

Answers

1. Answer: c

Explanation:

Newspaper Readership Problem Explained

This problem involves calculating the percentage of people who do not read any newspapers, given the percentages of people who read specific newspapers and those who read both.

Understanding the Given Information

We are provided with the following details:

- Percentage of persons who read newspaper X: 40%
- Percentage of persons who read newspaper Y: 50%
- Percentage of persons who read both newspaper X and newspaper Y: 10%

Applying the Principle of Inclusion-Exclusion

To find the percentage of people who read at least one newspaper (either X or Y or both), we use the principle of inclusion-exclusion from set theory. The formula is:

$$P(X \cup Y) = P(X) + P(Y) - P(X \cap Y)$$

Where:

- $P(X \cup Y)$ represents the percentage of people who read newspaper X OR newspaper Y (or both).
- $P(X)$ represents the percentage of people who read newspaper X.
- $P(Y)$ represents the percentage of people who read newspaper Y.
- $P(X \cap Y)$ represents the percentage of people who read both newspaper X AND newspaper Y.

Step-by-Step Calculation

First, let's calculate the percentage of people who read at least one newspaper:

1. Substitute the given values into the formula:

$$P(X \cup Y) = 40\% + 50\% - 10\%$$

2. Perform the addition:

$$P(X \cup Y) = 90\% - 10\%$$

3. Perform the subtraction to find the total percentage reading at least one newspaper:

$$P(X \cup Y) = 80\%$$

Calculating Persons Who Read No Newspapers

The total percentage of people surveyed is 100%. The percentage of people who do not read any newspaper is the total percentage minus the percentage of people who read at least one newspaper.

$$\text{Percentage of persons who do not read any newspaper} = 100\% - P(X \cup Y)$$

Now, substitute the value we found for $P(X \cup Y)$:

$$\text{Percentage of persons who do not read any newspaper} = 100\% - 80\%$$

$$\text{Percentage of persons who do not read any newspaper} = 20\%$$

Final Answer Derivation

Therefore, 20% of the persons surveyed do not read either newspaper X or newspaper Y.

2. Answer: d

Explanation:

This problem requires us to find a specific value (the fifth result) when we know the average of a group of numbers and the average of a subset of that group. We can solve this by understanding how averages relate to the total sum of the numbers.

Average Concept Explained

The fundamental concept of an average, also known as the mean, is calculated by summing up all the values in a dataset and then dividing by the total count of those values. The formula is:

$$\text{Average} = \frac{\text{Sum of values}}{\text{Number of values}}$$

From this basic formula, we can derive a way to calculate the sum of the values if we know the average and the number of values:

$$\text{Sum of values} = \text{Average} \times \text{Number of values}$$

Calculating Total Sums

We are given two key pieces of information:

- The average of 5 results is 46.
- The average of the first 4 results is 45.

Using the formula derived above, we can calculate the total sum for both scenarios.

Sum of the 5 results:

$$\text{Sum}_{5 \text{ results}} = 46 \times 5$$

$$\text{Sum}_{5 \text{ results}} = 230$$

Sum of the first 4 results:

$$\text{Sum}_{4 \text{ results}} = 45 \times 4$$

$$\text{Sum}_{4 \text{ results}} = 180$$

Determining the Fifth Result

The total sum of the 5 results includes the sum of the first 4 results plus the fifth result itself. Therefore, to find the value of the fifth result, we simply subtract the sum of the first 4 results from the total sum of the 5 results.

$$\text{Fifth Result} = \text{Sum}_{5 \text{ results}} - \text{Sum}_{4 \text{ results}}$$

$$\text{Fifth Result} = 230 - 180$$

$$\text{Fifth Result} = 50$$

So, the value of the fifth result is 50.

3. Answer: c

Explanation:

Solving the Square Root Sum Equation

This problem requires us to find the sum of two square roots: $\sqrt{29.8116}$ and $\sqrt{77.44}$. We will calculate each square root separately and then add them together.

Step 1: Calculate the Square Root of 29.8116

We need to find the value of $\sqrt{29.8116}$. Let's determine this value.

- We can estimate the value: $5^2 = 25$ and $6^2 = 36$. So, the square root is between 5 and 6.
- Testing values, we find that $5.46 \times 5.46 = 29.8116$.

Therefore, $\sqrt{29.8116} = 5.46$.

Step 2: Calculate the Square Root of 77.44

Next, we need to find the value of $\sqrt{77.44}$.

- We can estimate this value: $8^2 = 64$ and $9^2 = 81$. So, the square root is between 8 and 9.
- Testing values, we find that $8.8 \times 8.8 = 77.44$.

Therefore, $\sqrt{77.44} = 8.8$.

Step 3: Sum the Calculated Square Roots

Now, we add the results from Step 1 and Step 2:

$$\text{Sum} = \sqrt{29.8116} + \sqrt{77.44}$$

$$\text{Sum} = 5.46 + 8.8$$

$$\text{Sum} = 14.26$$

Step 4: Match the Result with the Options

The calculated sum is 14.26. Comparing this value with the given options:

- Option 1: 12.62
- Option 2: 12.26
- Option 3: 14.26
- Option 4: 14.62

Our calculated result 14.26 matches Option 3.

4. Answer: b

Explanation:

Plant Cell Wall Composition Explained

The cell wall is a rigid outer layer found in plant cells, located outside the cell membrane. Its primary roles include providing structural support, maintaining cell

shape, and protecting the cell from mechanical stress and excessive water uptake. Understanding what makes up this crucial layer is fundamental in plant biology.

