the **lunar calendar**.
	• **Makar Sankranti** → A **harvest festival** celebrated across **India**, marking the **solar transition into Capricorn**.

Q. 38	A car travels at 48 km/h for $5\frac{1}{4}$ hours, at 42 km/h for next $4\frac{1}{2}$ hours and at 72 km/h for another $3\frac{1}{8}$ hours. What is the approximate average speed (in km/h) of the car for the entire journey?
	a) 51.7 km/h ✔
	b) 40.2 km/h ✘
	c) 90.3 km/h ✘
	d) 38.9 km/h ✘

Explanation:	Average speed = $\dfrac{\text{Total distance}}{\text{Total time}}$

$$\Rightarrow \frac{48 \times \frac{21}{4} + 42 \times \frac{9}{2} + 72 \times \frac{25}{8}}{\frac{21}{4} + \frac{9}{2} + \frac{25}{8}}$$

$$\Rightarrow \frac{\dfrac{252 + 189 + 225}{4}}{\dfrac{42 + 36 + 25}{8}}$$

$$\Rightarrow \frac{666 \times 8}{103}$$

$$\Rightarrow \frac{5328}{108} = 51.72 \text{ Km/hr}$$

Q. 39	The aim of the MISTHI Scheme is to protect and revive _____ ecosystem on the Indian coast while enhancing the socio-economic status of nearby communities. a) Mangrove ✓ b) Evergreen ✗ c) Deciduous ✗ d) Coniferous ✗
Explanation:	The correct answer is: a Explanation: The MISTHI Scheme (Mangrove Initiative for Shoreline Habitats & Tangible Incomes) is an Indian government initiative aimed at protecting, restoring, and expanding mangrove ecosystems along the country's coastline. Mangroves play a critical role in stabilizing coastal areas, preventing erosion, supporting biodiversity, and acting as natural barriers against storms and tsunamis. Additionally, the scheme focuses on improving the socio-economic conditions of coastal communities by promoting sustainable livelihoods linked to mangrove conservation, such as ecotourism and fishing.

Q. 40	Select the option in which the words share the same relationship as that shared by the given pair of words. Length : Metre a) Second : Time ✗ b) Gravity : Force ✗ c) Mass : Gram ✓ d) Kelvin : Temperature ✗
Explanation:	Meter is the SI unit of length. Mass is measured in grams, or multiples/submultiples of grams (like kilograms, milligrams, etc.)

Q. 41	**Find the value of the given expression.**
	$$\frac{cosA}{1-tanA} + \frac{sin^2A}{sinA-cosA} + 2sinA - cosA$$
	a) 3 cosA ✗
	b) 3 secA ✗
	c) 3 sinA ✓
	d) 3 cosecA ✗
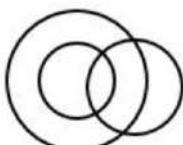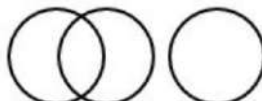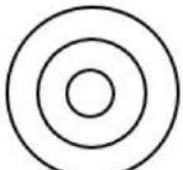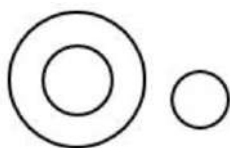
Explanation:	
	$$\frac{CosA}{1-tanA} + \frac{Sin^2A}{SinA-CosA} + 2SinA - CosA$$
	$$\Rightarrow \frac{CosA \times CosA}{CoS-SinA} + \frac{Sin^2A}{-(CosA-SinA)} + 2SinA - CosA$$
	$$\Rightarrow \frac{Cos^2A}{CosA-SinA} - \frac{Sin^2A}{CosA-SinA} + 2SinA - CosA$$
	$$\Rightarrow \frac{Cos^2A - Sin^2A}{CosA-SinA} + 2SinA - CosA$$
	$$\Rightarrow CosA + SinA + 2SinA - CosA$$
	$$\Rightarrow 3\,Sin\,A$$

Q. 42	Duleep Trophy is associated with _____.
	a) Football ✗
	b) Cricket ✓
	c) Basketball ✗
	d) Badminton ✗
Explanation:	The correct answer is: b
	Explanation:
	The **Duleep Trophy** is a **first-class cricket tournament** in India, established in **1961** by the **Board of Control for Cricket in India (BCCI)**. It is played between **regional teams** representing different zones of India, such as North, South, East, West, and Central zones. The tournament is named after **Kumar Shri Duleepsinhji**, a legendary Indian cricketer.

Q. 43	Which of the following Venn diagrams best represents the relationship between the classes: Cows, Ducks, Birds a) ✗ b) ✗ c) ✗ d) ✔
Explanation:	Ducks are birds.

Q. 44	Which of the following has SI unit Joule/second?
	a) Work ✗
	b) Force ✗
	c) Thrust ✗
	d) Power ✓

Explanation:	The correct answer is: d
	Explanation:
	The SI unit of **Power** is **Joule per second (J/s)**, which is also known as the **Watt (W)**. Power is defined as the **rate at which work is done or energy is transferred**.

Q. 45	In △ABC, if ∠A = 3∠B and ∠C = 2∠B then, what are value of ∠A, ∠B and ∠C?
	a) 90°, 60° and 30° ✗
	b) 90°, 30° and 60° ✓
	c) 60°, 30° and 90° ✗
	d) 30°, 90° and 60° ✗

Explanation:	The correct answer is: b
	$\angle A = 3\angle B, \text{ and } \angle C = 2\angle B$
	Now,
	$\angle A + \angle B + \angle C = 180^o$
	$3\angle B + \angle B + 2\angle B = 180$
	$6\angle B = 180,$
	$\therefore \angle B = 30^o$
	$\angle A = 3 \times 30 = 90^o$
	$\angle C = 2 \times 30 = 60^o$
	$\angle A, \angle B, \text{ and } \angle C = 90^o, 30^o \text{ and } 60^o$

Q. 46	In a code language, POLE is written as TSPI and BOAR is written as FSEV. How will HAT be written as in that code language?
	a) JDV ✗
	b) WDK ✗
	c) LEX ✓
	d) LDX ✗

Explanation:	
	POLE ↓↓↓↓ +4 T S P I BOAR ↓↓↓↓ +4 F S E V Similarly, HAT ↓↓↓ +4 L E X

Q. 47	Where has the 6th 'BIMSTEC Summit 2025' been organized?
	a) Thailand ✓
	b) India ✗
	c) Sri Lanka ✗
	d) Nepal ✗

Explanation:	The correct answer is: a
	Explanation:
	The **6th BIMSTEC Summit 2025** was held on **April 4, 2025**, in **Bangkok, Thailand**. The summit focused on **regional cooperation**, economic integration, and security among **BIMSTEC member nations**. Leaders from **India, Bangladesh, Bhutan, Myanmar, Nepal, Sri Lanka, and Thailand** participated in discussions aimed at strengthening ties and advancing the **Bangkok Vision 2030**.

