RBE NTPC 2025 Live Mock May 31,2025

Q. 1	Select the option that is related to the third word in the same way as the second word is related to the first word.
	Season : Summer :: Month : ?
	a) Weather ✗
	b) December ✓
	c) Day ✗
	d) Year ✗
Explanation:	Summer is one of the four seasons. Similarly, December is one of the months of the year.

Q. 2	If x + y + z = 9, $x^2 + y^2 + z^2 = 91$ and $x^3 + y^3 + z^3 = 925$, then the value of 3xyz is:
	a) 78 ✗
	b) 61 ✓
	c) 53 ✗
	d) 59 ✗
Explanation:	

$$x^3 + y^3 + z^3 - 3xyz = (x+y+z)\left[\frac{3(x^2+y^2+z^2) - (x+y+z)^2}{2}\right]$$

$$925 - 3xyz = 9\left[\frac{3 \times 91 - 81}{2}\right]$$

$$925 - 3xyz = 9\left(\frac{192}{2}\right)$$

$$925 - 3xyz = 864 \Rightarrow 3xyz = 925 - 864$$

$$xyz = \frac{61}{3}$$

$$\therefore 3xyz = 61 \ (Ans)$$

Q. 3	**What motion is moved by a member if they believe that a Minister has committed a breach of privilege of the House?**
	a) **Calling Attention Motion** ✗
	b) **Adjournment Motion** ✗
	c) **Privilege Motion** ✓
	d) **Point of Order** ✗

Explanation:	The correct answer is: c
	Explanation:
	A **Privilege Motion** is a formal motion raised by a member of Parliament if they believe that a Minister or any other member has violated the privileges of the House. Parliamentary privileges include rights and immunities enjoyed by members to ensure they function effectively without undue interference. If these privileges are breached—such as misrepresentation of facts, misleading statements, or obstruction of legislative functions—a Privilege Motion can be initiated.
	Once moved, the motion is reviewed by the Speaker (in the Lok Sabha) or the Chairman (in the Rajya Sabha). If deemed valid, it may be referred to the **Committee of Privileges**, which investigates the matter and submits recommendations. Based on findings, the House may take disciplinary action against the accused member.
	Explanation of the other options:
	1. **Calling Attention Motion:** This motion allows a member to call the attention of a Minister to a matter of urgent public importance. It does not involve any breach of privilege but serves as a means to seek an official response on critical issues. The Minister then provides a statement or explanation on the subject.
	2. **Adjournment Motion:** This motion is used to interrupt the normal proceedings of the House to discuss a definite matter of urgent public importance. If admitted, it leads to the suspension of regular business, allowing members to debate the pressing issue. It is often used in cases of serious national concern, such as government failures or major incidents.
	3. **Point of Order:** A Point of Order is raised by a member when they believe that the rules or procedures of the House are being violated during a debate or discussion. It does not involve substantive discussion but seeks immediate clarification or correction of a procedural error.

Q. 4	If 'P + Q' means 'P is the brother of Q', 'P – Q' means 'P is the sister of Q', 'P * Q' means 'P is the husband of Q', and 'P / Q' means 'P is the son of Q', then which of the following shows that 'K is the daughter of M'?
	a) K – L / N * M ✓
	b) L * K – N + M ✗
	c) K – L / N + M ✗
	d) K + L / N – M ✗

Explanation:	$$N_m = M_f$$ $$\downarrow$$ $$K_f \text{—} L_m$$

Q. 5	To select adjacent icons on the desktop, you must press the _____ key and then click the icons that you wish to select.
	a) Ctrl ✗
	b) Alt ✗
	c) Tab ✗
	d) Shift ✓

Explanation:	The correct answer is: d
	Explanation:
	The **Shift key** is used to select multiple **adjacent** icons (icons that are next to each other) in a straight line—either vertically or horizontally. The process follows these steps:
	1. Click on the **first** icon you want to select.
	2. Hold down the **Shift** key on your keyboard.
	3. Click on the **last** icon in the range you want to select.
	4. All icons between the first and last clicked icons will be selected automatically.
	This method is useful when selecting multiple files, images, or shortcuts that are grouped together in a folder or on the desktop. After selecting, users can perform actions like deleting, moving, or copying all selected icons at once.

Q. 6	If (3, 8), (6, 2), (x, 4) are the vertices of a triangle whose area is 18 (sq. units), then find the possible value of x.
	a) 4 ✗
	b) 7 ✗
	c) 9 ✗
	d) 11 ✓

Explanation:	
	Area of triangle $= \frac{1}{2}[x_1(y_2 - y_3) + x_2(y_3 - y_1) + x_3(y_1 - y_2)]$
	$x_1 = 3 ; \ x_2 = 6 ; \ x_3 = x$
	$y_1 = 8 ; \ y_2 = 2 ; \ y_3 = 4$
	$\Rightarrow \frac{1}{2}[3(2-4) + 6(4-8) + x(8-2)] = 18$
	$\Rightarrow \frac{1}{2}[3 \times (-2) + 6(-4) + 6x] = 18$
	$\Rightarrow -6 - 24 + 6x = 36 \quad \Rightarrow 6x = 36 + 30$
	$\Rightarrow x = 11$

Q. 7	Who signed the Poona Pact on behalf of the Depressed Classes?
	a) Annie Besant ✗
	b) Mahatma Gandhi ✗
	c) B.R. Ambedkar ✓
	d) Lord Irwin ✗

Explanation:	The correct answer is: c
	Explanation:
	The **Poona Pact**, signed on **September 24, 1932**, was an agreement between **Dr. B.R. Ambedkar** and **Mahatma Gandhi** regarding the political representation of the **Depressed Classes** (Dalits) in British India.
	Initially, the British government, under **Prime Minister Ramsay MacDonald**, had proposed the **Communal Award**, which granted separate electorates for the Depressed Classes, allowing them to elect their own representatives. However, **Mahatma Gandhi** strongly opposed this, fearing it would fragment Hindu society.
	To resolve the issue, **Dr. Ambedkar**, who was the leader of the Depressed Classes, negotiated with Gandhi, leading to the **Poona Pact**. The pact **abolished separate electorates** and instead provided **reserved seats** for the Depressed Classes within the general Hindu electorate.

Q. 8	**Simplify the following.**
	$27.6 \times 0.6 \div \left(1.8 \times \dfrac{1}{3}\right) - \dfrac{1}{6} \times 18(8.01 - 0.9 \times 0.9)$
	a) 5 ✗
	b) 6 ✓
	c) 7 ✗
	d) 8 ✗

Explanation:	$\Rightarrow \ 27.6 \times 0.6 \div \left(1.8 \times \frac{1}{3}\right) - \frac{1}{6} \times 18(8.01 - 0.9 \times 0.9)$ $\Rightarrow \ 27.6 \times 0.6 \div 0.6 - \frac{1}{6} \times 18 \times 7.2$ $\Rightarrow \ 27.6 - 21.6 \ = \ \boxed{6} \ \text{Any}$

Q. 9	In a certain code language, 'tomorrow you see' is written as 'la et vi', 'are you late' is written as 'et ju fa', and 'tomorrow come late' is written as 'si vi fa'. How will 'are' be written as in that language?
	a) et ✗
	b) si ✗
	c) la ✗
	d) ju ✓

Explanation:	

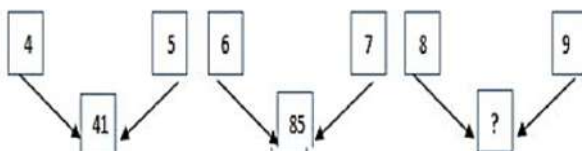| Q. 10	Which of the following is used to remove formatting from a selected paragraph in many word processing programs?
	a) Clear Formatting ✓
	b) Delete Paragraph ✗
	c) Format Painter ✗
	d) Remove Paragraph ✗

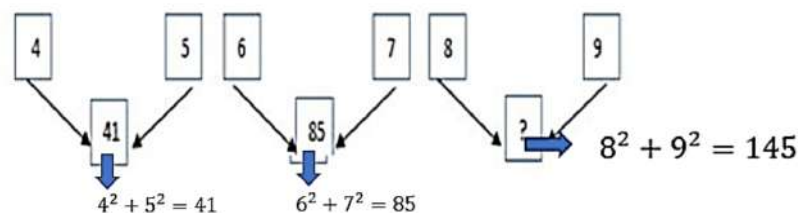| Explanation:	The correct answer is: a
	Clear Formatting is a feature in word processing programs that allows users to remove all applied formatting from a selected paragraph or text, restoring it to the default style. This is especially useful when working with copied content or when needing a clean slate for styling.
	In **Microsoft Word**, you can use **Ctrl + Spacebar** to clear font formatting.

Q. 11	Study the given pattern carefully and select the number from among the given options that can replace the question mark (?) in it.
	a) 145 ✓
	b) 148 ✗
	c) 154 ✗
	d) 150 ✗

Explanation:	
	$4^2 + 5^2 = 41$
	$6^2 + 7^2 = 85$
	$8^2 + 9^2 = 145$

Q. 12	By selling articles at ₹31, a shopkeeper losses 7%. What will the profit percentage be when he sells the same article at ₹35?
	a) 7% ✗
	b) 4% ✗
	c) 5% ✓
	d) 6% ✗

Explanation:	The correct answer is: c Selling price = Rs 31 Loss % = 7% Cost price = $31 \times \frac{100}{93} = Rs\ \frac{100}{3}$ New SP = Rs 35 Profit = $35 - \frac{100}{3} = \frac{5}{3}$ Profit % = $\frac{\frac{5}{3}}{\frac{100}{3}} \times 100 = 5\%$

Q. 13	The Indian National Congress was founded when ____ delegates from all over the country met in Maharashtra (then known as Bombay Province)?
	a) 125 ✗
	b) 85 ✗
	c) 80 ✗
	d) 72 ✓

Explanation:	The correct answer is: d **Explanation:** The **Indian National Congress (INC)** was founded on **December 28, 1885**, when **72 delegates** from different parts of India gathered in **Bombay (now Mumbai), Maharashtra**. The first session was organized by **A.O. Hume**, a retired British civil servant, with the intention of providing a platform for Indians to express their political aspirations and grievances. The **first president** of the INC was **W.C. Bonnerjee**, and the meeting primarily focused on discussions related to British governance and the need for political reforms.