Identifying the Main Component of Plant Cell Walls

The question asks to identify the substance that forms the plant cell wall from the given options. Let's analyze the options provided:

- **Glucose:** This is a simple sugar ($C_6H_{12}O_6$) which serves as the basic unit for many carbohydrates, but it is not the structural component of the cell wall itself.
- **Cellulose:** This is a complex carbohydrate, a polysaccharide, composed of long chains of glucose units linked together. It is known for its strength and is the primary structural material in the cell walls of plants.
- **Sucrose:** This is a disaccharide ($C_{12}H_{22}O_{11}$), commonly known as table sugar. It's a transport sugar in plants but not a structural component of the cell wall.
- **Fructose:** This is another simple sugar ($C_6H_{12}O_6$), often found in fruits. It plays a role in energy metabolism but not in the structure of the plant cell wall.

Cellulose: The Key Structural Element

Cellulose is the correct answer because it provides the essential structural integrity to the plant cell wall. The long, unbranched chains of glucose units in cellulose align to form strong microfibrils. These microfibrils are embedded in a matrix of other substances like hemicellulose, pectin, and sometimes lignin, creating a robust and supportive structure for the plant cell.

Summary of Plant Cell Wall Components

In summary, while glucose is the building block, it's the polymerization of glucose into **Cellulose** that creates the strong, fibrous material characteristic of plant cell walls. Sucrose and fructose are primarily involved in energy transport and metabolism.

5. Answer: b

Explanation:

Solving the Math Calculation: $(5.21 \times 6.32) - 2.9272$

This question involves performing a multiplication of two decimal numbers and then subtracting another decimal number from the result. We will solve this step-by-step.

Step 1: Multiply the Decimal Numbers

First, we need to calculate the product of 5.21 and 6.32.

Using LaTeX for the multiplication:

$$5.21 \times 6.32$$

To multiply these numbers, we can ignore the decimal points initially and multiply 521 by 632:

$$521 \times 632 = 329272$$

Now, we need to place the decimal point. Since 5.21 has two decimal places and 6.32 has two decimal places, the result must have a total of four decimal places ($2 + 2 = 4$).

So, the result of the multiplication is:

$$5.21 \times 6.32 = 32.9272$$

Step 2: Subtract the Second Decimal Number

Next, we subtract 2.9272 from the result obtained in Step 1.

Using LaTeX for the subtraction:

$$32.9272 - 2.9272$$

Performing the subtraction:

$$\begin{array}{r} 32.9272 \\ - 2.9272 \\ \hline 30.0000 \end{array}$$

The result of the subtraction is 30.

Conclusion

The calculation $(5.21 \times 6.32) - 2.9272$ equals 30.

Comparing this result with the given options:

- Option 1: 32
- Option 2: 30
- Option 3: 34
- Option 4: 36

The calculated value matches Option 2.

6. Answer: c

Explanation:

Correct answer: 100

Now substitute these back into the original fraction:

Notice that the denominator has a common factor of $\frac{1}{100}$. Let's factor it out:

Let the sum of the squares in the numerator be represented by 'S':

The expression now becomes:

To simplify this complex fraction, we multiply the numerator by the reciprocal of the denominator:

The 'S' terms cancel out, leaving:

The simplified value of the given fraction is 100. This corresponds to the third option.

7. Answer: a

Explanation:

इस प्रश्न का उद्देश्य दिए गए विकल्पों में से उस जोड़ी को पहचानना है जिसमें दोनों शब्द एक-दूसरे के विपरीत अर्थ (विलोम) रखते हों। हमें प्रत्येक विकल्प का सावधानीपूर्वक विश्लेषण करना होगा ताकि सही विलोम-युग्म का पता लगाया जा सके। विकल्प 1: नूतन - पुरातन नूतन का अर्थ है 'नया' या 'आधुनिक'।

8. Answer: c

Explanation:

यह प्रश्न एक प्रसिद्ध हिंदी मुहावरे "खयाली पुलाव पकाना" के अर्थ के बारे में है। मुहावरे हमारी भाषा को समृद्ध बनाते हैं और उनका प्रयोग लाक्षणिक अर्थ में होता है, न कि शाब्दिक अर्थ में। आइए इस मुहावरे के सही अर्थ को समझते हैं और दिए गए विकल्पों का विश्लेषण करते हैं। Therefore, the correct answer is असंभव बातों की कल्पना करना।.

9. Answer: d

Explanation:

इसलिए, महा + ऋषि = महर्षि (Maharshi)। उपरोक्त विश्लेषण के आधार पर, 'महर्षि' शब्द का सही संधि विच्छेद महा + ऋषि है, जो गुण संधि का एक उदाहरण है।

10. Answer: d

Explanation:

विकल्प (D) में अर्थ-भेद गलत है। 'अवलंब' का अर्थ सहारा और 'अविलम्ब' का अर्थ बिना देरी के होता है, न कि 'अधर - विलोकिता'। शेष सही हैं – अनिल-अनल (हवा-आग), अंश-अंस (हिस्सा-कंधा), अपेक्षा-उपेक्षा (आशा-निरादर)।

11. Answer: a

Explanation:

इस प्रश्न का उद्देश्य दिए गए शब्दों के समूहों में से उस समूह की पहचान करना है जिसमें सभी शब्द एक-दूसरे के पर्यायवाची हों। पर्यायवाची शब्द वे शब्द होते हैं जिनके अर्थ समान होते हैं। आइए प्रत्येक विकल्प का विस्तार से विश्लेषण करें: विकल्प 1: पार्वती, रुद्राणी, भवानी का विश्लेषण

12. Answer: a

Explanation:

Caroline's Brother's Outdoor Preference

The question asks whether Caroline's brother, Jack, was an outdoor type. To answer this, we need to carefully examine the details provided in the text about Caroline's childhood and family.