Q. 48	The cube root of 150 will lie between: a) 6 and 7 ✗ b) 4 and 5 ✗ c) 5 and 6 ✓ d) 7 and 8 ✗
Explanation:	The correct answer is: c $5^3 = 125$ $6^3 = 216$ 150 lies between 125 and 216 So, cube root of 150 lies between 5 and 6

Q. 49	Who has been honoured with the 'Lata Deenanath Mangeshkar Award 2025'? a) Kumar Mangalam Birla ✓ b) Asha Bhosle ✗ c) Amitabh Bachchan ✗ d) Sonali Kulkarni ✗
Explanation:	The correct answer is: a Explanation: Kumar Mangalam Birla, the chairman of Aditya Birla Group, was honoured with the Lata Deenanath Mangeshkar Award 2025 for his contributions to industry and national development. The award, instituted in memory of legendary singer Lata Mangeshkar, recognizes individuals who have made exceptional contributions in various fields, including music, cinema, and social service.

Q. 50	In a certain code language, DRAGON is written as BPYEML. How will STARK be written as in that language?
	a) QPYRI ✗
	b) QRYPI ✔
	c) QRPYI ✗
	d) QYRPI ✗

Explanation:	**D R A G O N** ↓ ↓ ↓ ↓ ↓ ↓ −2 **B P Y E M L** Similarly, **S T A R K** ↓ ↓ ↓ ↓ ↓ −2 **Q R Y P I**

Q. 51	An urn contain 7 white, 5 black and 3 Red balls. Two balls are drawn at random, find the probability that one ball is white.
	a) $\dfrac{4}{15}$ ✗
	b) $\dfrac{8}{15}$ ✔
	c) $\dfrac{7}{15}$ ✗
	d) $\dfrac{2}{15}$ ✗

Explanation:	Probability $= \dfrac{7C_1 \times 8C_1}{15C_2} = \dfrac{8}{15}$

Q. 52	Who has launched 'FRAM2' mission to send the first human space mission to Earth's polar orbit? a) NASA　✗ b) SpaceX　✓ c) ESA　✗ d) JAXA　✗
Explanation:	The correct answer is: b **Explanation:** The **FRAM2 mission** was launched by **SpaceX** on **March 31, 2025**, using the **Crew Dragon Resilience** spacecraft. This mission was **the first human spaceflight to enter a true polar orbit**, passing directly over both the **North and South Poles**. The mission was **privately funded** by **Chun Wang**, a Maltese entrepreneur, and carried a crew of four civilians. During their **four-day journey**, they conducted **22 scientific experiments**, including the **first-ever X-ray taken in space** and studies on **human health in microgravity**.

Q. 53	Find the number of points on the x-axis that are at a distance of 'c' units (c < 3) from the point (2, 3).
	a) 2 ✗
	b) 0 ✔
	c) 3 ✗
	d) 1 ✗
Explanation:	The correct answer is: b
	Any point on the x-axis has coordinates (x, 0).
	The distance formula between two points (x_1, y_1) and (x_2, y_2) is
	$$\sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$
	The distance between (x, 0) and (2, 3) is c.
	Now, using distance formula:
	$$\sqrt{(x - 2)^2 + (0 - 3)^2} = c$$
	$$c^2 = (x - 2)^2 + 9$$
	$$c^2 - 9 = (x - 2)^2$$
	Given, c<3
	$$c^2 < 9$$
	$$c^2 - 9 < 0$$
	Since $(x - 2)^2$ cannot be negative, there are no real solutions for x.
	The number of points on the x-axis at a distance of c units (where c < 3) from the point (2, 3) is 0.

Q. 54	Who has been appointed as the Chairman of the 23rd Law Commission of India in April 2025?
	a) Justice Ritu Raj Awasthi ✗
	b) Justice K.T. Sankaran ✗
	c) Justice Dinesh Maheshwari ✓
	d) Advocate Hitesh Jain ✗
Explanation:	The correct answer is: c
	Explanation:
	In **April 2025**, the **Ministry of Law and Justice** appointed **Justice Dinesh Maheshwari** as the **Chairperson of the 23rd Law Commission of India (LCI)**. He succeeded **Justice (Retired) Ritu Raj Awasthi**, who chaired the **22nd Law Commission**.
	Justice Maheshwari previously served as a **Judge of the Supreme Court of India (2019–2023)** and held positions as the **Chief Justice of Meghalaya High Court (2016)** and **Chief Justice of Karnataka High Court (2018)**.

Q. 55	The given bar graph shows the sales of carpet (in thousand numbers) from five different shops – A, B, C, D and E – in the years 2017 and 2018.
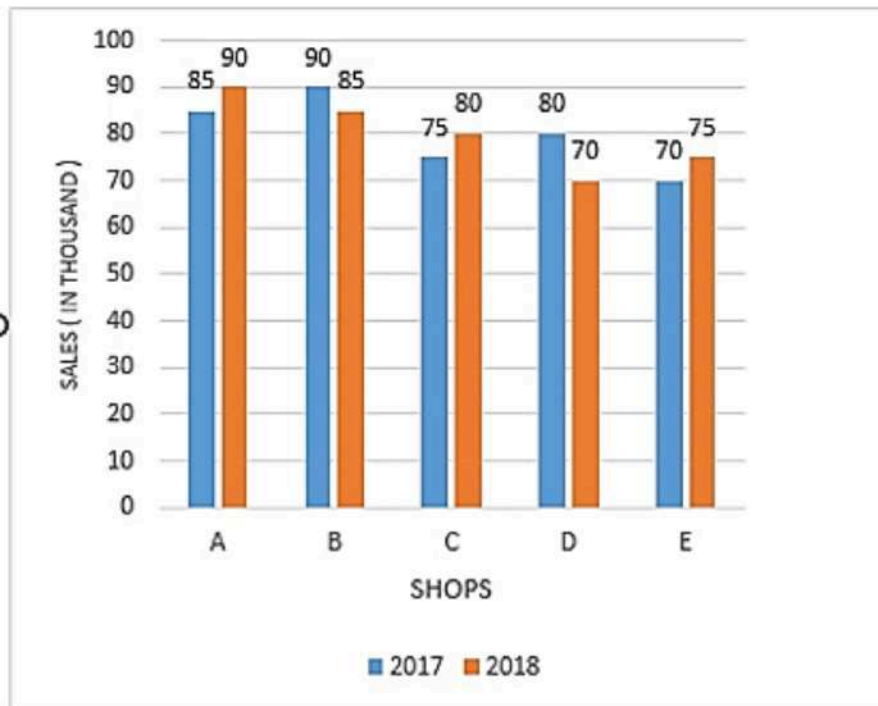
What is the average sales from all the shops (in thousand numbers) for the year 2018?