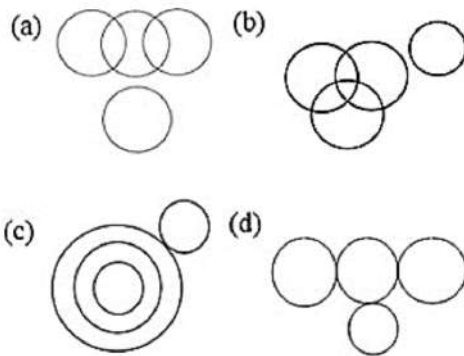| Q. 14	If '−' stands for '×', '+' stands for '÷', '×' stands for '+', and '÷' stands for '−', then find the value of 24 + 6 ÷ 2 − 9 × 4. a) 24 ✗ b) -8 ✗ c) -10 ✓ d) 8 ✗
Explanation:	Given: 24 + 6 ÷ 2 − 9 × 4 24 ÷ 6 − 2 × 9 + 4 4 - 18 + 4 = -10

Q. 15	The Purvanchal comprises the Patkai hills, the Naga hills, the Manipur hills and _____. a) Garo hills ✗ b) Almora hills ✗ c) Mizo hills ✓ d) Mcleodganj hills ✗
Explanation:	The correct answer is: c **Explanation:** The **Purvanchal Range** is the eastern extension of the **Himalayas**, covering the northeastern states of India. It consists of several distinct hill ranges, including: • **Patkai Hills** – Stretching along Arunachal Pradesh and Nagaland. • **Naga Hills** – Located in Nagaland and extending into Myanmar. • **Manipur Hills** – Covering the majority of Manipur. • **Mizo Hills (Lushai Hills)** – Found in Mizoram, forming the southernmost part of the Purvanchal range. These hills are characterized by **rugged terrain**, **dense forests**, and **heavy rainfall**, making them geologically and ecologically distinct from the main Himalayan range.

Q. 16	**The HCF of** $28\,p^5 q^2$ **and** $70\,p^3 q^4$ **is:**
	a) $28\,p^3 q^2$ ✗
	b) $14\,p^5 q^4$ ✗
	c) $14 p^3 q^2$ ✓
	d) $70\,p^3 q^4$ ✗
Explanation:	The correct answer is: c The HCF of 28 and 70 is 2×7 = 14 The HCF of the variables is $p^3 q^2$ The HCF of $28 p^5 q^2$ and $70 p^3 q^4$ is the product of the HCFs of the numerical coefficients and the variables. HCF = $14 p^3 q^2$

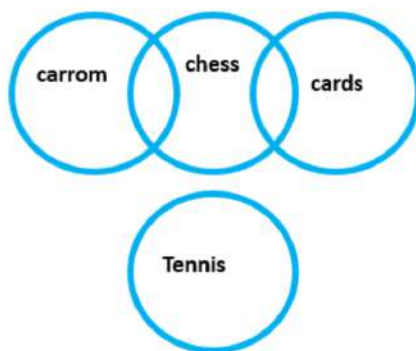| Q. 17	In a class of 46 students, 18 play carom; 17 play chess, including 6 who play carom; 16 play cards, including 4 who play chess, but not carom; and 5 play only tennis. Which of the following figures represents these facts?

a) (a) ✔

b) (b) ✘

c) (d) ✘

d) (c) ✘

Explanation:	

Q. 18	The Rural Landless Labour Employment Guarantee Programme (RLEGP) was started in which of the following Five-year Plans? a) Sixth ✔ b) Seventh ✘ c) Fifth ✘ d) Fourth ✘
Explanation:	The correct answer is: a **Explanation:** The **Rural Landless Labour Employment Guarantee Programme (RLEGP)** was launched in **1983** during India's **Sixth Five-Year Plan (1980–1985)**. The primary aim of this program was to provide **guaranteed employment** to rural landless labourers, improving their livelihood opportunities and reducing poverty. **Objectives of RLEGP:** • Guarantee **at least 100 days** of employment per year for landless rural labourers. • Improve **rural infrastructure** by engaging labourers in construction of roads, irrigation canals, and housing. • Address **rural poverty** and enhance **economic security** for marginalized sections.

Q. 19	Anit lent ₹9,600 to Dubey for 4 years and ₹12,600 to Raghav for 5 years on simple interest at the same rate of interest and received ₹12,168 in total from them as interest. Find the rate of interest p.a.?
	a) 9% ✗
	b) 12% ✓
	c) 15% ✗
	d) 18% ✗

Explanation:	let Rate of Interest $= R$

$$\frac{9600 \times 4 \times R}{100} + \frac{12600 \times 5 \times R}{100} = 12{,}168$$

⇒ $384R + 630R = 12{,}168$

⇒ $1014R = 12{,}168$

⇒ $\therefore R = \dfrac{12{,}168}{1014} \Rightarrow \boxed{12\%}$

Q. 20	In an election, there were only two candidates. The losing candidate got 46% of the total votes. His opponent got 5500 votes more and won by a margin of 5% votes. What was the number of invalid votes? a) 2800 ✗ b) 3300 ✓ c) 4200 ✗ d) 4400 ✗
Explanation:	5% votes → 5500 100% votes → 1,10,000 loser = 46% winner = 46% + 5% = 51% ⟹ Invalid vote % = 100% − (46% + 51%) = 3%. ∴ 1,10,000 × 3% = 3300 (Ans)

Q. 21	In which battle did Babur defeat Rana Sanga of Mewar? a) Battle of Khanwa ✓ b) Battle of Ghaghra ✗ c) Battle of Plassey ✗ d) Battle of Chanderi ✗
Explanation:	The correct answer is: a **Explanation:** The **Battle of Khanwa** took place on **March 16, 1527**, between **Babur**, the founder of the Mughal Empire, and **Rana Sanga of Mewar**, the leader of Rajput forces. The battle was fought near **Khanwa**, located in present-day Rajasthan. After his victory at the **Battle of Panipat (1526)** against Ibrahim Lodi, Babur faced resistance from **Rana Sanga**, who wanted to expel him from North India. The Rajput army, strengthened by Afghan allies, posed a formidable challenge to Babur. However, Babur used **Tulughma (military maneuvering)** and **artillery tactics**, including gunpowder and cannons, to decisively defeat the Rajput forces. **Explanation of Other Options:** 1. **Battle of Ghaghra (1529)** – Babur fought and defeated the **Afghan forces**. 2. **Battle of Plassey (1757)** – A British victory led by **Robert Clive** against **Siraj-ud-Daulah**. 3. **Battle of Chanderi (1528)** – Babur defeated **Medini Rai**, a Rajput commander.

Q. 22 Study the given pattern carefully and select the letter from among the given options that can replace the question mark (?) in it.

C	(O)	L
D	(T)	P
F	(?)	I

a) P ✗

b) O ✔

c) T ✗

d) S ✗

Explanation:

O = $C + L$

T = $D + P$

? = $F + I = O$
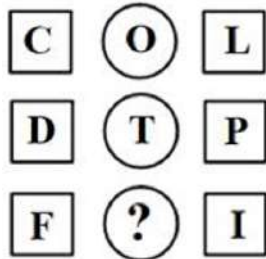
Q. 23 (√5 + √11)(√5–√11) is equal to:

a) 6 ✗

b) –121 ✗

c) 25 ✗

d) –6 ✔

Explanation:

The correct answer is: d

$(a + b)(a - b) = a^2 - b^2$

Now,

$(\sqrt{5} + \sqrt{11})(\sqrt{5} - \sqrt{11}) = 5 - 11$
$= -6$

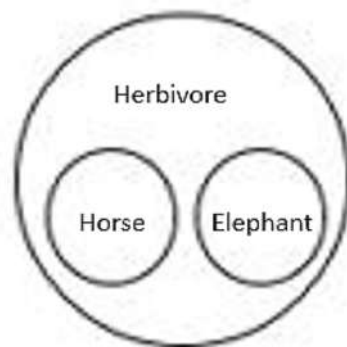| Q. 24	_____ wrote a work on statecraft in Telugu known as Amuktamalyada.
	a) Dev Rai I ✗
	b) Harihar I ✗
	c) Krishnadeva Raya ✓
	d) Dev Rai II ✗
Explanation:	The correct answer is: c **Explanation:** **Amuktamalyada** is a renowned literary work on **statecraft, administration**, and **good governance**, written in **Telugu** by **Krishnadeva Raya**, the greatest ruler of the **Vijayanagara Empire** (reigned from 1509–1529). This book provides insights into the ideal principles of kingship, political strategies, and the responsibilities of a ruler. Krishnadeva Raya, a patron of literature, composed **Amuktamalyada**, emphasizing the importance of **justice, welfare**, and the **efficient management of the kingdom**. He was deeply influenced by **Kautilya's Arthashastra** and sought to implement its principles in governance. Additionally, he encouraged Telugu literature, despite Kannada and Sanskrit being prominent languages of the empire.

Q. 25	Select the Venn diagram that best represents the relationship between the given set of classes. Horse, Elephant, Herbivore a) ✔ b) ✘ c) ✘ d) ✘
Explanation:	Horse and elephant are herbivores and horse and elephant are different from each other.

Q. 26	Which among the following books was written by Dr. Raghuram Rajan?
	a) The third Pillar ✓
	b) We are Displaced ✗
	c) The India Story ✗
	d) My Life in Full ✗
Explanation:	The correct answer is: a
	Explanation:
	The Third Pillar: How the State and Markets Are Leaving Communities Behind is a book written by **Dr. Raghuram Rajan**, an economist and former **Governor of the Reserve Bank of India**. Published in **2019**, the book explores the relationship between **markets, the state, and communities**, arguing that economic and political systems must strengthen local communities to maintain stability and prosperity.
	Explanation of Other Options:
	1. **We Are Displaced** – Written by **Malala Yousafzai**, focusing on refugee experiences.
	2. **The India Story** – Authored by **Bimal Jalan**, discussing India's economic evolution.
	3. **My Life in Full** – A memoir by **Indra Nooyi**, former CEO of PepsiCo.

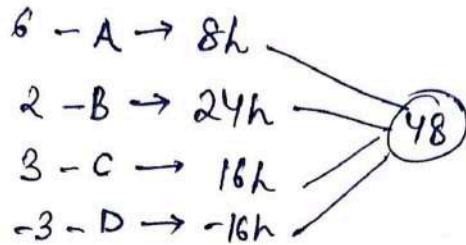| Q. 27	A tank has 3 taps to fill water. The first tap takes 8 h, the second tap takes 1 day and the third tap takes 16 h to fill the tank. But there was a hole at the bottom, capable of emptying the completely filled tank in 16 h. The hole was detected after 1 h and was immediately fixed. How long will it take to fill the tank using all the three taps?

a) $3\frac{7}{11}$ ✗

b) $5\frac{9}{11}$ ✗

c) $4\frac{7}{11}$ ✔

d) $7\frac{5}{11}$ ✗

Explanation:

$6 - A \rightarrow 8h$

$2 - B \rightarrow 24h$

$3 - C \rightarrow 16h$ $\boxed{48}$

$-3 - D \rightarrow -16h$

$(6+2+3-3) \times 1 + (6+2+3) \times x = 48$

$11x = 40 \Rightarrow x = \dfrac{40}{11} \Rightarrow 3\frac{7}{11}$

$\therefore$ Total time taken $= \left(1 + 3\frac{7}{11}\right) hr$

$\Rightarrow 4\frac{7}{11} hr$

Q. 28	While travelling from Mumbai to Pune, which Ghat will you cross?
	a) Bhor Ghat ✓
	b) Tamhini Ghat ✗
	c) Thal Ghat ✗
	d) Malshej Ghat ✗
Explanation:	The correct answer is: a

Explanation:

Bhor Ghat is the mountain pass that connects **Mumbai and Pune**, passing through the **Western Ghats**. It is a historically significant route, used since ancient times for trade and transportation. Today, it forms a crucial part of the **Mumbai-Pune Expressway** and the **Mumbai-Pune railway line**, facilitating smooth travel between the two cities.