The passage states: "Her big brother Jack was never the outdoor type, so her dad took her out often."

This sentence directly addresses the nature of Jack, Caroline's brother. It explicitly mentions that he "was never the outdoor type". This information explains why Caroline's father often took her fishing instead of Jack.

Therefore, based on the information given in the passage, Caroline's brother was not an outdoor type.

Analysis of Caroline's Brother

Description	Detail from Passage
Brother's Name	Jack
Outdoor Type?	No (explicitly stated as "never the outdoor type")
Activities with Father	Did not participate; Father took Caroline instead

13. Answer: d

Explanation:

Purpose of Squid Collection Explained

The question asks about the reason why the squids were collected during Caroline's deep sea fishing trip. To answer this accurately, we need to refer back to the details provided in the passage.

The passage describes the events of the fishing trip. After traveling for an hour, the group prepared to fish. Before they could start fishing, the crew needed bait. The text states:

"Soon, it was time to collect squid for bait. The small boat stopped in the water and the crew turned the bright light into the ocean to attract the squid. Before long, thousands of squid rose to the surface and were collected for bait."

This sentence directly explains the purpose of collecting the squid. Let's look at the options provided:

- **For selling:** The passage does not mention anything about selling the squids.
- **For eating:** While squid can be eaten, the text specifically mentions their use in the context of fishing, not consumption.
- **For cooking:** Similar to eating, cooking is not mentioned as the reason for collection in the passage.
- **For baiting:** The passage explicitly says the squids were collected "for bait". This means they were used to attract other fish.

Therefore, based on the direct information given in the text, the squids were collected specifically to be used as bait for fishing.

14. Answer: a

Explanation:

Correct answer: Wife

If Nilesh's wife's grandfather's only child is his wife's **mother**, then the mother's only daughter is also Nilesh's **wife**.

Therefore, the woman is related to Nilesh as his **Wife**.

15. Answer: a

Explanation:

Identifying the Odd One Out in the Number Sequence

The question asks us to find the number that does not belong in the given sequence: 8, 27, 64, 100, 125, 216, 343. We need to analyze the pattern connecting most of the numbers.

Analyzing the Number Patterns

Let's examine each number to see if there's a common mathematical property:

- **8:** This number can be expressed as $2 \times 2 \times 2$, or 2^3 . It's a perfect cube.
- **27:** This number is $3 \times 3 \times 3$, or 3^3 . It's also a perfect cube.
- **64:** This number is $4 \times 4 \times 4$, or 4^3 . It's a perfect cube.
- **100:** This number is 10×10 , or 10^2 . It's a perfect square.
- **125:** This number is $5 \times 5 \times 5$, or 5^3 . It's a perfect cube.

- **216:** This number is $6 \times 6 \times 6$, or 6^3 . It's a perfect cube.
- **343:** This number is $7 \times 7 \times 7$, or 7^3 . It's a perfect cube.

Determining the Odd Number

By analyzing the numbers, we can see a clear pattern:

- Most numbers in the list (8, 27, 64, 125, 216, 343) are perfect cubes of consecutive integers starting from 2 (i.e., $2^3, 3^3, 4^3, 5^3, 6^3, 7^3$).
- The number **100** stands out because it is a perfect square (10^2) and not a perfect cube.

Therefore, the number 100 is the odd one out in this sequence.

Conclusion

The sequence primarily consists of perfect cubes. The number 100 breaks this pattern as it is a perfect square. Among the given options (100, 27, 125, 343), 100 is the only number that is not a perfect cube in this context.

16. **Answer: a**

Explanation:

An index of 5 corresponds to Friday. Therefore, January 1, 2010, was a Friday.

17. **Answer: b**

Explanation:

Synonym for Partial Explained

The question asks us to find a synonym for the word "Partial". A synonym is a word that has a similar meaning to another word. Let's look at the meaning of "Partial" and the given options.

"Partial" means something that is only a part of the whole, or someone who shows favouritism towards one side or group. In the context of this question, it refers to being not complete or whole.

Analyzing the Options for "Partial"

- **Option 1: Intact**

The word "Intact" means not damaged or impaired in any way; complete. For example, "The vase remained intact after the fall." This is the opposite of being partial or incomplete.

- **Option 2: Incomplete**

The word "Incomplete" means not having all the necessary or appropriate parts; not finished. For instance, "The report is incomplete and needs more data." This meaning is very close to "Partial".

- **Option 3: Perfect**

The word "Perfect" means having all the required or desirable qualities; complete and correct in every way. For example, "She has a perfect score on the test." This is also the opposite of being partial.

- **Option 4: Unbroken**

The word "Unbroken" means not broken or damaged; intact. For example, "The chain remained unbroken." Similar to "Intact", this word does not mean partial.

Conclusion

Comparing the meanings, "Incomplete" is the word that best matches the meaning of "Partial" in the sense of not being whole or finished. Therefore, "Incomplete" is the correct synonym.

18. Answer: a

Explanation:

Disappoint Meaning and Antonym Finding

The task is to find the correct antonym for the word "Disappoint". An antonym is a word that means the opposite of another word.

Understanding the Word Disappoint

The word "Disappoint" means to fail to fulfill the hopes or expectations of someone. When you disappoint someone, you let them down.

Antonym Explanation

An antonym is a word with the opposite meaning. We need to find a word from the options that means the opposite of failing to fulfill expectations.