a) 100 ✗

b) 80 ✓

c) 90 ✗

d) 85 ✗

Explanation:	Average sales= $(90 + 85 + 80 + 70 + 75) \div 5 = \frac{400}{5} = 80$

Q. 56	Which structure is responsible for maintaining the amount of water in Amoeba?
	a) Plasma membrane ✗
	b) Food vacuole ✗
	c) Contractile vacuole ✓
	d) Cytoplasm ✗
Explanation:	The correct answer is: c
	Explanation:
	The **contractile vacuole** is responsible for maintaining **water balance** in **Amoeba** and other freshwater unicellular organisms. Since Amoeba lives in **hypotonic environments**, water continuously enters its cell through **osmosis**. The **contractile vacuole** helps prevent the cell from **bursting due to excess water** by periodically **expelling the extra water** outside.

Q. 57	A few lead spheres of diameter 10 cm are dropped into a cylindrical beaker containing some water such that they are fully submerged. If the diameter of the beaker is 25 cm and the water level has risen by 32 cm, find the number of lead spheres dropped into the beaker.
	a) 63 ✗
	b) 36 ✗
	c) 30 ✓
	d) 29 ✗
Explanation:	N * 4/3 * pie * (10/2)^3 = pie * (25/2) * (25/2) * 32
	N = 5 * 2 * 3 = 30

Q. 58	Which one of the following is a biology catalyst?
	a) Enzymes ✓
	b) Minerals ✗
	c) Hormones ✗
	d) Radiation ✗
Explanation:	The correct answer is: a
	Explanation:
	Enzymes are **biological catalysts** that **speed up chemical reactions** in living organisms **without being consumed in the process**. They help regulate metabolic processes such as **digestion, respiration, and DNA replication** by lowering the **activation energy** required for a reaction to occur.

Q. 59	Study the graph of the production of laptops by three different companies namely A, B and C over the years.
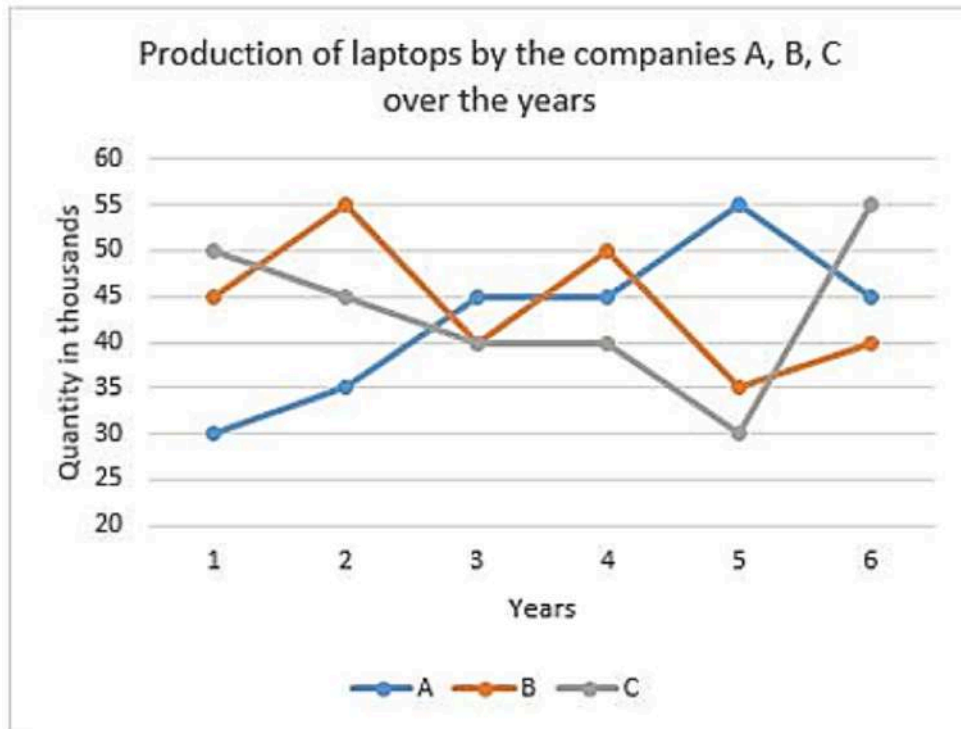
In which year was the difference in production (in percentage) maximum between company C and B?

a) Year 4 ✗

b) Year 6 ✓

c) Year 1 ✗

d) Year 2 ✗

Explanation:	**At the year 6,** Production of laptops by the companies B= 40 Production of laptops by the companies C= 55 Difference in percentage= $\frac{55-40}{40} \times 100 = \frac{15}{40} \times 100 = 37.5\%$

Q. 60	Which festival from West Bengal has found a place in the UNESCO list of Intangible Cultural Heritage of Humanity?
	a) Poush Sankranti ✗
	b) Jamai Shashti ✗
	c) Durga Puja ✓
	d) Poila Baisakh ✗
Explanation:	The correct answer is: c
	Explanation:
	Durga Puja is the **most celebrated** festival in **West Bengal**, and in **2021**, UNESCO included it in its **Intangible Cultural Heritage of Humanity** list. This recognition highlights its **deep cultural significance**, elaborate artistic expression, and **community involvement**.