Explanation of Other Options:

1. **Tamhini Ghat** – Located in the **Sahyadri Hills**, this ghat connects **Pune to the Konkan region**.
2. **Thal Ghat** – Also known as **Kasara Ghat**, this pass is used for travel between **Mumbai and Nashik**.
3. **Malshej Ghat** – A scenic mountain pass connecting **Thane and Ahmednagar**.

Q. 29	P, Q, R, S, T, U and V are students who have exams so different days of the same week, starting on Monday and ending on Sunday. No two students have exams on the same day.

P's exam is on one of the days after Thursday. Q's exam is on the day immediately after p's exam. Three students have exams between Q and V. R has the exam on one of the days before V, but not on Monday. S has the exam immediately before T.

On which day does U have the exam?

a) Monday ✔

b) Tuesday ✘

c) Friday ✘

d) Saturday ✘

Explanation:

Days	Students
Sunday	R
Monday	U
Tuesday	V
Wednesday	S
Thursday	T
Friday	P
Saturday	Q

Q. 30	$(\sqrt{5}+\sqrt{7})^2$ is a:

a) natural number ✘

b) irrational number ✔

c) rational number ✘

d) whole number ✘

Explanation:

The correct answer is: b

$\sqrt{5}$ and $\sqrt{7}$ are irrational

$\therefore (\sqrt{5} + \sqrt{7})^2$ is also Irrational

Q. 31	Who erected the stupa at Shah-ji-ki-Dheri?
	a) Satavahana king - Satakarni II ✗
	b) Saka king - Maues ✗
	c) Maurya king - Ashoka ✗
	d) Kushana king – Kanishka ✓
Explanation:	The correct answer is: d

Explanation:

The **stupa at Shah-ji-ki-Dheri** was built by **Kanishka I**, one of the most influential rulers of the **Kushan dynasty**. Located near **Peshawar, Pakistan**, this stupa is historically significant because it is believed to have housed **Buddhist relics**, including those of the Buddha himself.

Kanishka was a great patron of **Buddhism**, and his reign marked the spread of **Mahayana Buddhism** across Central Asia and India. The **Kanishka Stupa**, as it is often called, was a massive structure, originally standing **over 400 feet tall**, making it one of the tallest Buddhist stupas of its time. Excavations at the site have uncovered the **Kanishka casket**, which contained relics and inscriptions related to his rule. |
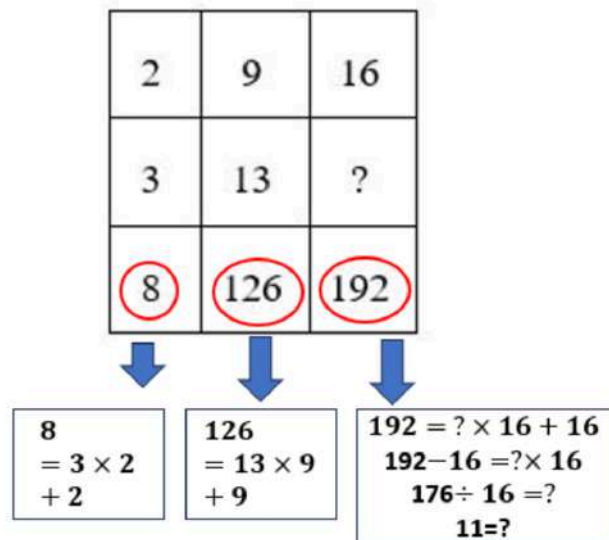
Q. 32

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

2	9	16
3	13	?
8	126	192

a) 12 ✗

b) 13 ✗

c) 11 ✔

d) 14 ✗

Explanation:

$$8 = 3 \times 2 + 2$$

$$126 = 13 \times 9 + 9$$

$$192 = ? \times 16 + 16$$
$$192 - 16 = ? \times 16$$
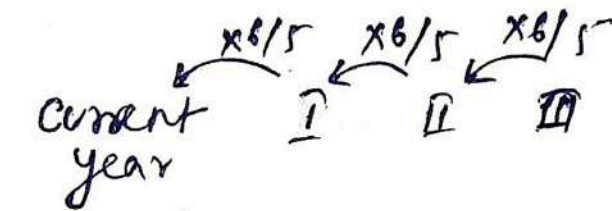$$176 \div 16 = ?$$
$$11 = ?$$

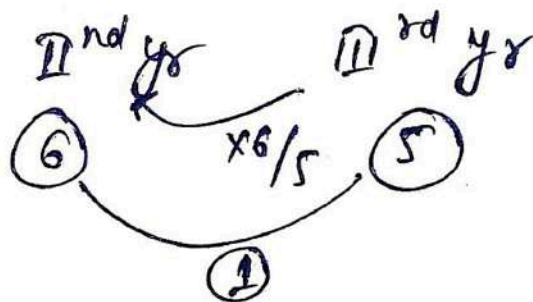| Q. 33	What will be difference in population 3 years ago and 2 years ago of a town, whose current population is 1,82,520 and which is increasing at a rate of 20% every year?
	a) 23,645 ✗
	b) 25,615 ✗
	c) 21,125 ✓
	d) 19,835 ✗

Explanation:

$$\text{Current year} \xleftarrow{\times 6/5} I \xleftarrow{\times 6/5} II \xleftarrow{\times 6/5} III$$

$$P\left(\frac{6}{5}\right)^3 = 1,82,520$$

$$\Rightarrow P = 1,05,625$$

IInd yr → ⑥   IIIrd yr → ⑤

⑥ $\xleftarrow{\times 6/5}$ ⑤

①

$$\therefore \quad 5 \rightarrow 1,05,625$$

$$1 \rightarrow 21,125 \text{ (Ans)}$$

Q. 34	A mass of snow and ice that moves slowly under the influence of gravity along a confined course away from its place of accumulation is called a_____.
	a) Lagoon ✗
	b) Glacier ✓
	c) Block mountain ✗
	d) Plateau ✗

Explanation:	The correct answer is: b
	Explanation:
	A **glacier** is a large, persistent body of **ice and snow** that moves slowly over land due to the force of **gravity**. Glaciers form in regions where snowfall accumulates over time, exceeding the amount of ice lost through melting and sublimation. The movement occurs because of the immense weight and pressure exerted by the ice mass, causing it to flow like a slow-moving river.
	Glaciers are found in **mountainous regions** (alpine glaciers) and **polar areas** (continental glaciers). They play a crucial role in shaping landscapes by **eroding** rock surfaces, carving out **valleys**, and depositing **moraines** (accumulated debris).
	Explanation of Other Options:
	1. **Lagoon** – A shallow body of water separated from the sea by sandbars or coral reefs.
	2. **Block Mountain** – A landform created by **fault movements**, where large sections of Earth's crust get uplifted or lowered.
	3. **Plateau** – An elevated flatland formed by tectonic activity or volcanic processes.

Q. 35	In a competitive examination 1 mark is awarded for a correct answer, 0 marks for an unattempt question and 1/2 mark is deducted for every wrong answer. Ambika answered 150 questions and got 120 marks. How many answers were correct?
	a) 100 ✗
	b) 130 ✓
	c) 115 ✗
	d) 140 ✗

Explanation:	X -> correct answers
	Y -> wrong answers
	$x + y = 150$ ---(i)
	$x - 0.5y = 120$ ---(ii)
	2(ii) + (i)
	$3x = 240 + 150 = 390$
	$X = 130$

Q. 36	According to which of the following terms of alliance, Indian rulers were not allowed to have their own independent armed forces?
	a) Treat of Friendship ✗
	b) Policy of "paramountcy" ✗
	c) Subsidiary alliance ✓
	d) Doctrine of Lapse ✗

| Explanation: | The correct answer is: c

Explanation:

The **Subsidiary Alliance** was a policy introduced by **Lord Wellesley** in **1798** during British rule in India. Under this system, Indian rulers were **forbidden from maintaining their own independent armed forces**. Instead, they were required to accept a **British military contingent** in their territory, for which they had to pay a subsidy or give up territory.

The purpose of this alliance was to strengthen British control over India by preventing princely states from forming military alliances against the British. The policy was **first enforced on the Nizam of Hyderabad** in **1798**, and later expanded to other princely states such as **Mysore, Awadh, and Marathas**.

Explanation of Other Options:

1. **Treaty of Friendship** – Typically refers to agreements between independent states to promote peaceful relations.
2. **Policy of "Paramountcy"** – Introduced by the British later to assert their supreme authority over princely states.
3. **Doctrine of Lapse** – A policy introduced by **Lord Dalhousie**, which allowed the British to annex princely states if the ruler died without a male heir. |

Q. 37	In a certain code language, HRMGL is written as DMGZD. How will NDCKR be written as in that language?
	a) JXZDK ✗
	b) JYWDJ ✓
	c) JZVDK ✗
	d) JZXCJ ✗

Explanation:	

Q. 38	India participated in the Olympic Games for the first time in_____.
	a) 1908 ✗
	b) 1900 ✓
	c) 1922 ✗
	d) 1904 ✗

| Explanation: | The correct answer is: b

India first participated in the **Olympic Games** in **1900**, making it the **first Asian nation** to do so. The country was represented by **Norman Pritchard**, an athlete from Calcutta (now Kolkata), who competed in **five events** and won **two silver medals** in **athletics**—one in the **200m sprint** and another in the **200m hurdles**.