Analyzing the Options

- **Option 1: Satisfy** – This word means to fulfill the hopes, expectations, or needs of someone. It implies successfully meeting expectations.
- **Option 2: Sale** – This refers to the act of selling something, typically for money. It is unrelated to the meaning of "Disappoint".
- **Option 3: Example** – This refers to a thing that is representative of its kind or illustrates a general principle. It is unrelated to the meaning of "Disappoint".
- **Option 4: Meet** – While "meet" can sometimes mean to fulfill requirements (e.g., "meet expectations"), it is not as direct an opposite as "Satisfy". "Disappoint" implies a failure, while "Satisfy" implies success in fulfilling expectations.

Correct Antonym Selection

Comparing the meanings, "Satisfy" is the word that directly opposes "Disappoint". If you satisfy someone, you fulfill their expectations, which is the opposite of disappointing them.

Therefore, the correct antonym for "Disappoint" among the given choices is "Satisfy".

19. Answer: a

Explanation:

This question asks for a single word that describes the practice of creating dictionaries, including writing, editing, and compiling them.

Lexicography Definition Explained

The correct one-word substitute for 'The practice of writing, editing and / or compiling dictionaries' is **Lexicography**.

- **Lexicography** is specifically defined as the skill, activity, or business of writing and compiling dictionaries. It involves the principles and practices concerned with dictionary design and creation.

Analyzing Incorrect Options

Let's look at why the other options are not suitable substitutes:

- **Biography**: This term refers to the account of someone's life written by someone else. It has no relation to dictionary compilation.
- **Philology**: This is the study of language in historical sources, focusing on literature and linguistic history. While related to language, it is not the specific practice of dictionary-making.
- **Psychology**: This is the scientific study of the mind and behavior. It is unrelated to the practice of compiling dictionaries.

Summary of Dictionary Practice

Therefore, **Lexicography** is the precise term for the practice described in the question, encompassing all aspects of dictionary creation.

20. Answer: a

Explanation:

The calculated code KBPGFS is not listed among the provided options (TBGRFH, TAGRFH, TBHRFH, TBGREH). Therefore, the code for GATHER is identified as TBGRFH .

21. Answer: d

Explanation:

This means the set of books is entirely contained within the set of papers. Therefore, the correct choice is that none of the conclusions follow. Therefore, the correct answer is None of these.

22. Answer: b

Explanation:

Kolkata: Home to India's First Underwater Metro

The question asks to identify the city in India where the country's first underwater metro was inaugurated in August 2022.

India's pioneering underwater metro project is a significant achievement in the nation's transportation infrastructure. This groundbreaking project involves a tunnel running under a river, marking a new era for urban transit in India.

The Inauguration Details

In August 2022, the first phase of India's first underwater metro service was inaugurated. This historic event took place in **Kolkata**. The underwater tunnel section is part of the Kolkata Metro's East-West corridor, specifically the stretch passing beneath the Hooghly River.

Analysis of Options

Let's look at the given options:

- **Pune:** While Pune has a metro system, it does not feature an underwater section inaugurated in 2022.
- **Kolkata:** This is the correct city. The East-West Metro corridor includes India's first underwater tunnel, completed and partially inaugurated around the specified time. The tunnel goes under the Hooghly River.
- **Bangalore:** Bangalore has an extensive metro network, but it doesn't include any underwater river sections.
- **Hyderabad:** Hyderabad's metro is another major network in India, but it does not feature underwater river tunnels.

Significance of the Project

The underwater metro in Kolkata connects the twin cities of Kolkata and Howrah, reducing travel time significantly. The tunnel is built using advanced engineering techniques, including tunnel boring machines (TBMs), to ensure safety and efficiency under the riverbed.

Therefore, the city where India's first underwater metro was inaugurated in August 2022 is Kolkata.

23. Answer: a

Explanation:

Synthetic Embryos: Israel Leads the Way

Scientists have recently achieved a significant milestone in developmental biology by creating the world's first synthetic embryos. These structures, which mimic early embryonic development, were successfully prepared by researchers in **Israel**.

This groundbreaking achievement utilized stem cells, which were coaxed into developing into structures resembling natural embryos without the use of sperm or eggs. The process involved reprogramming specific types of stem cells to form the foundational structures seen in the initial stages of embryonic growth.

Key Details of the Research:

- **Country:** Israel
- **Achievement:** Preparation of the first synthetic embryos using stem cells.
- **Significance:** Offers new insights into early human development, potential for studying genetic disorders, and advancements in regenerative medicine.

The research conducted by Israeli scientists represents a major step forward, potentially revolutionizing our understanding of embryogenesis and opening new avenues for medical research.

Your Personal Exams Guide

24. Answer: c

Explanation:

IIBX Launch Location: Gujarat

Prime Minister Narendra Modi inaugurated the India International Bullion Exchange (IIBX) on July 29, 2022. This significant event took place in **Gujarat**.

Significance of the IIBX Launch

The launch of the India International Bullion Exchange (IIBX) represents a major step towards establishing India as a global centre for bullion trading. It aims to improve

transparency, facilitate efficient price discovery, and regulate the bullion market effectively.

About India International Bullion Exchange

The IIBX is India's first designated bullion spot exchange. It is based in the Gujarat International Finance Tec-City (GIFT City), Gandhinagar.

Details of the IIBX Launch

The question requires identifying the state where the Prime Minister launched the IIBX. The official inauguration ceremony confirmed that the India International Bullion Exchange (IIBX) was launched in **Gujarat**.

The specific location was GIFT City in Gandhinagar, Gujarat, making it the operational hub for this new international exchange.

25. Answer: d

Explanation:

In August 2022, major military exercises were carried out by the People's Liberation Army (PLA) of China in the vicinity of Taiwan. These drills were notably the largest ever conducted by China in the waters and airspace surrounding the island.

26. Answer: b

Explanation:

The specific name given to this pan-India satellite communication exercise was Skylight . Therefore, the correct identification for the Indian Army's pan-India satellite communication exercise in July 2022 is Skylight .