Q. 61	Solve the following.
	$Subtract \frac{9}{2} + \frac{x}{2} + \frac{3}{5}x^2 + \frac{7}{4}x^3. from \frac{7}{2} - \frac{x}{3} - \frac{1}{5}x^2.$
	a) $1 - \frac{5}{6}x - \frac{4}{5}x^2 + \frac{7}{4}x^3$ ✗
	b) $-1 - \frac{5}{6}x - \frac{4}{5}x^2 - \frac{7}{4}x^3$ ✔
	c) $1 - \frac{5}{6}x + \frac{4}{5}x^2 + \frac{7}{4}x^3$ ✗
	d) $-1 - \frac{5}{6}x - \frac{4}{5}x^2 + \frac{7}{4}x^3$ ✗

Explanation:

The correct answer is: b

$$\left[\frac{7}{2} - \frac{x}{3} - \frac{1}{5}x^2\right] - \left[\frac{9}{2} + \frac{x}{2} + \frac{3}{5}x^2 + \frac{7}{4}x^3\right]$$

$$\frac{7}{2} - \frac{x}{3} - \frac{1}{5}x^2 - \frac{9}{2} - \frac{x}{2} - \frac{3}{5}x^2 - \frac{7}{4}x^3$$

$$\frac{7}{2} - \frac{9}{2} - \frac{x}{3} - \frac{x}{2} - \frac{1}{5}x^2 - \frac{3}{5}x^2 - \frac{7}{4}x^3$$

$$-1 - \frac{5}{6}x - \frac{4}{5}x^2 - \frac{7}{4}x^3$$

Q. 62	The following table shows the marks obtained by two students, Raj and Rohit, in different subjects.

Subject	Raj	Maximum Marks	Rohit	Maximum marks
Mathematics	37	50	48	50
Physics	45	50	30	50
Chemistry	42	50	45	50
Biology	32	50	35	50

What is the difference between Rohit and Raj's percentage of aggregate marks?

a) 2% ✗

b) 4% ✗

c) 1% ✔

d) 5% ✗

Explanation:

Maximum marks= 200
Raj aggregate marks= 156
Percentage= $\frac{156}{200} \times 100 = 78\%$

Rohit aggregate marks= 158
Percentage= $\frac{158}{200} \times 100 = 79\%$

Difference between Rohit and raj percentage= $(79\% - 78\%) = 1\%$

Q. 63	Conversion of ethanol to ethanoic acid is catalysed by:
	a) Acidified K_2CrO_4 and Alkaline K_2MnO_4 ✗
	b) Alkaline $KMnO_4$ and Acidified $K_2Cr_2O_7$ ✓
	c) Alkaline K_2MnO_4 and Acidified $K_2Cr_2O_7$ ✗
	d) Acidified K_2MnO_4 and Alkaline $K_2Cr_2O_7$ ✗
Explanation:	The correct answer is: b

Explanation:

The **conversion of ethanol (C_2H_5OH) to ethanoic acid (CH_3COOH)** occurs via **oxidation**, where ethanol first gets converted to **ethanal (CH_3CHO)** and then oxidized further to **ethanoic acid**.

Alkaline $KMnO_4$ (Potassium permanganate) and Acidified $K_2Cr_2O_7$ (Potassium dichromate) are **strong oxidizing agents**, and they efficiently facilitate this reaction.

Reaction Overview:

1. **Ethanol → Ethanal (Acetaldehyde) → Ethanoic Acid**
2. **Oxidizing Agents**:
   - Acidified Potassium Dichromate ($K_2Cr_2O_7 + H_2SO_4$).
   - Alkaline Potassium Permanganate ($KMnO_4 + NaOH$ or KOH). |

| Q. 64 | Find the value:

$Cos1°\ cos2°\ cos3°\ ...\ cos89°\ cos90°$

a) $1/2$ ✗

b) $1/\sqrt{2}$ ✗

c) 0 ✓

d) 1 ✗ |
|---|---|
| Explanation: | The correct answer is: c

$cos90^o = 0$

So,

$cos1^o cos2^o cos3^o ... cos89^o cos90^o$
$= 0$ |

Q. 65	In the following table, the production of wheat (in tonnes) in three different states – Bihar, Kashmir and Punjab – over the years 2015 to 2018 is shown.

Years / States	2015	2016	2017	2018
Bihar	7.2	7.8	6.2	7
Kashmir	5.6	6.2	5	5.2
Punjab	6.2	6	5.8	5.6

What is the difference between the total production of wheat (in tonnes) in all the three states together in 2015 and that in 2016?

a) 0.5 tonnes ✗

b) 1 tonne ✔

c) 5 tonnes ✗

d) 3 tonnes ✗

Explanation:	Total production of wheat in all the three states together in 2015= $(7.2 + 5.6 + 6.2) = 19$ Total production of wheat in all the three states together in 2016= $(7.8 + 6.2 + 6) = 20$ Difference= $(20 - 19) = 1 \, tonne$

Q. 66	The Veda Samaj was established in_____.
	a) Madras ✔
	b) Punjab ✘
	c) Calcutta ✘
	d) Bombay ✘
Explanation:	The correct answer is: a
	Explanation:
	The **Veda Samaj** was established in **Madras (now Chennai) in 1864** by **Keshab Chandra Sen and Sridharalu Naidu**. It was inspired by the **Brahmo Samaj**, which sought to reform Hindu society by promoting **monotheism, rational thinking, and social reforms** such as **abolition of caste discrimination** and **women's education**.