Although India did not send a full contingent in 1900, Pritchard's participation marked the nation's debut at the Olympics. India later sent its **first official team** to the **1920 Summer Olympics**, and has participated in every Summer Games since then. |
|---|---|

Q. 39	**PQRS is a trapezium in which QR ∥ PS and PR = RS. If ∠PQR = 84° and ∠QPR = 36°, then what is the measure of ∠PRS?**
	a) 50° ✗
	b) 54° ✗
	c) 60° ✔
	d) 72° ✗
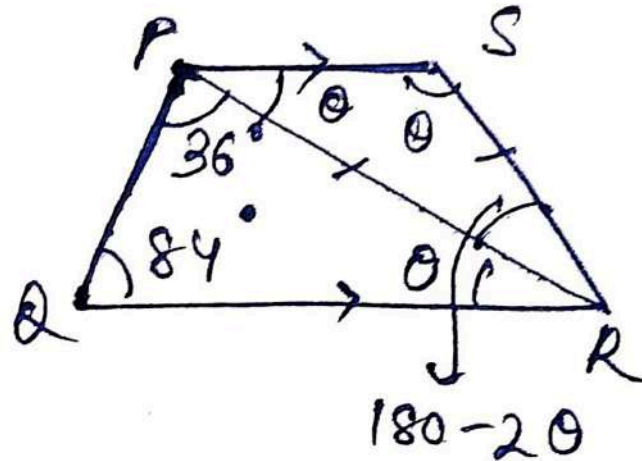
Explanation:	

$$\therefore \ \theta = 180 - (36 + 84)$$

$$= 60°$$

$$\angle PRS = 180 - 2\theta$$
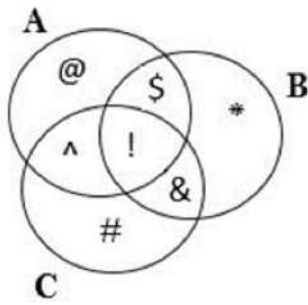
$$\Rightarrow 180 - 2 \times 60°$$

$$\Rightarrow 60°$$

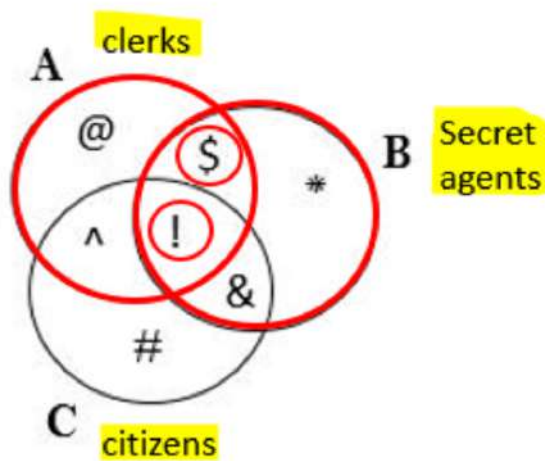| Q. 40	In the given diagram, circle A represents clerks, circle B represents secret agents and circle C represents citizens. Which of the following symbols represent (s) those secret agents who are also clerks?

a) ! and $ ✔

b) ! and & ✘

c) $ only ✘

d) @ and ^ ✘

Explanation:	

Q. 41	Which Sultan of Delhi appointed Ibn Battuta as the qazi or judge of Delhi?
	a) Iltutmish ✗
	b) Mahmud of Ghazni ✗
	c) Alauddin Khalji ✗
	d) Muhammad bin Tughlaq ✓

Explanation:	The correct answer is: d
	Explanation:
	Ibn Battuta, the famous Moroccan traveler, arrived in India during the reign of **Muhammad bin Tughlaq** (ruled **1325–1351**). Impressed by Ibn Battuta's scholarship and knowledge, the Sultan appointed him as the **qazi (judge) of Delhi**.
	Muhammad bin Tughlaq was known for his ambitious policies, including shifting the capital from Delhi to **Daulatabad**, introducing **token currency**, and expanding administrative reforms. His court attracted scholars from different parts of the world, and Ibn Battuta's appointment reflected the Sultan's interest in intellectual and legal matters.

Q. 42	Select the alphanumeric-cluster from among the given options that can replace the question mark (?) in the following series.
	E5A, G9C, I17E, K29G, M45I, ?
	a) O65K ✓
	b) O63K ✗
	c) N65K ✗
	d) O20K ✗

Explanation:	

Q. 43	In a frequency distribution, the mid value of a class is 16 and its width is 8. The lower limit of the class is:
	a) 18 ✗
	b) 9 ✗
	c) 6 ✗
	d) 12 ✓
Explanation:	Lower limit = Mid value - $\frac{width}{2}$ => Lower limit = 16 - => 16 – 4 => 12 (Ans)

Q. 44	In which year was the UDAY (Ujwal DISCOM Assurance Yojana) introduced?
	a) 20 November 2015 ✓
	b) 23 November 2015 ✗
	c) 27 November 2015 ✗
	d) 24 November 2015 ✗
Explanation:	The correct answer is: a **Explanation:** The **Ujwal DISCOM Assurance Yojana (UDAY)** was launched by the **Government of India** on **20 November 2015** to address the financial and operational challenges faced by **Power Distribution Companies (DISCOMs)**. The scheme aimed to improve the efficiency of DISCOMs by reducing their debt burden and enhancing their operational performance. **Key Objectives of UDAY:** • Reduce **aggregate technical & commercial (AT&C) losses** to improve power distribution efficiency. • Ensure **financial turnaround** of DISCOMs by restructuring their debts. • Promote **smart metering** and **energy efficiency measures** to optimize power consumption. • Encourage states to take over **75% of DISCOM debt**, with the remaining **25% converted into bonds**.

Q. 45	A rhombus has one of its diagonal 55% of the other. A square is drawn using the longer diagonal as side. What will be the ratio of the area of the rhombus to that of the square?
	a) 13 : 20 ✗
	b) 11 : 40 ✓
	c) 9 : 16 ✗
	d) 7 : 15 ✗

| Explanation: | $d_1 = 100$; $d_2 = 55$

 Area of Rhombus : Area of Square

 $\Rightarrow \frac{1}{2} \times 100 \times 55$: 100×100

 $\Rightarrow$ 55 : 200 $\Rightarrow$ 11 : 40 (Ans |

Q. 46	The Uttarardh festival or Modhera Utsav is celebrated in which of the following states in India?
	a) Gujarat ✓
	b) Assam ✗
	c) Odisha ✗
	d) Kerala ✗

Explanation:	The correct answer is: a
	The **Uttarardh Mahotsav**, also known as **Modhera Utsav**, is celebrated in **Gujarat**, specifically at the **Sun Temple in Modhera**. This festival is a grand cultural event that showcases **traditional dance, music, and art**, highlighting India's rich heritage. The festival is organized by the **Tourism Corporation of Gujarat Limited (TCGL)** and takes place annually after **Uttarayan (Makar Sankranti)**.
	The name **Uttarardh Mahotsav** is derived from the **astronomical movement of the Sun**, marking the transition towards longer days. The **Sun Temple of Modhera**, built during the **Solanki dynasty**, serves as the backdrop for mesmerizing performances by artists from across India.

Q. 47	A statement is given followed by two inferences. Decide which of the inferences can be drawn from the given statement. **Statement:** Some students who do not perform well in the written exam still rank high in the merit list for admission to College A. **Inferences:** 1. Candidates who perform well in the written exam never make it to the merit list for admission to College A. 2. Criteria other than written examinations are also considered for admission to College A. a) Neither 1 nor 2 can be inferred. ✗ b) Only 1 can be inferred. ✗ c) Both 1 and 2 can be inferred. ✗ d) Only 2 can be inferred. ✓
Explanation:	The correct answer is: d The statement says that *some* students who do poorly in the written exam still rank high in the merit list. This suggests that factors beyond the written exam contribute to admissions. **Now, let's evaluate the inferences:** 1. *Candidates who perform well in the written exam never make it to the merit list for admission to College A.* → This is an extreme statement. The original statement does not say that *all* students who perform well in the written exam are excluded. So, this inference cannot be drawn. 2. **Criteria other than written examinations are also considered for admission to College A.** → Since some students rank high despite poor written exam performance, it is reasonable to infer that other factors are at play in admissions. So, **this inference** can **be drawn.**

Q. 48	If the ratio of the sine of an acute angle to its cosine is 5 : 12, then what will the value of sine of that angle be?
	a) 12/13 ✗
	b) 12/5 ✗
	c) 5/12 ✗
	d) 5/13 ✓

Explanation:	The correct answer is: d
	Let the acute angle be .
	ATQ,
	$$\frac{sin\theta}{cos\theta} = \frac{5}{12}, tan\theta = \frac{p}{b} = \frac{5}{12}$$
	$$h = \sqrt{5^2 + 12^2} = 13$$
	$$sin\theta = \frac{p}{h} = \frac{5}{13}$$

Q. 49	An iron sphere of mass 30 kg has the same diameter as an aluminium spheres are dropped simultaneously from a tower. When they are 10 m above from the ground, they have the same -
	a) Momentum ✗
	b) Acceleration ✓
	c) Kinetic Energy ✗
	d) Potential Energy ✗

Explanation:	The correct answer is: b
	Explanation:
	When objects fall freely under gravity, their acceleration is determined only by the **gravitational force** and is independent of their mass or material composition. This means that both the **iron** and **aluminium** spheres experience the same **acceleration due to gravity**, which is **9.8 m/s²** on Earth.

Q. 50	Following a certain logic, 5 is related to 28 in the same way as 7 is related to 52 and 9 is related to 84. Using the same logic, to which of the following is 11 related? a) 121 ✗ b) 126 ✗ c) 128 ✗ d) 124 ✓
Explanation:	$5 = 28 \ (5^2 + 3)$ $7 = 52 \ (7^2 + 3)$ Similarly, $11 = 124 \ (11^2 + 3)$

Q. 51	The median AD of a triangle ABC is produced and a perpendicular CF is dropped on it. BE is perpendicular to AD. If BC = 78 cm and DF = 36 cm, what is the length (in cm) of BE?
	a) 19 ✗
	b) 9 ✗
	c) 15 ✓
	d) 17 ✗

Explanation:	
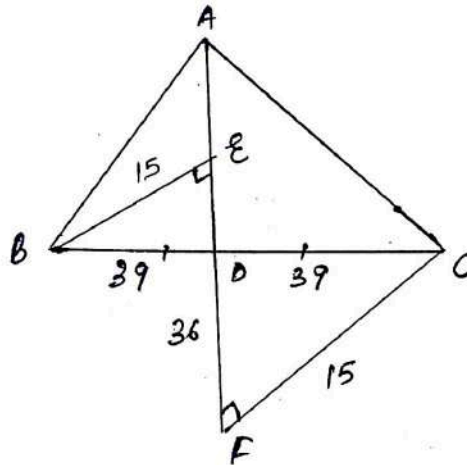
$$\triangle BED \cong \triangle CFD$$

$$\therefore BE = CF$$

$$\Rightarrow CF = \sqrt{(39)^2 - (36)^2}$$

$$= \boxed{15} \ (Ans)$$

Q. 52	Which of the following international organisations had brokered the Indus Waters Treaty between India and Pakistan?
	a) Shanghai Cooperation Organisation ✗
	b) Association of South-East Asian Nations ✗
	c) International Monetary Fund ✗
	d) World Bank ✓

Explanation:	The correct answer is: d
	Explanation:
	The **Indus Waters Treaty (IWT)** was signed on **September 19, 1960**, between **India and Pakistan**, with the **World Bank** acting as the broker. The treaty was negotiated over **nine years** to resolve water-sharing disputes between the two nations following **Partition in 1947**. It allocated control of the **Eastern Rivers** (Ravi, Beas, Sutlej) to **India** and the **Western Rivers** (Indus, Jhelum, Chenab) to **Pakistan**, while allowing limited use of water by both countries for specific purposes.
	The treaty is considered one of the most **successful water-sharing agreements**, surviving multiple conflicts between India and Pakistan. However, recent geopolitical tensions have led to discussions about its **renegotiation**.