27. Answer: c

Explanation:

Akasa Air Inaugural Flight Route Explained

The question asks about the specific cities connected by the very first flight, or the inaugural flight, of the Indian airline known as **Akasa Air**.

Akasa Air commenced its operations on August 7, 2022. The airline's first commercial flight connected two major Indian cities.

Identifying the Inaugural Route

The inaugural flight of **Akasa Air** was operated between:

- Mumbai (BOM)
- Ahmedabad (AMD)

This route marked the beginning of services for the new domestic carrier, aiming to provide a fresh travel experience in India's aviation sector. The airline operates flights connecting various Tier-1 and Tier-2 cities across the country.

Therefore, the first flight of **Akasa Air** was inaugurated between **Mumbai** and **Ahmedabad**.

28. Answer: b

Explanation:

Understanding the 'Badhe Chalo' Campaign Launch

The 'Badhe Chalo' campaign was a special initiative launched as part of the larger Azadi ka Amrit Mahotsav celebration. Azadi ka Amrit Mahotsav marks 75 years of

India's independence and involves various patriotic activities across the country. The 'Badhe Chalo' campaign specifically aimed to instill a sense of patriotism and encourage citizens, particularly the youth, to actively participate in national pride activities.

This campaign encouraged people to come together, celebrate India's journey, and showcase their commitment towards the nation's future through cultural and community events.

Identifying the Ministry Behind 'Badhe Chalo'

Choosing the right ministry to lead such a campaign is important. The ministry needs to have a focus on cultural heritage, national celebrations, and connecting with citizens through arts and community engagement.

The question asks which Central Ministry launched this specific campaign.

'Badhe Chalo' Campaign and the Ministry of Culture

The **Ministry of Culture** is the Central Ministry responsible for promoting India's rich cultural heritage, arts, and traditions. Its mandate includes organizing cultural events, festivals, and initiatives that celebrate national milestones and foster cultural awareness among the public.

Given that the 'Badhe Chalo' campaign was focused on celebrating national spirit and involved cultural participation, the Ministry of Culture was the most suitable ministry to launch and oversee this initiative under the Azadi Ka Amrit Mahotsav umbrella.

Let's look at the options:

Option	Ministry Name	Role in 'Badhe Chalo' Campaign
1	Ministry of Education	Primarily handles educational policies and institutions. Not the main body for cultural campaign launches.
2	Ministry of Culture	Launched the 'Badhe Chalo' campaign, aligning with its focus on cultural promotion and national celebrations.
3	Ministry of Home Affairs	Deals with national security, law, and order. Does not typically lead cultural campaigns.
4	Ministry of External Affairs	Manages India's foreign relations and international cultural exchanges. Not responsible for domestic cultural initiatives like this.

Therefore, the Ministry of Culture correctly launched the 'Badhe Chalo' campaign.

29. Answer: c

Explanation:

The UAE is located to the west of India, across the Arabian Sea. Based on the geographical analysis, the United Arab Emirates (U.A.E.) is the country among the options provided that does not share a border with India.

30. Answer: d

Explanation:

IIT Madras Pioneers Indian Language Technology Advancement

The institution recognized for launching the 'Nilekani Centre at A14Bharat' to promote technologies for Indian languages is **IIT Madras**.

About the Nilekani Centre at A14Bharat

- **Objective:** The primary goal of establishing this centre is to significantly boost research and development in areas crucial for Indian language technology.
- **Focus Areas:** This initiative aims to develop advanced tools and platforms that support the growth and preservation of various Indian languages using cutting-edge technology.
- **Significance:** Such centres play a vital role in bridging the digital divide and ensuring that technological advancements are inclusive and accessible across different linguistic communities in India.

The establishment of the Nilekani Centre at A14Bharat by IIT Madras marks a significant step towards empowering India's linguistic diversity through technological innovation.

31. Answer: a

Explanation:

National Conference on Drug Trafficking

A significant National Conference focused on the critical issues of **Drug Trafficking** and its impact on **National Security** was recently organized in Chandigarh.

This important gathering aimed to bring together key stakeholders and experts to discuss strategies and coordinate efforts to combat the persistent challenge of drug trafficking.

The conference was held under the esteemed chairmanship of Union Minister **Amit Shah**. His leadership guided the discussions towards strengthening national security measures against drug-related threats.

The event highlighted the government's commitment to tackling drug trafficking, a menace that poses substantial risks to societal well-being and national stability.

32. Answer: b

Explanation:

Goa has achieved a major milestone by becoming the first state in India to be certified as 'Har Ghar Jal'. This means that every village in Goa has successfully passed the verification process, ensuring that all households have received functional tap water connections.

33. Answer: b

Explanation:

International Day for Biological Diversity Date Explained

The **International Day for Biological Diversity** is an important global observance dedicated to raising awareness and understanding of biodiversity issues.

Biodiversity, which refers to the variety of life on Earth at all its levels, from genes to ecosystems, is crucial for the planet's health and human well-being.

Why is May 22nd the Chosen Date?

The United Nations General Assembly proclaimed **May 22nd** as the International Day for Biological Diversity. This date was chosen because it marks the anniversary of the adoption of the Convention on Biological Diversity (CBD) at the Earth Summit in Rio de Janeiro in 1992. The CBD is a key international treaty aimed at conserving biological diversity, sustainably using its components, and fairly sharing the benefits arising from the use of genetic resources.