Q. 67	A alone can complete a task in 30 days, while B alone can complete it in 40 days. A and B, working together, can complete the same task in:
	a) $15\frac{2}{7} \; days$ ✘
	b) $11\frac{2}{7} \; days$ ✘
	c) $17\frac{1}{7} \; days$ ✔
	d) $18\frac{3}{7} \; days$ ✘
Explanation:	The correct answer is: c
	$A \to 30 \; days$
	$B \to 40 \; days$
	Total work (LCM of 30,40) = 120 units
	Efficiency of A $= \frac{120}{30} = 4$
	Efficiency of B $= \frac{120}{40} = 3$
	Time taken by A+B $= \frac{120}{7} = 17\frac{1}{7} \; days$

Q. 68	Select number that can replace the question mark (?) in the following series. 1, 4, 9, 16, 25, ? a) 8 ✗ b) 36 ✓ c) 40 ✗ d) 31 ✗
Explanation:	

Q. 69	A white precipitate will be formed if we add ammonia solution to: a) $Mg(NO_3)_2$ solution ✗ b) $Ba(NO_3)_2$ solution ✗ c) $AlCl_3$ solution ✓ d) KNO_3 solution ✗
Explanation:	The correct answer is: c **Explanation:** When **ammonia solution (NH_3)** is added to **$AlCl_3$ solution (Aluminum chloride)**, a **white precipitate of aluminum hydroxide ($Al(OH)_3$)** forms due to the reaction: $$Al^{3+} + 3NH_3 + 3H_2O \rightarrow Al(OH)_3 (white\,precipitate) + 3NH_4^+$$
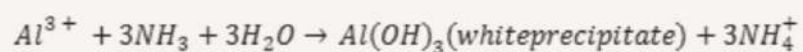
Q. 70	If a, b, c and d are in continued proportion, then $(ma^3 + nb^3 - rc^3) : (mb^3 + nc^3 - rd^3) = ?$
	a) b : c ✗
	b) c : b ✗
	c) a : d ✔
	d) d : a ✗
Explanation:	The correct answer is: c Four numbers a, b, c, and d are said to be in **continued proportion** if: $$\frac{a}{b} = \frac{b}{c} = \frac{c}{d}$$ Let the common ratio be k, so we can express all terms in terms of a: $$b = ak, c = ak^2, d = ak^3$$ Now, substitute the value in $$\frac{ma^3 + nb^3 - rc^3}{mb^3 + nc^3 - rd^3} = \frac{ma^3 + na^3k^3 - ra^3k^6}{ma^3k^3 + na^3k^6 - ra^3k^9}$$ $$= \frac{a^3(m + nk^3 - rk^6)}{a^3k^3(m + nk^3 - rk^6)} = \frac{1}{k^3}$$ Since, $\frac{a}{d} = \frac{a}{ak^3} = \frac{1}{k^3}$ Ratio is equal to a:d

Q. 71

Study the given figure carefully and select the pattern that can replace the question mark (?) in it.

a) ●●●●●● ✓

b) ●●● ✗

c) ●●●●● ✗

d) ●●●● ✗

Explanation:

$1 \text{⬠} = 2 \text{△△}$

$1 \text{△} = 2 \text{○○}$

Therefore,

$\text{⬠△} = 3 \text{△△△} = 6 \text{○○○○○○}$

Q. 72	In the context of a Microsoft Excel sheet, what does the term 'workbook' mean?
	a) A single sheet within a file ✗
	b) The entire Microsoft Excel file ✓
	c) A formula used in calculations ✗
	d) A chart or graph ✗
Explanation:	The correct answer is: b **Explanation:** In **Microsoft Excel**, a **workbook** refers to the **entire file**, which can contain **multiple sheets (worksheets)**. Each workbook serves as a container for related data, calculations, charts, and reports, helping users organize and manage complex information efficiently.

Q. 73	The angle of sector is 30°. If its radius is 42 cm, then the length of the arc of the sector is:
	a) 32 cm ✗
	b) 22 m ✗
	c) 22 cm ✓
	d) 20 cm ✗
Explanation:	The correct answer is: c Length of arc $= \dfrac{\theta}{360} \times 2\pi r$ $= \dfrac{30}{360} \times 2 \times \dfrac{22}{7} \times 42 = 22 \; cm$

Q. 74	According to the Census of India 2011, what was the density of the population of India?
	a) 460 persons/km^2 ✗
	b) 382 persons/km^2 ✓
	c) 405 persons/km^2 ✗
	d) 368 persons/km^2 ✗
Explanation:	The correct answer is: b
	Explanation:
	According to the **Census of India 2011**, the population density of India was **382 persons per square kilometre**. This means that, on average, **382 people** lived in every **1 km^2 of land area** in the country. The population density had increased from **324 persons/km^2** recorded in the **2001 Census**, showing rapid urbanization and population growth.

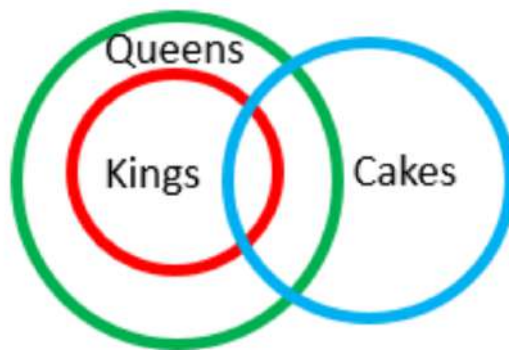| Q. 75	Read the given statements. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, select the option that CANNOT be concluded from the statements. Statement P: All kings are queens. Statement Q: Some queens are cakes. Statement R: Some kings are cakes. a) All queens are either cakes or kings. ✔ b) Some queens are neither cakes nor kings. ✘ c) Some cakes are both queens and kings. ✘ d) Some cakes are not kings but they are queens. ✘
Explanation:	All queens are either cakes or kings is false.

Q. 76	Two trains, 145 m and 155 m in length, run on parallel tracks. One train runs at the speed of 32 km/h and the other at 40 km/h. When both trains run in opposite direction, then the time required for them to cross each other completely from the moment they meet is:
	a) 12 sec ✗
	b) 10 sec ✗
	c) 20 sec ✗
	d) 15 sec ✔
Explanation:	The correct answer is: d
	Speed of trains = 32 km/h and 40 km/h
	Relative speed when running in opposite direction = 40+32 = 72km/h
	$= 72 \times \frac{5}{18} = 20$ m/s
	Time required for them to cross each other $= \frac{145+155}{20} = \frac{300}{20} = 15\ sec$

Q. 77	The fourth edition of the tri-service bilateral exercise 'Tiger Triumph 2025' has been held between India and which country?
	a) United States ✔
	b) Russia ✗
	c) France ✗
	d) Japan ✗
Explanation:	The correct answer is: a
	Explanation:
	Tiger Triumph 2025 is a **tri-service bilateral exercise** between **India and the United States**, focusing on **Humanitarian Assistance and Disaster Relief (HADR) operations.** The fourth edition was conducted from **April 1 to 11, 2025**, in **Andhra Pradesh's Kakinada.**
	The exercise aimed to **enhance interoperability** between the **Indian and U.S. armed forces**, involving joint training in disaster response, maritime operations, and air support.