Q. 53	The circle graph shows the production of rice by seven different States – UP, AP, Bihar, Kashmir, Kerala, Odisha and Haryana – during a particular year.
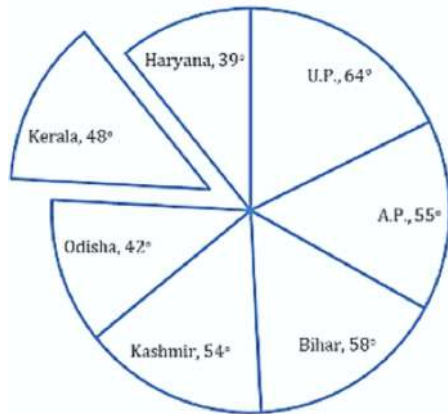
If the total production of rice by all the given states during the particular year was 20 thousand tonnes, then what was the approximate production of rice (in tonnes) by Kerala?

a) 3525 ✗

b) 9600 ✗

c) 3000 ✗

d) 2667 ✓

Explanation:	$360° = 20000$ $1° = 20000 \div 360°$ $48° = \dfrac{20000}{360°} \times 48°$ $= 2666.666 ....$

Q. 54	The speed of a boat in still water is 16 km/h. The speed of the current is 4 km/h. The difference between the time taken for upstream and downstream to complete two trips (i.e. from one end to the other coming back and repeating the same again) is 12 minutes. What is the distance between the two ends?
	a) 1.5 km ✗
	b) 2.5 km ✗
	c) 3 km ✓
	d) 4 km ✗

Explanation:	Let D = distance b/w the two ends.

$$\Rightarrow 2\left[\frac{D}{(16-4)} - \frac{D}{(16+4)}\right] = \frac{12}{60}$$

$$\Rightarrow 2\left[\frac{D}{12} - \frac{D}{20}\right] = \frac{1}{5}$$

$$\Rightarrow 2\left(\frac{5D - 3D}{60}\right) = \frac{1}{5}$$

$$\Rightarrow \frac{4D}{60} = \frac{1}{5} \Rightarrow D = 3\,Km$$

Q. 55	Who will take over as the new Chairman of the Indian Space Research Organisation (ISRO) on January 14, 2025?
	a) S. Somanath ✗
	b) V. Narayanan ✓
	c) K. Sivan ✗
	d) P. Kunhikrishnan ✗
Explanation:	The correct answer is: b
	Explanation:
	Dr. **V. Narayanan** officially took over as the **Chairman of ISRO** on **January 13, 2025**, succeeding **S. Somanath**. Before assuming this role, he served as the **Director of the Liquid Propulsion Systems Centre (LPSC)**, a key division of ISRO responsible for developing propulsion systems for launch vehicles and spacecraft.
	Dr. Narayanan has been associated with ISRO for **over 40 years**, contributing significantly to India's space missions, particularly in **cryogenic propulsion technology**. He played a crucial role in the **Gaganyaan human spaceflight program** and India's **lunar missions**.

Q. 56	**The value of** $0.\overline{23} + 0.\overline{22}$ **is:**
	a) $0.\overline{45}$ ✓
	b) $0.\overline{43}$ ✗
	c) $0.4\overline{5}$ ✗
	d) 0.45 ✗
Explanation:	The correct answer is: a
	$0.\overline{23} = 0.23232323... \rightarrow (i)$
	$0.\overline{22} = 0.22222222... \rightarrow (ii)$
	Add (i) and (ii)
	$0.232323... + 0.222222...$ $= 0.454545...$
	$0.454545... = 0.\overline{45}$

Q. 57	Which organization pioneered the concept of "Collective Defense" in its founding treaty?
	a) SCO ✗
	b) CSTO ✗
	c) NATO ✔
	d) ASEAN ✗

Explanation:	The correct answer is: c
	Explanation:
	NATO was founded on **April 4, 1949**, with the signing of the **North Atlantic Treaty**, also known as the **Washington Treaty**. The treaty introduced the principle of **Collective Defence**, specifically outlined in **Article 5**, which states that **an attack against one member is considered an attack against all members**. This commitment ensures mutual protection among member states, forming the backbone of NATO's military strategy.
	This concept was pioneered to counter potential threats, especially during the Cold War, and has since been invoked, most notably after the **9/11 attacks** in 2001.

Q. 58	The circle graph shows the production of rice by seven different States – UP, AP, Bihar, Kashmir, Kerala, Odisha and Haryana – during a particular year.
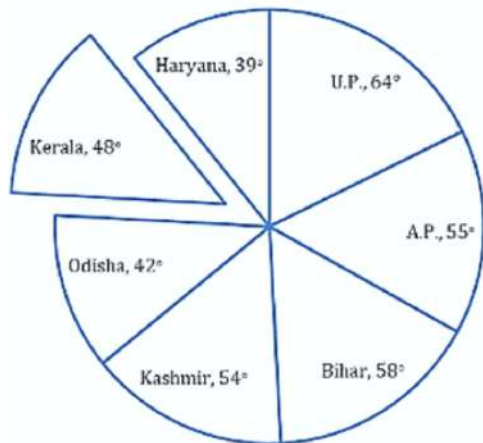
If the total production of rice by all the given states during the year was 18 thousand tonnes, what was the ratio of the production of rice by Odisha to the production of rice by Kashmir?

a) 7 : 9 ✔️

b) 21 : 29 ❌

c) 7 : 8 ❌

d) 3 : 7 ❌

Explanation:	4̶2̶:5̶4̶ 7:9

Q. 59	Two cars start from Ahmedabad and run in opposite directions with one car's speed being 250 km/h more than the other. If they are 3500 km apart after 7 h, then sum of the speeds of both the cars is:

a) 600 ❌

b) 500 ✔️

c) 800 ❌

d) 840 ❌

Explanation:	$\dfrac{3500}{Sum\ of\ speeds} = 7$ => 500 km/h ∴ Sum of speed of both the cars is 500 km/h.

Q. 60	What is the rank of India in the recently released Corruption Perceptions Index (CPI) 2024?
	a) 85th ✗
	b) 96th ✓
	c) 102nd ✗
	d) 110th ✗

Explanation:	The correct answer is: b
	Explanation:
	India ranked **96th out of 180 countries** in the **Corruption Perceptions Index (CPI) 2024**, as per the report released by **Transparency International**. This marks a decline from its **93rd position in 2023**, with its **corruption score dropping to 38** from 39 in the previous year.
	Key Insights from CPI 2024:
	• **Denmark** topped the index as the **least corrupt nation**, followed by **Finland and Singapore**.
	• Among India's neighbours:
	◦ **China** ranked **76th**.
	◦ **Pakistan** ranked **135th**.
	◦ **Sri Lanka** ranked **121st**.
	◦ **Bangladesh** ranked **149th**.
	The report highlights that **corruption hampers climate action**, misusing funds meant for mitigation and adaptation.

Q. 61	The table presents the number of foreigners who arrived in India as tourists from five different countries over five years.

Countries \ Years	USA	UK	UAE	China	Iran
2012	300	310	250	280	440
2013	480	420	280	320	400
2014	450	450	240	260	350
2015	320	380	300	400	380
2016	490	430	540	350	420

Based on the given table, which of the following statements is TRUE?

a) The ratio of the total number of tourists form UK in 2015 and 2016 together to that from China in the same years was 27 : 13. ✗

b) For all the years together, the total number of tourists from UAE was higher than the total number of tourists from Iran. ✗

c) The number of tourists from UK has shown an increase every year during the given years. ✗

d) The percentage increase in the number of tourists from USA from 2012 to 2013 was 60% ✔

| Explanation: | The percentage increase in the number of tourists from USA from 2012 to 2013 was 60%.

2012 = 300
2013 = 480
Increase = 180
Percentage increase = $\frac{180}{300} \times 100 = 60$ |
|---|---|

Q. 62	Guru Purnima, a festival celebrated by Hindus, Jains and Buddhists in India falls in which month of Hindu calendar? a) Kartika ✗ b) Vaisakha ✗ c) Sravana ✗ d) Ashada ✓
Explanation:	The correct answer is: d **Explanation:** **Guru Purnima** is celebrated on the **full moon day (Purnima) in the month of Ashadha** (June–July) according to the **Hindu calendar**. This festival is dedicated to honouring **spiritual and academic gurus**, recognizing their guidance and wisdom. **Significance of Guru Purnima:** • It is observed by **Hindus, Jains, and Buddhists**. • In Hindu tradition, it marks the **birthday of Sage Vyasa**, the author of the **Mahabharata** and compiler of the **Vedas**. • Buddhists celebrate it as the day when **Gautama Buddha** delivered his **first sermon** at **Sarnath**. • Jains observe it as a day of **spiritual reflection and guru worship**.

Q. 63	While going from Mumbai to Pune by car, I realized that one of the tyres has two punctures. On the basis of my previous experience, I believed that the first puncture alone would have made the tyre flat in 10 minutes and the second would have done it in 8 minutes. If air leaks out at a constant rate, how long will it take both the punctures together to make the tyre flat?

a) $4\frac{4}{9}$ min ✓

b) $6\frac{2}{9}$ min ✗

c) $5\frac{5}{9}$ min ✗

d) $3\frac{2}{9}$ min ✗

Explanation:

$(9) - I^{st} \rightarrow 10 \text{ min}$

$(5) - II^{nd} \rightarrow 8 \text{ min}$ → (40)

Time taken by both the punctures together to make the tyre flat $= \frac{40}{9}$ min

$= 4\frac{4}{9}$ min (Ans)

Q. 64	The table presents the number of foreigners who arrived in India as tourists from five different countries over five years.