Understanding the Significance

- **Biodiversity Awareness:** The day serves as a vital opportunity to promote the importance of conserving biological diversity.
- **Global Collaboration:** It encourages governments, organizations, and individuals worldwide to participate in activities that highlight biodiversity conservation efforts.
- **Addressing Threats:** Activities often focus on the threats facing biodiversity, such as habitat loss, climate change, and pollution, and promote solutions.
- **The Correct Date:** Celebrations and educational campaigns consistently occur on May 22nd each year.

Evaluating the Options

Let's look at why the other options are incorrect for the International Day for Biological Diversity:

- **1 April:** This date is known as April Fools' Day and has no connection to biodiversity awareness.
- **15 December:** This date is not associated with the International Day for Biological Diversity.
- **10 November:** This date is not the designated day for celebrating biological diversity.

Therefore, **22 May** is the correct date for the International Day for Biological Diversity.

34. Answer: d

Explanation:

This island is located in the Brahmaputra River in the Indian state of Assam. Majuli Island holds the title of the largest river island in the world.

35. Answer: a

Explanation:

Based on the analysis, the correct national currency of Hungary is the Hungarian Forint . The Hungarian Forint (HUF) has been the currency of Hungary since 1 August 1946, replacing the previous pengő after World War II.

36. Answer: a

Explanation:

Later, on November 1, 1956, Andhra State was merged with the Telugu-speaking districts of the Hyderabad State to form the larger state of Andhra Pradesh , aligning with the recommendations of the States Reorganisation Act, 1956. Therefore, the formation of Andhra Pradesh (initially as Andhra State in 1953) holds the distinction of being the first state reorganization based on language after India's independence.

37. Answer: c

Explanation:

The correct answer is **25 years**.

21 years: This is the minimum age required to be elected to the Panchayati Raj bodies (local self-government) and also the minimum age to be a member of the Rajya Sabha. 30 years: This is the minimum age requirement to be eligible for election to the Rajya Sabha, the upper house of the Parliament. Therefore, the correct minimum age for holding office in the Lok Sabha is 25 years.

38. Answer: b

Explanation:

UNFCCC Full Form Explained

The question asks for the correct expansion of the acronym UNFCCC. UNFCCC is a significant international treaty related to climate change.

Understanding the Options for UNFCCC

Let's examine the given options to determine the correct full form of UNFCCC:

- **Option 1: United Nations Federation Convention on Climate Change** - This option uses "Federation" instead of "Framework" and omits "United Nations".
- **Option 2: United Nations Framework Convention on Climate Change** - This option correctly uses "United Nations", "Framework", and "Convention on Climate Change".
- **Option 3: United Nations Framework Council on Climate Change** - This option incorrectly uses "Council" instead of "Convention".
- **Option 4: United Nations Federation Council on Climate Change** - This option incorrectly uses both "Federation" and "Council".

Identifying the Correct UNFCCC Expansion

The United Nations Framework Convention on Climate Change (UNFCCC) is an international environmental treaty negotiated at the Earth Summit in Rio de Janeiro in 1992. Its goal is to stabilize greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.

Comparing the options with the known full form, Option 2 is the accurate expansion.

Final Answer Derivation

The correct expansion of UNFCCC is ****United Nations Framework Convention on Climate Change****. This matches Option 2 provided in the question.

39. Answer: a

Explanation:

Nautanki Folk Dance Origin

Nautanki is a very popular and vibrant form of folk theatre, often characterized by music, dance, and dramatic storytelling. It has a rich history and is deeply intertwined with the cultural landscape of North India.

Understanding Nautanki

This folk theatre form typically incorporates themes ranging from historical sagas and love stories to social commentaries and devotional tales. Nautanki performances are known for their energetic music, lively dance sequences, and engaging dialogue, often performed in open spaces or temporary stages.

Nautanki's Primary Association

The question asks about the state where Nautanki is a folk dance. Nautanki has its strongest roots and is most prominently practiced in the state of **Uttar Pradesh**. It is considered a significant part of the state's cultural heritage and performing arts tradition.

Analysis of Options

- **Uttar Pradesh:** This is the correct state associated with Nautanki. It is a major folk theatre form here.
- **Kerala:** Kerala is famous for classical dance forms like Kathakali and Mohiniyattam, and various folk dances like Theyyam, Oppana, but Nautanki is not native to Kerala.

- **Karnataka:** Karnataka boasts diverse folk traditions, including Yakshagana, Dollu Kunitha, and Kamsale, but Nautanki is not one of its traditional folk dances.
- **Andhra Pradesh:** Andhra Pradesh is renowned for classical dance like Kuchipudi and folk dances such as Veeranatyam and Dappu Nrityam. Nautanki is not associated with this state.

Therefore, based on the established cultural geography of Indian folk arts, Nautanki is fundamentally linked to **Uttar Pradesh**.

40. Answer: b

Explanation:

The official headquarters of the International Olympic Committee (IOC) is located in Switzerland. Therefore, the correct choice is Switzerland, the location of the IOC's central administrative offices and the base for its global operations.

41. Answer: b

Explanation:

The famous book Powers of the Mind was authored by Swami Vivekananda. This book delves into the philosophical and spiritual teachings of Swami Vivekananda, focusing on the potential of the human mind and self-realization.