Q. 78	Select the option that is related to the third term in the same way as the second term is related to the first term. Country : Coalition :: Worker : ? **a)** Skill ✗ **b)** Labour ✗ **c)** Global ✗ **d)** Union ✓
Explanation:	A **coalition** government is a cabinet of a government in which **several parties cooperate.** A trade **union** (British English) or labor union (American English), often simply referred to as a union, is an **organization of workers** whose purpose is to maintain or improve the conditions of their employment, such as attaining better wages and benefits, improving working conditions, improving safety standards, ...

Q. 79	A question is given followed by two arguments. Decide which of the arguments is/are strong/weak with respect to the question. Question: Should the government control the country's news channels? Arguments: P: News is controlled by the Government in many countries. Q: No, controlling any news loses its reliability. a) Only argument P is strong. ✗ b) Both arguments P and Q are weak. ✗ c) Only argument Q is strong. ✓ d) Both arguments P and Q are strong. ✗
Explanation:	The correct answer is: c • **Argument P: "News is controlled by the Government in many countries."** This is a **weak argument** because it simply states a fact without explaining **why** government control is beneficial or necessary. Just because something happens in other countries doesn't make it inherently right or justifiable. • **Argument Q: "No, controlling any news loses its reliability."** This is a **strong argument** because it directly addresses the impact of government control on the reliability of news. If news is controlled, it may become biased or censored, reducing trust in its authenticity. So, **Argument Q is stronger** in terms of reasoning and relevance.

Q. 80	Which part of the Indian Constitution deals with the Election Commission?
	a) Part XV ✓
	b) Part XII ✗
	c) Part IV ✗
	d) Part XI ✗
Explanation:	The correct answer is: a
	Explanation:
	Part XV of the **Indian Constitution** deals with **Elections** and includes provisions related to the **Election Commission of India (ECI)**, electoral processes, and guidelines for conducting **free and fair elections** in the country. Articles **324 to 329** are part of this section, outlining the functions and powers of the **Election Commission**.

Q. 81	Find the points of intersection of the line 4x – 3y = 10 and the circle x^2 + y^2 – 2x + 4y – 20 = 0.
	a) (4, 2) and (–2, –6) ✔
	b) (–2, 3) and (4, 2) ✘
	c) (2, –3) and (4, 2) ✘
	d) (–2, 3) and (4, 3) ✘

Explanation:	The correct answer is: a
	$4x - 3y = 10$
	$=> x = \dfrac{3y + 10}{4}$
	Put the value of x in
	$x^2 + y^2 - 2x + 4y - 20 = 0$
	$\left(\dfrac{3y + 10}{4}\right)^2 + y^2 - 2\left(\dfrac{3y + 10}{4}\right) + 4y - 20 = 0$
	$\dfrac{9y^2 + 100 + 60y}{16} + y^2 - \dfrac{3y + 10}{2} + 4y - 20 = 0$
	$9y^2 + 100 + 60y + 16y^2 - 24y - 80 + 64y - 320 = 0$
	$25y^2 + 100y - 300 = 0$
	$y^2 + 4y - 12 = 0$
	$(y + 6)(y - 2) = 0$
	$y_1 = -6, \; y_2 = 2$
	Put the values of y in
	$x_1 = \dfrac{3 \times -6 + 10}{4} = -2$
	$x_2 = \dfrac{3 \times 2 + 10}{4} = 4$
	Points are (-2,-6) and (4,2)

Q. 82	Six gloves are placed on a table side by side labelled P, Q, R, S, T and U. T, U and S are rubber gloves, whereas the others are wollen. Three gloves – S, P and Q – are of green colour, whereas the rest are black in colour. Gloves Q, S and U are the gloves gifted by someone, whereas the others are bought. Which of the following is a black, rubber glove that has NOT been gifted?
	a) S ✗
	b) R ✗
	c) U ✗
	d) T ✔
Explanation:	Wollen Rubber gloves **P Q R S T U** **S P Q** = *Green* **R T U** = *Black* **Q S U** = *Gifted* **P R T** = *Boughted* Black rubber gloves that has not been gifted= **T**

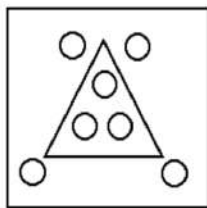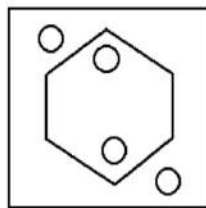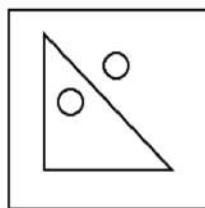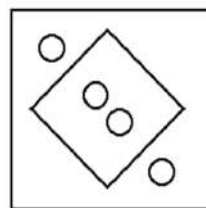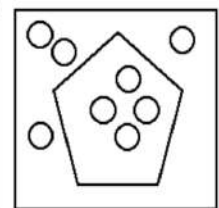| Q. 83	_____ is swim on the back in swimming. a) Freestyle ✗ b) Backstroke ✓ c) Butterfly stroke ✗ d) Streamline ✗
Explanation:	The correct answer is: b Explanation: **Backstroke** is the only competitive swimming style where the swimmer moves through the water while **lying on their back**. Unlike freestyle and butterfly strokes, the swimmer does **not submerge their face**, making it unique among swimming techniques. **How Backstroke Works:** • Arms move in an **alternating circular motion**, propelling the swimmer forward. • Legs perform a **flutter kick**, similar to freestyle. • The swimmer looks **upward**, using a strong **hip rotation** for efficiency.
Q. 84	Out of the four figures listed in the options, one is different from the others in some manner. Select the odd one out. Figure A Figure B Figure C Figure D Figure E a) Figure B ✗ b) Figure A ✓ c) Figure C ✗ d) Figure E ✗
Explanation:	**Logic:** no. of circle inside the figure is same as no. of circle outside the figure.