Countries / Years	USA	UK	UAE	China	Iran
2012	300	310	250	280	440
2013	480	420	280	320	400
2014	450	450	240	260	350
2015	320	380	300	400	380
2016	490	430	540	350	420

There was a 40% increase in the total number of tourists from all the countries together in 2017 as compared to 2016. If 1/7th of the total number of tourists in 2017 were from USA, how many tourists from USA visited India in 2017?

a) 664 ✗

b) 446 ✓

c) 562 ✗

d) 516 ✗

Explanation:

Total number of tourist in 2016 = 2230

Total number of tourists in 2017 = $\frac{2230}{5} \times 7$

Tourist from USA visited India in 2017 = $\frac{2230}{5} \times 7 \times \frac{1}{7} = 446$

| Q. 65	Which of the following is NOT among the three distinct human races identified by Georges Cuvier (1828)?
	a) Laplanderoid ✓
	b) Mongoloid ✗
	c) Negroid ✗
	d) Caucasoid ✗
Explanation:	The correct answer is: a
	Georges Cuvier, a prominent French naturalist and zoologist in the early 19th century, was influential in the development of comparative anatomy and paleontology. In 1828, he proposed a racial classification system that divided humans into three major groups based on physical characteristics, especially skull shape and skin colour:
	1. **Caucasoid (White)**
	2. **Mongoloid (Yellow)**
	3. **Negroid (Black)**
	Cuvier believed that these racial groups had distinct physical and intellectual traits, and he argued that they had developed separately, a view that supported early ideas of polygenism (the belief that different races have different origins). His views reflected the scientific and social biases of his time and were part of broader 19th-century efforts to categorize humans in ways that often reinforced racial hierarchies and stereotypes.
	Today, modern science **rejects** Cuvier's racial classifications as **pseudoscientific and biologically inaccurate**. Genetic research shows that race is a **social construct** rather than a biological one—human genetic diversity does not divide cleanly along racial lines, and all humans share a recent common ancestry.

Q. 66	P, Q, R, S, T, U, V and W are sitting around a circular table facing the centre. P sits third to the right of U. One person sits between P and T. S sits second to the left of Q. Q is neither an immediate neighbour of P nor U. V is an immediate neighbour of R. V is not an immediate neighbour of U.
	Which of the following pairs represents the immediate neighbours of W?
	a) S, U ✗
	b) S, T ✗
	c) V, U ✗
	d) Q, U ✔
Explanation:	
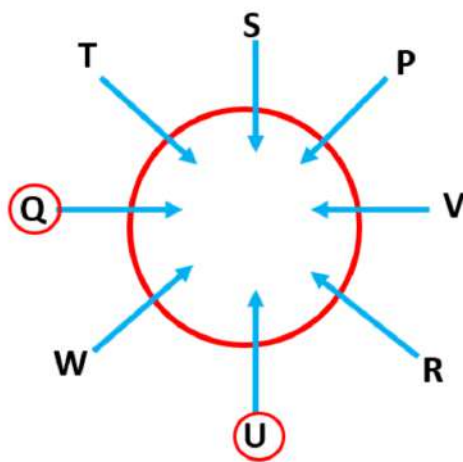
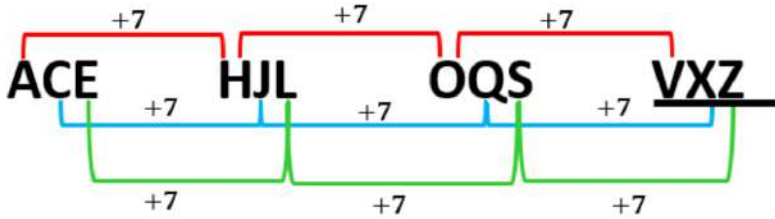| Q. 67	**Which of the following numbers has a terminating decimal?**
	$\dfrac{15}{600}, \dfrac{29}{343}, \dfrac{7}{2^2 \times 7^2}$
	a) $\dfrac{77}{210}$ ✗
	b) $\dfrac{29}{343}$ ✗
	c) $\dfrac{7}{2^2 \times 7^2}$ ✗
	d) $\dfrac{15}{600}$ ✓
Explanation:	• $15/600 = 0.025$ It is a terminating decimal. • $29/343 = 0.08454...$ It is a non-terminating decimal. • $\dfrac{7}{2^2 \times 7^2} = 7/196$ $\Rightarrow 0.03571.....$, It is a non-terminating decimal. • $77/210 = 0.3666...$ It is a non-terminating decimal. ∴ $15/600$ is a terminating decimal.

Q. 68	_____ are analogous organs.
	a) Lobster tail and Whale flukes ✓
	b) Wings of Bats and Flippers of Whales ✗
	c) The foot of Dog and Flippers of Dolphin ✗
	d) Human hands and Feet of Bull ✗
Explanation:	The correct answer is: a
	Explanation:
	Analogous organs are structures that perform a **similar function** but have **different evolutionary origins**. These organs arise due to **convergent evolution**, where unrelated species develop similar adaptations to survive in comparable environments.

	• **Lobster tail** and **Whale flukes** are **analogous** because both help in **movement through water**, but they evolved independently.
	   ◦ A **lobster's tail** is a muscular structure used for quick propulsion in water.
	   ◦ A **whale's flukes** are modified extensions of its body that allow powerful swimming strokes.

	Even though both serve a **swimming function**, they do not share **common ancestry**.
	Explanation of Other Options:
	1. **Wings of Bats and Flippers of Whales** – These are **homologous organs**, as both evolved from the **forelimbs of a common vertebrate ancestor** but adapted differently. 2. **The foot of a Dog and Flippers of a Dolphin** – Homologous organs; both originate from ancestral tetrapods but evolved for different locomotion. 3. **Human hands and Feet of a Bull** – Homologous organs; derived from the same evolutionary lineage but adapted for **grasping (human hands) and movement (bull feet)**.

Q. 69	In which state is the Chithirai festival celebrated? a) Punjab ✗ b) Tamil Nadu ✓ c) Rajasthan ✗ d) Meghalaya ✗
Explanation:	The correct answer is: b **Explanation:** The **Chithirai Festival**, also known as **Chithirai Thiruvizha**, is celebrated in **Madurai, Tamil Nadu**. It is one of the grandest temple festivals in South India, held at the **Meenakshi Temple** during the Tamil month of **Chithirai (April-May)**. The festival marks two major events: 1. **Meenakshi Thirukalyanam** – The celestial wedding of **Goddess Meenakshi** (an incarnation of Parvati) and **Lord Sundareswarar** (Shiva). 2. **Azhagar Festival** – The journey of **Lord Kallazhagar** (an incarnation of Vishnu) from **Alagar Kovil** to the **Vaigai River**, symbolizing his blessings to the people. The festival attracts **millions of devotees**, featuring **processions, temple rituals, cultural performances**, and a grand display of Tamil traditions.

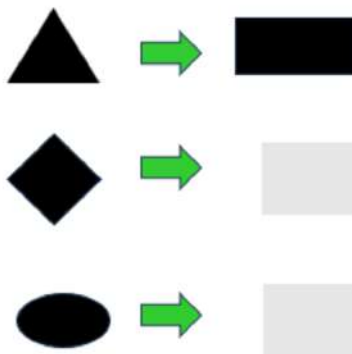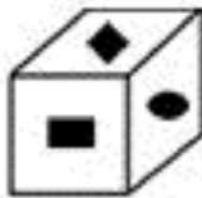| Q. 70	Select the letter-cluster from among the given options that can replace the question mark (?) in the following series. ACE, HJL, OQS, ? a) ZXV ✗ b) VXZ ✓ c) UWY ✗ d) VWX ✗
Explanation:	

Q. 71

Select the box that can be formed by folding the given sheet along the lines.
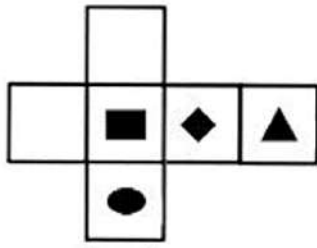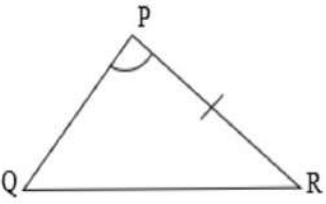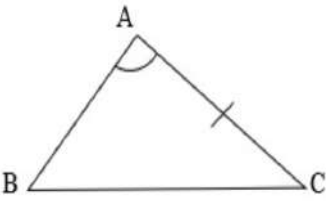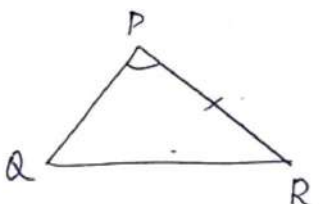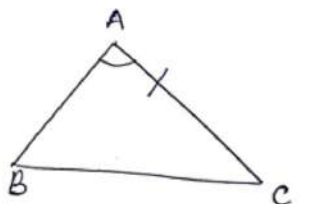

a) ✔

b) ✘

c) ✘

d) ✘

Explanation:

Opposite face:

Q. 72	How many atoms of sulphur are present in 0.6 molecule of SO_2?
	a) 3.613×10^{22} ✗
	b) 6013×10^{23} ✗
	c) 30613×10^{23} ✗
	d) 3.613×10^{23} ✓

Explanation:	The correct answer is: d
	1 mole of SO_2 contains **Avogadro's number** of molecules: 6.022×10^{23} molecules
	Each SO_2 molecule has **1 sulphur atom**, so:
	0.6 mole $SO_2 \times 6.022 \times 10^{23}$ atoms/mol $= 3.613 \times 10^{23}$ sulphur atoms

Q. 73	In the following figure, $\angle A = \angle P$ and AC = PR. Which of the following options needs to be satisfied for Δ PQR and Δ ABC to be congruent?
	a) BC = QR by ASS criteria ✗
	b) AB = PQ by SSA criteria ✗
	c) BC = QR by SSA criteria ✗
	d) AB = PQ by SAS criteria ✓

Explanation:	
	$\angle A = \angle P$; $AC = PR$
	The included angle is required.
	$\therefore PQ = AB$ by SAS Criteria.

Q. 74	Select the option in which the two numbers share a different relationship from that shared by the two numbers in the rest of the options.
	a) 9, 110 ✗
	b) 13, 210 ✗
	c) 8, 72 ✓
	d) 5, 42 ✗

Explanation:	
	$(9, 110) \Rightarrow 110 = (9 + 1)^2 + (9 + 1)$
	$(13, 210) \Rightarrow 210 = (13 + 1)^2 + (13 + 1)$
	$(8, 72) \Rightarrow 72 \neq (8 + 1)^2 + (8 + 1)$
	$(5, 42) \Rightarrow 42 = (5 + 1)^2 + (5 + 1)$

Q. 75	Which compound is used to neutralise fatty acids and convert them into salts in a process called saponification?
	a) Sodium fluoride ✗
	b) Sodium acetate ✗
	c) Sodium chlorate ✗
	d) Sodium hydroxide ✓

Explanation:	The correct answer is: d
	Explanation:
	Sodium hydroxide (**NaOH**), also known as **caustic soda**, is the key compound used in the **saponification process**. In this chemical reaction, sodium hydroxide reacts with **fatty acids (triglycerides)** present in oils or fats, breaking them down into **glycerol** and **soap (fatty acid salts)**.
	Saponification Reaction:
	Fat (Triglyceride) + NaOH → Glycerol + Soap (Sodium salts of fatty acids)
	The **soap molecules** formed have both a hydrophobic (fat-loving) and hydrophilic (water-loving) part, allowing them to cleanse grease and dirt.
	Sodium hydroxide is widely used in **soap-making industries** due to its efficiency in converting fats into soap.