42. Answer: b

Explanation:

दुष्प्रभावों को सामने लाकर: यह विकल्प सीधे तौर पर अनुच्छेद के उस हिस्से से मेल खाता है जहाँ बताया गया है कि साहित्य समाज की अनैतिकता, अराजकता आदि के दुष्प्रभावों को उजागर करता है। यह साहित्य द्वारा अपने दायित्व निर्वहन का एक प्रमुख तरीका है।

43. Answer: a

Explanation:

यह प्रश्न दिए गए अनुच्छेद पर आधारित है, जिसमें साहित्य और समाज के बीच के संबंध को समझाया गया है। विशेष रूप से, यह प्रश्न पूछता है कि एक साहित्यकार समाज के प्रति अपने उद्देश्य को किस प्रकार पूरा करता है। विकल्प 1: साहित्यकार समाज में अपनी कृतियों द्वारा आशा का संचार करता है और उत्साह एवं कर्तव्यवाद का संदेश देता है।

44. Answer: b

Explanation:

विकल्प 2: राष्ट्र का इतिहास, गरिमा, संस्कृति-सभ्यता, पूर्वजों के विचार, अनुसंधान आदि तत्कालीन साहित्य द्वारा ही जाने जा सकते हैं। यह विकल्प सीधे तौर पर अनुच्छेद के उस हिस्से से मेल खाता है जहाँ लिखा है: "साहित्य से ही किसी राष्ट्र का इतिहास, गरिमा, संस्कृति और सभ्यता, वहाँ के पूर्वजों के विचारों एवं अनुसंधानों, प्राचीन रीति-रिवाजों, रहन-सहन और परंपराओं आदि की जानकारी प्राप्त होती है।" यह पुरानी पीढ़ियों के बारे में जानकारी प्राप्त करने का सबसे व्यापक और सटीक तरीका बताता है। अंतिम उत्तर: विकल्प 2, "राष्ट्र का इतिहास, गरिमा, संस्कृति-सभ्यता, पूर्वजों के विचार, अनुसंधान आदि तत्कालीन साहित्य द्वारा ही जाने जा सकते हैं।"

45. Answer: a

Explanation:

विकल्प 1: "क्योंकि साहित्य द्वारा समाज की विडंबनाओं और विसंगतियों पर प्रहार करके उनमें सुधार लाने की कोशिश की जाती है।" यह विकल्प अनुच्छेद के इस कथन से सीधे तौर पर मेल खाता है कि

यदि साहित्य केवल दर्पण होता, तो वह समाज की विसंगतियों पर प्रहार नहीं करता और उसे अपेक्षित दिशा बोध देने का प्रयत्न नहीं करता। अनुच्छेद यह भी बताता है कि साहित्यकार समाज की रूपरेखा को कल्याणकारी मार्ग द्वारा प्रस्तुत करने से पीछे नहीं हटता। यह साहित्य की सक्रिय और सुधारवादी भूमिका को दर्शाता है, जो इसे केवल दर्पण से अधिक बनाती है।

46. Answer: a

Explanation:

प्रस्तुत गद्यांश साहित्य और समाज के गहरे संबंध पर केंद्रित है। गद्यांश के मुख्य बिंदु इस प्रकार हैं: साहित्य और समाज: यह शीर्षक गद्यांश के केंद्रीय विषय को पूरी तरह से दर्शाता है। गद्यांश साहित्य और समाज के आपसी संबंधों, साहित्य के सामाजिक सरोकारों और समाज पर उसके प्रभाव पर विस्तार से चर्चा करता है।

47. Answer: d

Explanation:

गद्यांश को ध्यान से पढ़ने पर, हम उस हिस्से पर ध्यान केंद्रित करते हैं जहाँ स्थायित्व और क्षणभंगुरता के विपरीत विचारों को प्रस्तुत किया गया है: "...सत्य के सम्पूर्ण दर्शन तों इस देह से असंभव है। उसकी केवल कल्पना ही की जा सकती है (क्षणभंगुर) देह द्वारा शाश्वत धर्म का साक्षात्कार सम्भव नहीं होता।"

48. Answer: c

Explanation:

विकल्प 3: श्रद्धापूर्वक अंतःविद्यमान सत्य के मार्ग पर आगे बढ़ते हुए इस सत्य का साक्षात्कार करें। यह विकल्प अनुच्छेद के मुख्य संदेशों से मेल खाता है। अनुच्छेद बताता है कि सत्य भीतर है, मार्ग कठिन है (असि की धार जैसा), और अंततः श्रद्धा आवश्यक है। संकट सहकर आगे बढ़ना और आंतरिक सत्य को खोजना, यही सत्य की तलाश का सही तरीका प्रतीत होता है।

49. Answer: a

Explanation:

विकल्प 1: संकटों को सहते हुए निमित्त नाश किये बिना आगे बढ़ना चाहिए। यह विकल्प अनुच्छेद के उस हिस्से से मेल खाता है जहाँ कहा गया है कि 'संकट सहकर आगे तो बढ़ता है' और 'नाश करते चलने पर वह आगे नहीं बढ़ता'। यह सत्य और अहिंसा के मार्ग पर धैर्य और दृढ़ता से चलने की सलाह देता है।

50. Answer: a

Explanation:

विकल्प 1: "क्योंकि सत्य और अहिंसा का मार्ग जितना सीधा है उतना ही तंग है और इस मार्ग पर न चलना अत्यंत कठिन है।" यह कथन सीधे अनुच्छेद के वाक्य से मेल खाता है। 'जितना सीधा है उतना ही तंग' और 'असि की धार पर चलने के समान' वाक्यांश इस बात पर जोर देते हैं कि मार्ग संकीर्ण है और उस पर चलना बेहद मुश्किल और खतरनाक है, जिसके लिए अत्यधिक सावधानी की आवश्यकता होती है।

51. Answer: d

Explanation:

अनुच्छेद के अनुसार, सत्य की रत्न-चिंतामणि प्राप्त करने के लिए सत्य की आराधना करना, 'हरि के मार्ग' पर चलना और अपने भीतर स्थित सत्य का साक्षात्कार करना, ये सभी आवश्यक हैं। इसलिए, सही उत्तर इन सभी को सम्मिलित करता है।

52. Answer: a

Explanation:

Interest Expenditure Average Calculation (2011–2015)

To calculate the average interest paid per year by the company between 2011 and 2015, we first need to identify the 'Interest on Loans' expenditure for each of these years from the given data.