Q. 85	Alignment of chromosomes in the centre of the cell at the equatorial plate constitutes which stage of mitosis?
	a) Telophase ✗
	b) Prophase ✗
	c) Metaphase ✓
	d) Anaphase ✗
Explanation:	The correct answer is: c
	Explanation:
	Metaphase is the stage of **mitosis** where chromosomes align at the **equatorial plate (metaphase plate)** in the centre of the cell. This alignment ensures that **sister chromatids are evenly distributed** to daughter cells during the next phase.
	Key characteristics of Metaphase:
	• The **spindle fibres** attach to the **centromeres** of chromosomes.
	• Chromosomes are **fully condensed** and positioned **midway** between the cell poles.
	• This stage is critical for ensuring **equal genetic division** during cell replication.

Q. 86	The smallest number that can be divided exactly by 16, 18, 27 and 45 is:
	a) 2160 ✓
	b) 1060 ✗
	c) 1640 ✗
	d) 1540 ✗

Explanation:	The correct answer is: a
	• The smallest number divisible by a set of numbers is their least common multiple (LCM).
	$16 = 2^4$
	$18 = 2 \times 3^2$
	$27 = 3^3$
	$45 = 3^2 \times 5$
	LCM of 16, 18, 27, and 45 = $2^4 \times 3^3 \times 5 = 2160$
	The smallest number divisible by 16, 18, 27, and 45 is 2160.

Q. 87	'A#B' means 'A is the brother of B', 'A^B' means 'A is the daughter of B', 'A*B' means 'A is the aunt of B' and 'A%B means 'A is the mother of B'. If P * G % U # V ^ T # Z * V, then how is Z related to G? **a)** Brother's Wife ✗ **b)** Sister's Husband ✗ **c)** Brother's Daughter ✗ **d)** Husband's Sister ✔
Explanation:	m= male f= female Father — P_f $G_f = T_m$ — Z_f U_m — V_f
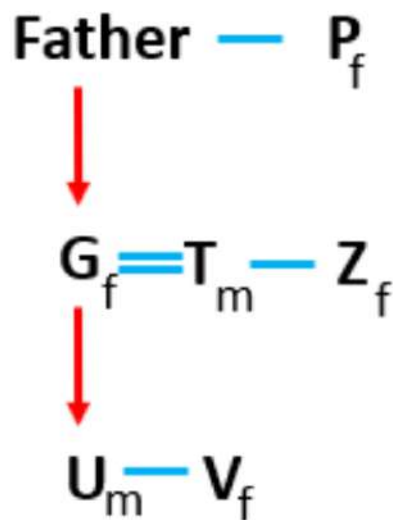
Q. 88	A bullet of mass 12 g is fired from a rifle. The bullet takes 0.006 second to move through its barrel and leaves it with a velocity of 300 m/s. What is the force exerted on the bullet by the rifle?
	a) 720 Newton ✗
	b) 180 Newton ✗
	c) 900 Newton ✗
	d) 600 Newton ✓

Explanation:	The correct answer is: d

To find the force exerted on the bullet, we use **Newton's Second Law:**

$$\text{Force} = \frac{\text{Change in momentum}}{\text{Time}} = \frac{m \cdot v}{t}$$

Given:

- Mass of bullet $m = 12\,g = 0.012\,kg$ (converted to kg)
- Final velocity $v = 300\,m/s$
- Time $t = 0.006\,s$

Step-by-step solution:

$$\text{Force} = \frac{0.012 \times 300}{0.006}$$

$$\text{Force} = \frac{3.6}{0.006} = 600\,N$$

Q. 89	Sita, Gita and Rita invested ₹20,000, ₹50,000 and ₹40,000, respectively, in a business. The net profit for the year was ₹12,100, which was divided in proportion to their investments. Find the share of profit earned by Rita. a) ₹4,400 ✓ b) ₹4,100 ✗ c) ₹4,300 ✗ d) ₹4,200 ✗
Explanation:	The correct answer is: a Sita　:　Gita :　Rita 20000 : 50000 : 40000 2 : 5 : 4 Share earned by Rita $= \frac{4}{11} \times 12100 = Rs\ 4400$

Q. 90	If every third letter from the left to right of the English alphabet is deleted, then what would be the ninth letter from the right in the new series obtained? a) I ✗ b) M ✗ c) N ✓ d) R ✗
Explanation:	

Q. 91	The Right to Freedom includes the right to practice any profession, occupation, trade, or business under which articles of the Indian Constitution?
	a) Article 19-22　✓
	b) Article 14-18　✗
	c) Article 25-28　✗
	d) Article 23-24　✗
Explanation:	The correct answer is: a
	Explanation:
	The **Right to Freedom** is covered under **Articles 19 to 22** of the **Indian Constitution**. Among these, **Article 19(1)(g)** grants every citizen the right to **practice any profession, occupation, trade, or business** freely, ensuring economic independence and individual choice in professional activities.
	However, the state can impose **reasonable restrictions** for **public interest**, national security, or professional regulations (such as licensing for certain professions).
	Subclauses of Article 19(1):

	1. **Article 19(1)(a) → Freedom of Speech and Expression**
	     ○ Citizens have the right to express their thoughts and opinions.
	 2. **Article 19(1)(b) → Freedom to Assemble Peacefully**
	     ○ Citizens can hold **public meetings, rallies, protests** without arms.
	 3. **Article 19(1)(c) → Freedom to Form Associations or Unions**
	     ○ Citizens can establish **political parties, trade unions, cooperatives**.
	 4. **Article 19(1)(d) → Freedom to Move Freely Throughout India**
	     ○ Citizens can travel anywhere within **India**.
	 5. **Article 19(1)(e) → Freedom to Reside and Settle in Any Part of India**
	     ○ Citizens can **reside or settle anywhere** in the country.
	 6. **Article 19(1)(g) → Freedom to Practice Any Profession, Trade, or Business**
	     ○ Citizens can take up any **occupation, profession, trade, or business**.

Q. 92	Identify the place where the South East Central Railway Zone headquarters is located.
	a) Chennai ✗
	b) Bilaspur ✓
	c) Mumbai ✗
	d) Kolkata ✗
Explanation:	The correct answer is: b
	Explanation:
	The **South East Central Railway (SECR) Zone** has its headquarters in **Bilaspur, Chhattisgarh**. It was formed in **2003** as part of the Indian Railways' restructuring to improve **administration and efficiency** in railway operations.
	The zone primarily serves **Chhattisgarh, Madhya Pradesh, and Maharashtra**, with major divisions located in **Bilaspur, Nagpur, and Raipur**. SECR is significant for **coal transportation, freight services, and passenger rail connectivity**.