Q. 76	The captain of cricket team of 12 members is 36 years old and the wicket keeper is 4 years older than the captain. If the ages of these two are excluded, the average age of the remaining players is two years less than the average age of the whole team. What is the average age of the whole team?
	a) 24 years ✗
	b) 26 years ✗
	c) 28 years ✓
	d) 30 years ✗

Explanation:	

let Average of 12 members = A

ATQ,

$$\Rightarrow \frac{12A - (36 + 40)}{10} = A - 2$$

$$\Rightarrow 12A - 76 = 10A - 20$$

$$\Rightarrow 2A = 56$$
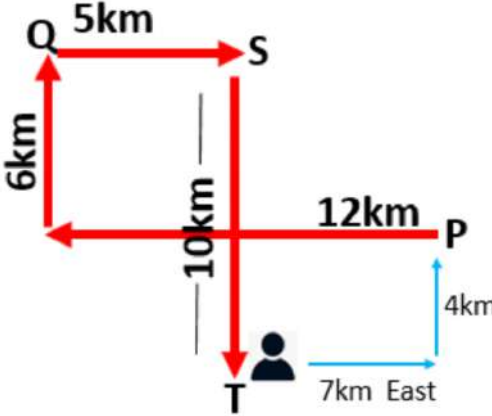
$$\Rightarrow A = 28 \text{ yrs (Ans)}$$

Q. 77	Four terms have been given, out of which three are alike in some manner and one is different. Select the one that is different.
	a) Metre ✗
	b) Kilogram ✗
	c) Volume ✓
	d) Second ✗

Explanation:	The **metre, kilogram, second** system of units, also known more briefly as MKS units or the MKS system, is a physical system of measurement based on the **metre, kilogram, and second** (MKS) as base units. **Distances** are described in terms of **metres, mass** in terms of **kilograms** and **time** in **seconds**.

Q. 78	Which of the following options in the Windows 10 operating system places an app directly on the taskbar for quick access when you're on the desktop?
	a) Store to taskbar ✗
	b) Pin to taskbar ✓
	c) Assign to taskbar ✗
	d) Save to taskbar ✗

Explanation:	The correct answer is: b
	Explanation:
	In **Windows 10**, the **Pin to taskbar** option allows users to place an app directly onto the **taskbar**, making it easily accessible from the desktop. This feature helps users quickly launch their favourite apps without navigating through menus.
	Steps to Pin an App to the Taskbar:
	1. **Right-click** on the app icon (from the Start menu or desktop).
	2. Select **"Pin to taskbar"** from the dropdown menu.
	3. The app's shortcut will now appear on the **taskbar**, ready for quick access.

Q. 79	Ali drives 12 km to the west from point P. He then takes a right turn, drives 6 km and reaches point Q. From there, he takes a right turn, drives 5 km and reaches point S. He then takes a final right turn, drives 10 km and stops at point T.
	Which of the following will take him to point P from point T?
	a) Drive 4 km to the west, take a right turn and drive 10 km. ✗
	b) Drive 5 km to the east, take a right turn and drive 4 km. ✗
	c) Drive 4 km to the north, take a left turn and drive 7 km. ✗
	d) Drive 7 km to the east, take a left turn and drive 4 km. ✓

Explanation:	

Q. 80	**Farman has to secure 60% marks to pass. He got 60 marks and fail by 60 marks. What are the maximum marks?** a) 200 ✅ b) 100 ❌ c) 180 ❌ d) 120 ❌
Explanation:	The correct answer is: a $60\% \rightarrow 60 + 60$ $1\% \rightarrow 2$ $100\% \rightarrow 200$ Maximum marks = 200

Q. 81	**Which state government has recently constituted a 16-member AI policy task force to develop AI Policy 2025?** a) Tamil Nadu ❌ b) Maharashtra ✅ c) Gujarat ❌ d) Karnataka ❌
Explanation:	The correct answer is: b **Explanation:** The **Maharashtra government** has formed a **16-member AI policy task force** to develop the **AI Policy 2025**. The initiative, led by the **Minister for Information Technology, Ashish Shelar**, aims to position Maharashtra as the **first state in India** with a dedicated AI policy. The task force will submit recommendations within a stipulated timeframe to enhance AI-driven innovation and economic growth. **Key Objectives of Maharashtra's AI Policy 2025:** • Strengthen AI infrastructure and research. • Align with the **IndiaAI Mission**, which was approved by the **Union Cabinet** in **March 2024**. • Support AI-based **startups, skill development, and industrial applications**. • Contribute to Maharashtra's goal of achieving a **$1 trillion GDP** in the coming years.

Q. 82	If **–6** is a root of the quadratic equation $x^2 + px - 12 = 0$ and also of the quadratic equation $p(kx + x) = 0$, then what are the values of p and k?

a) 4, -1 ✓

b) 4, 2 ✗

c) 4, 1 ✗

d) 4, -2 ✗

Explanation:

$\Rightarrow x^2 + px - 12 = 0$

$x = -6$

$\Rightarrow (-6)^2 - 6p - 12 = 0$

$\Rightarrow 36 - 6p - 12 = 0$

$\Rightarrow 6p = 24 \Rightarrow p = 4$

$\Rightarrow P(kx^2 + x)$

$x = -6 \; ; \; p = 4$

$\Rightarrow 4\left[kx(-6) - 6\right] = 0$

$\Rightarrow -24k - 24 = 0$

$\Rightarrow k = -1$

$\therefore P = 4, \; k = -1$

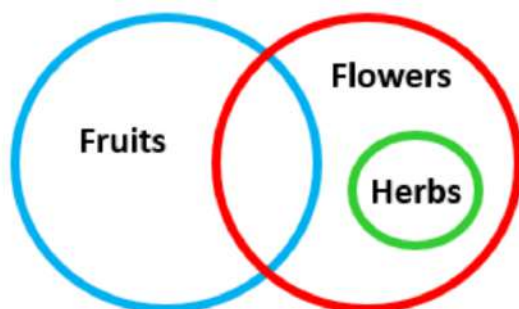| Q. 83	Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusions logically follow(s) from the statements.
	Statements:
	Some fruits are flowers.
	All herbs are flowers.
	Conclusions:
	1. All flowers are herbs.
	2. No herb is a fruit.
	a) Neither conclusion 1 nor 2 follows.　✔
	b) Only conclusion 1 follows　✘
	c) Only conclusion 2 follows.　✘
	d) Both conclusions 1 and 2 follow.　✘

Explanation:	I. All herbs can be flowers but all flowers cannot be herbs. Some flowers can be herbs.
	II. There is no relation between herbs and fruit.

Q. 84	According to the Census of India 2011, which district of India has the highest literacy rate? a) Jaipur ✗ b) Alirajpur ✗ c) Bhiwani ✗ d) Serchhip ✓
Explanation:	The correct answer is: d **Explanation:** According to the **Census of India 2011**, **Serchhip district in Mizoram** recorded the **highest literacy rate** in India, with an impressive **97.91%** literacy rate. This district has consistently maintained high educational standards, benefiting from Mizoram's strong emphasis on literacy and education. Mizoram, along with Kerala, has been at the forefront of India's literacy movement, with **community-driven education programs** and **government initiatives** playing a crucial role in achieving high literacy levels.

Q. 85	Which of the following statements is false? a) There is no largest natural number. ✗ b) All natural numbers together with zero are called integers. ✓ c) There is no largest whole number. ✗ d) 1 is the smallest natural number. ✗
Explanation:	The correct answer is: b Integers are whole numbers that can be positive, negative, or zero. They do not include fractions or decimals.

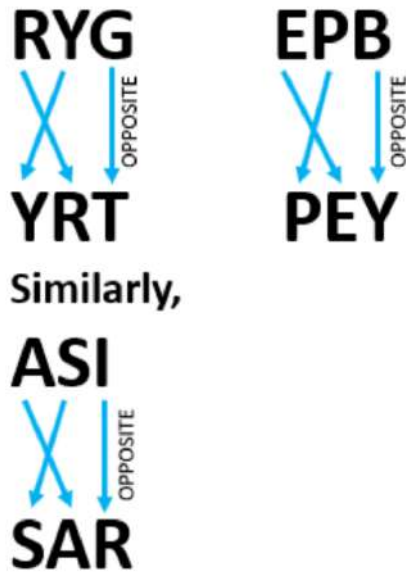| Q. 86	RYG is related to YRT by a certain logic. Following the same logic, EPB is related to PEY. Which of the given options follows the same logic?
	a) ASI – SAR ✓
	b) ASJ – SAR ✗
	c) ASI – SAP ✗
	d) ASJ – SAP ✗

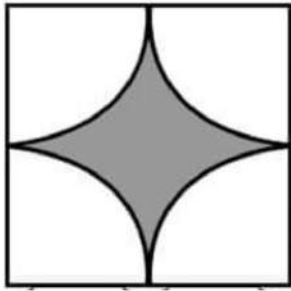| Explanation:	RYG ⤬ YRT OPPOSITE EPB ⤬ PEY OPPOSITE
	Similarly,
	ASI ⤬ SAR OPPOSITE

Q. 87	There are 4 horses grazing at each corner of a square field of side 63 m. They are roped in such a way that they can touch the middle of each side. Find the remaining area of the ground where they do not graze. (Use π = 22/7)
	a) 780.50 m² ✗
	b) 750.50 m² ✗
	c) 850.50 m² ✓
	d) 800.50 m² ✗

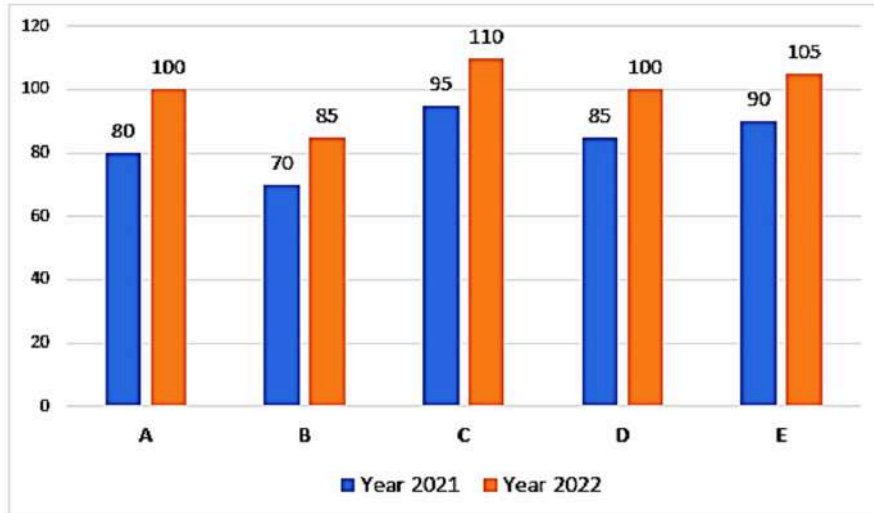| Explanation: |
Let the side of the square = a
Remaining area of the ground where the horses cannot graze is the shaded area in the diagram
Shaded area = Area of square – area of 4 quadrants

$$= a^2 - 4 \times \frac{1}{4}\pi r^2$$
$$= 63^2 - \frac{22}{7} \times \frac{63}{2} \times \frac{63}{2}$$
$$= 3969 - 3118.50 = 850.50 \ m^2$$ |