Q. 93	Read the given statement and select the conclusion from the options that logically follow(s) from the statement. Statement: A chain is only as strong as it weakest link. a) The strength of the weakest link determines how strong the chain is. ✔ b) The weakness of a link is due to the strength of its chain. ✘ c) The weakness of the chain is due to its strongest link. ✘ d) The strength of a link is due to its strongest link. ✘
Explanation:	The correct conclusion that logically follows from the statement **"A chain is only as strong as its weakest link"** is: ✅ **The strength of the weakest link determines how strong the chain is.** This aligns with the idea that the overall strength of a system depends on its weakest component. If one part is fragile, it limits the overall performance, regardless of how strong the other parts are. The other options do not logically follow: ✖ **The weakness of a link is due to the strength of its chain.** (Doesn't make sense—the strength of the chain doesn't cause weakness in a link.) ✖ **The weakness of the chain is due to its strongest link.** (Incorrect—the chain's strength is determined by its weakest link, not its strongest.) ✖ **The strength of a link is due to its strongest link.** (Not relevant—the statement focuses on the weakest link affecting overall strength.)

Q. 94	The radius of a wheel is 70 cm. If the wheel makes 10 revolutions in 5 seconds covering a certain distance, then the speed of the wheel is: a) 36.24 km/h ✗ b) 31.68 km/h ✓ c) 32.72 km/h ✗ d) 29.46 km/h ✗
Explanation:	The correct answer is: b Radius of wheel = 70 cm Distance covered in one revolution = $2\pi r = 2 \times \frac{22}{7} \times 70 = 440\ cm$ Distance covered in 10 revolutions = 440×10 = 4400 cm = 44 m Speed = $\frac{44}{5} \times \frac{18}{5} = 31.68$ km/h

Q. 95	Which of the following is NOT a poverty alleviation programme in India?
	a) Swarna Jayanti Shahari Rozgar Yojana ✗
	b) Rashtriya Ucchatar Shiksha Abhiyan ✓
	c) Integrated Rural Development Program ✗
	d) Prime Minister Rozgar Yojana ✗
Explanation:	The correct answer is: b
	Explanation:
	Rashtriya Ucchatar Shiksha Abhiyan (RUSA) is a **higher education funding programme**, aimed at improving **the quality and access** to higher education institutions in India. It focuses on **university infrastructure, faculty development, and academic reforms**, rather than directly addressing poverty alleviation.
	All the other programmes are **poverty alleviation schemes**, aimed at improving **employment, income generation, and rural development**:
	• **Swarna Jayanti Shahari Rozgar Yojana (SJSRY)** → Launched to **generate urban employment** through skill development and self-employment support.
	• **Integrated Rural Development Program (IRDP)** → Aimed at **uplifting rural poor** by providing assets and skills for income generation.
	• **Prime Minister Rozgar Yojana (PMRY)** → Focuses on **self-employment** for unemployed youth by offering financial assistance and skill training.

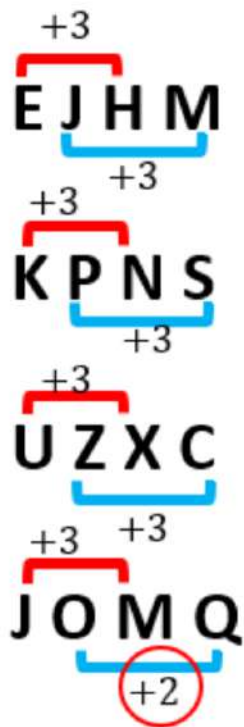| Q. 96	Out of the four letter-clusters listed, three are alike in some manner and one is different. Select the odd one.
	a) EJHM ✗
	b) KPNS ✗
	c) UZXC ✗
	d) JOMQ ✓

Explanation:	

$$+3$$
E J H M
$$+3$$

$$+3$$
K P N S
$$+3$$

$$+3$$
U Z X C
$$+3$$

$$+3 \quad +3$$
J O M Q
$$(+2)$$

Q. 97	"Dreams From My Father" is an autobiography of_____.
	a) Benito Mussolini ✗
	b) Anne Frank ✗
	c) Benjamin Franklin ✗
	d) Barack Obama ✓
Explanation:	The correct answer is: d
	Explanation:
	"Dreams from My Father: A Story of Race and Inheritance" is the autobiography of Barack Obama, published in 1995. It explores his early life, identity, and experiences as the son of a Kenyan father and an American mother. The book delves into themes of race, family, and self-discovery, covering his journey from childhood to adulthood, including his work as a community organizer in Chicago.

Q. 98	The remainder, when 11^41 + 3 is divided by 10, is:
	a) 4 ✓
	b) 5 ✗
	c) 6 ✗
	d) 3 ✗
Explanation:	The correct answer is: a
	$$\frac{11^{41} + 3}{10} = \frac{11^{41}}{10} + \frac{3}{10}$$
	$$\frac{11^{41}}{10} \rightarrow remainder = 1$$
	$$\frac{3}{10} \rightarrow remainder = 3$$
	Therefore,
	Remainder = 1+3 = 4

Q. 99	We can add a table in an MS Word document from which of the following tabs? a) View Tab ✗ b) Home Tab ✗ c) Design Tab ✗ d) Insert Tab ✓
Explanation:	The correct answer is: d **Explanation:** In **Microsoft Word**, tables are added from the **Insert Tab**, which provides options to create and customize tables. Users can manually draw tables or insert pre-designed layouts to structure their content efficiently. **Steps to Insert a Table:** 1. Go to the **Insert Tab** on the ribbon. 2. Click on **Table** → Select the number of rows & columns needed. 3. You can also use **Draw Table** or **Excel Spreadsheet** for more customization.

Q. 100	If $3x^2 + ax + 4$ is perfectly divisible by $x – 5$, then the value of a is:
	a) -5 ✗
	b) -15.8 ✓
	c) -15.6 ✗
	d) -12 ✗
Explanation:	The given polynomial is perfectly divisible by $x – 5$ implies that $x – 5$ is a factor of the given polynomial. $$x - 5 = 0 \Rightarrow x = 5$$ $$3(5)^2 + 5a + 4 = 0$$ $$5a = -79$$ $$a = -15.8$$