Q. 88	Which branch of economics deals with the depletion of natural resources stock and pollution, which are a result of rapid economic development?
	a) Developmental Economics ✗
	b) Environmental Economics ✓
	c) Public Economics ✗
	d) International Economics ✗

Explanation:	The correct answer is: b **Explanation:** **Environmental Economics** is a branch of economics that studies the relationship between **economic development and environmental impact**, including issues like **resource depletion, pollution, and climate change**. It focuses on **sustainable growth** by analysing policies, incentives, and regulations that help minimize environmental damage while promoting economic prosperity. Key areas of **Environmental Economics** include: • **Cost-benefit analysis of environmental policies** • **Market-based solutions** like **carbon pricing and pollution taxes** • **Impact of industrialization** on **natural resources** • **Sustainable development strategies** Governments and international organizations use **environmental economic principles** to shape policies that balance growth with ecological responsibility.

Q. 89	If 'S' denotes '×', 'B' denotes '–', 'R' denotes '+', and 'V' denotes '÷', then what will be the value of the following expression? 14S63V21R19B22
	a) 39 ✓
	b) 0 ✗
	c) 37 ✗
	d) 14 ✗

Explanation:	14S63V21R19B22 14×63÷21+19-22 14×3-3=42-3=39

| Q. 90 | The bar graph given below shows sales of table fans (in thousand numbers) from five showrooms during two consecutive years 2021 and 2022. The total sales of showroom B for both years is what per cent of the total sales of showroom E for both years? (Rounded off to 2 decimal places) |

a) 0.7869 ✗
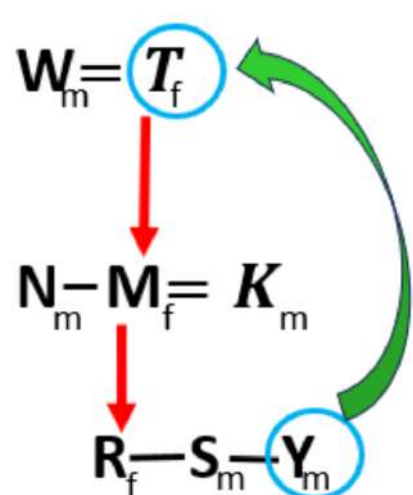
b) 0.7499 ✗

c) 0.7694 ✗

d) 0.7949 ✓

Explanation:

Total sales of B

⇒ 70 + 85 = 155

Total sales of E

2) 90 + 105 = 195

⇒ $\frac{155}{195} \times 100$

= 79.49% or,

0.7949 (Ans)

Q. 91	In which year did Dr. Sarvepalli Radhakrishnan assume office as the first Vice-President of India?

a) 1950 ✗

b) 1951 ✗

c) 1954 ✗

d) 1952 ✓

Explanation:

The correct answer is: d

Explanation:

Dr. **Sarvepalli Radhakrishnan** assumed office as the **first Vice-President of India** on **May 13, 1952**. He served in this role until **May 12, 1962**, before becoming the **President of India** from **1962 to 1967**. His tenure as Vice-President was marked by his contributions to **education, philosophy, and diplomacy**, strengthening India's intellectual presence on the global stage.

Q. 92	W and T are married to each other and have only two children. K and M are married to each other and have only three children. R is the only sister of S and Y. N's mother is T. M's brother is N, who is a bachelor. K is the father of R.

How is T related to Y?

a) Father's mother ✗

b) Mother's brother ✗

c) Mother's mother ✓

d) Sister's husband ✗

Explanation:

T is the mother's mother of Y.

Q. 93	In the animal kingdom, which of the following phyla includes animals with a segmented body?
	a) Porifera ✗
	b) Nematoda ✗
	c) Annelida ✓
	d) Mollusca ✗

Explanation:	The correct answer is: c
	Explanation:
	The phylum **Annelida** consists of animals with a **segmented body**, meaning their body is divided into **repeating segments** called **metameres**. This segmentation provides greater flexibility and specialization in movement.
	Examples of **Annelids** include:
	- **Earthworms**
	- **Leeches**
	- **Polychaete worms (marine worms)**
	Annelids also have a **closed circulatory system**, a well-developed nervous system, and exhibit **bilateral symmetry**. Their segmentation allows independent movement of each segment, aiding in locomotion and burrowing.

Q. 94	For a wave, wavelength divided by the time period is equal to:
	a) Frequency ✗
	b) phase difference ✗
	c) wave velocity ✓
	d) Amplitude ✗

Explanation:	The correct answer is: c
	Explanation:
	The velocity (or speed) of a wave is determined using the relationship:
	Wave Velocity$(v) = \dfrac{\text{Wavelength}(\lambda)}{\text{Time Period}(T)}$
	Alternatively, since **frequency (f) = 1 / time period (T)**, the wave velocity can also be expressed as:
	$v = \lambda \times f$
	This equation applies to **mechanical waves (sound, water waves)** and **electromagnetic waves (light, radio waves, etc.).**

Q. 95	**The Shore Temple was built under which architectural style?**
	a) Nagara Style ✗
	b) Kalinga Style ✗
	c) Vesara Style ✗
	d) Dravidian Style ✓

Explanation:	The correct answer is: d
	Explanation:
	The **Shore Temple**, located in **Mahabalipuram, Tamil Nadu**, is an example of **Dravidian architecture**, specifically from the **Pallava dynasty** (built around **700–728 CE**). Unlike earlier rock-cut temples, the Shore Temple is a **structural temple**, meaning it was built using **granite blocks** rather than being carved out of caves.
	Key Features of Dravidian Architecture in the Shore Temple:
	• **Pyramidal tower (Vimana)** with stepped stories. • **Intricate carvings** depicting Hindu deities, especially **Shiva and Vishnu**. • **Mandapas (pillared halls)** and shrines within the temple complex. • **Orientation towards the Bay of Bengal**, serving as a landmark for sailors.
	The **Pallava rulers**, particularly **Narasimhavarman II (Rajasimha)**, played a crucial role in developing this architectural style, which later influenced **Chola and Vijayanagara temples**.
	Nagara Style Dravidian Style Vesara Style

Q. 96

Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusions logically follow(s) from the statements.

Statements:

All poems are stories.

All articles are poems.

Conclusion:

1. All articles are stories.

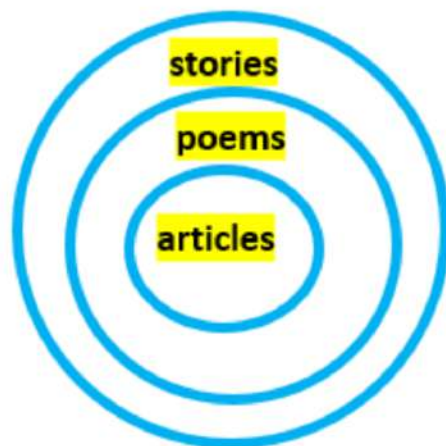2. No story is an article

a) Both conclusions 1 and 2 follow. ✗

b) Neither conclusion 1 nor 2 follows. ✗

c) Only conclusion 2 follows. ✗

d) Only conclusion 1 follows. ✓

Explanation:

I. As all poems are stories and all articles are poems therefore all articles are stories is true.

II. some stories can be articles so no story is an article is false.

Q. 97	Which state government has unveiled India's first Global Capability Centre (GCC) policy?
	a) Karnataka ✗
	b) Tamil Nadu ✗
	c) Maharashtra ✗
	d) Madhya Pradesh ✓
Explanation:	The correct answer is: d **Madhya Pradesh** has introduced India's first dedicated **Global Capability Centres (GCC) Policy 2025**, aiming to position the state as a leading hub for global innovation and collaboration. Approved by the state cabinet ahead of the **Invest Madhya Pradesh – Global Investors Summit 2025**, the policy focuses on transforming Tier-2 cities like Indore, Bhopal, and Jabalpur into dynamic centres of excellence for global business functions.

Q. 98	The twelfth century witnessed the emergence of a new movement in Karnataka, led by a Brahmana named Basavanna (1106–68) who was initially a Jain and a minister in the court of a _____ king.
	a) Chola ✗
	b) Chalukya ✓
	c) Maurya ✗
	d) Gupta ✗
Explanation:	The correct answer is b: Chalukya Basavanna, a significant figure in the twelfth century Karnataka, initially a Jain and later a leading figure in the Lingayat movement, served as a minister in the court of a **Chalukya** king.

Q. 99	**Calculate the HCF:**
	$\dfrac{2}{3}, \dfrac{8}{9}, \dfrac{16}{81}, \dfrac{10}{27}$
	a) $\dfrac{4}{81}$ ✗
	b) $\dfrac{5}{81}$ ✗
	c) $\dfrac{2}{81}$ ✔
	d) $\dfrac{4}{81}$ ✗

Explanation:	HCF of $\dfrac{2}{3}, \dfrac{8}{9}, \dfrac{16}{81}, \dfrac{10}{27}$
	$\Rightarrow \dfrac{\text{HCF of } 2, 8, 16, 10}{\text{LCM of } 3, 9, 81, 27}$
	$\Rightarrow \dfrac{2}{81}$ (Ans)

Q. 100	In cricket, hitting the ball to the boundary along the ground is _____ runs.
	a) 6 ✗
	b) 4 ✓
	c) 1 ✗
	d) 2 ✗
Explanation:	The correct answer is b: 4
	In cricket, the scoring system includes different ways of earning runs based on how the ball is hit and where it goes:
	1. **Boundary (along the ground)**: When a batsman hits the ball and it reaches the boundary rope after touching the ground, it is called a "boundary" or "four." The team is awarded 4 runs. This means the ball must roll or bounce to the boundary line.
	2. **Boundary (in the air)**: If the ball is hit and it reaches the boundary rope without touching the ground, it is called a "six." The team is awarded 6 runs.
	3. **Running between the wickets**: Batsmen can also score runs by running between the wickets. Each completed run counts as one run.