Year	Interest on Loans (Lakh Rupees)
2011	13.4
2012	22.5
2013	31.45
2014	26.47
2015	39.48

The average is calculated by summing these amounts and dividing by the number of years, which is 5.

The formula to use is:

$$\text{Average Interest} = \frac{\sum(\text{Interest on Loans for each year})}{\text{Number of years}}$$

Step-by-Step Calculation

Step 1: Sum the interest amounts.

The interest amounts for the 5 years are 13.4, 22.5, 31.45, 26.47, and 39.48 Lakh Rupees.

$$\text{Total Interest} = 13.4 + 22.5 + 31.45 + 26.47 + 39.48$$

$$\text{Total Interest} = 133.3 \text{ Lakh Rupees}$$

Step 2: Divide the total interest by the number of years (5).

$$\text{Average Interest} = \frac{133.3}{5}$$

$$\text{Average Interest} = 26.66 \text{ Lakh Rupees}$$

Thus, the average interest paid annually by the company over the period 2011–2015 is ₹ 26.66 lakhs.

53. Answer: c

Explanation:

Comparing this value to the given options, the closest approximation is 0.6%. The total amount of bonus paid by the company during the period 2011–2015 is approximately 0.6% of the total amount of salary paid during the same period.

54. Answer: b

Explanation:

Expenditure Comparison: 2011 vs 2015

This question asks us to calculate what percentage the company's total expenditure in 2011 was compared to its total expenditure in 2015. We need to analyze the provided table of expenditures (in Lakh Rupees) for different items over several years.

2011 Total Expenditure Calculation

First, we calculate the total expenditure for the year 2011 by summing up all the listed expenditure items:

Item of Expenditure	Amount (Lakh Rupees)
Salary	300
Fuel and Transport	100
Bonus	21
Interest on Loans	3.4
Taxes	85
Total Expenditure (2011)	509.4

The sum is $300 + 100 + 21 + 3.4 + 85 = 509.4$ Lakh Rupees.

2015 Total Expenditure Calculation

Next, we calculate the total expenditure for the year 2015 by summing up its expenditure items:

Item of Expenditure	Amount (Lakh Rupees)
Salary	450
Fuel and Transport	152
Bonus	29
Interest on Loans	6.4
Taxes	88
Total Expenditure (2015)	725.4

The sum is $450 + 152 + 29 + 6.4 + 88 = 725.4$ Lakh Rupees.

Percentage Calculation Method

To find the percentage that the 2011 total expenditure represents of the 2015 total expenditure, we use the formula:

$$\text{Percentage} = \left(\frac{\text{Total Expenditure in 2011}}{\text{Total Expenditure in 2015}} \right) \times 100$$

Substituting the calculated values:

$$\text{Percentage} = \left(\frac{509.4}{725.4} \right) \times 100$$

Performing the calculation:

$$\text{Percentage} \approx 0.702233 \times 100$$

$$\text{Percentage} \approx 70.22\%$$

Our calculation shows that the total expenditure in 2011 was approximately 70.22% of the total expenditure in 2015. When comparing this result to the provided options, 70.33% is the closest value.

55. Answer: a

Explanation:

Ratio Calculation Process

The question requires us to determine the ratio between the total expenditure on **Taxes** and the total expenditure on **Fuel and Transport** across all the given years.

Taxes and Fuel Transport Data

We first isolate the figures for 'Taxes' and 'Fuel and Transport' for each year from the provided table:

<figure class='table'>

Year	Fuel and Transport (Lakh Rupees)	Taxes (Lakh Rupees)
2011	100	52
2012	112	110
2013	105	75
2014	135	78
2015	152	88

Total Taxes Sum

To find the total expenditure on Taxes, we add the amounts for each year:

$$\text{Total Taxes} = 52 + 110 + 75 + 78 + 88$$

$$\text{Total Taxes} = 403 \text{ Lakh Rupees}$$

Total Fuel and Transport Sum

Similarly, we sum the expenditures on Fuel and Transport for all the years:

$$\text{Total Fuel and Transport} = 100 + 112 + 105 + 135 + 152$$

$$\text{Total Fuel and Transport} = 604 \text{ Lakh Rupees}$$

Final Ratio Determination

The ratio is calculated as Total Taxes divided by Total Fuel and Transport.

$$\text{Ratio} = \text{Total Taxes} : \text{Total Fuel and Transport}$$

$$\text{Ratio} = 403 : 604$$

The calculated ratio is 403 : 604. Among the given options, Option 1 is 109 : 151. Option 1 is the correct answer.

56. Answer: c

Explanation:

Specifically, the options are ₹ 586.02 Lakhs, ₹ 500.4 Lakhs, ₹ 738.44 Lakhs, and ₹ 582.08 Lakhs. Given the discrepancy, it is not possible to provide a step-by-step derivation that reaches the answer ₹ 738.44 Lakhs using the provided data for 2013 and the standard interpretation of total expenditure.

57. Answer: d

Explanation:

The correct answer is **25 : 36**.

Ratio Calculation:

$$\text{Ratio} = \text{Average Speed (Alto)} : \text{Average Speed (Tiago)}$$

$$\text{Ratio} = 50 \text{ km/hour} : 72 \text{ km/hour}$$

Simplifying the Ratio: To simplify the ratio 50 : 72, we find the greatest common divisor (GCD) of 50 and 72, which is 2. Divide both parts of the ratio by 2:

$$\text{Ratio} = \frac{50}{2} : \frac{72}{2}$$

$$\text{Ratio} = 25 : 36$$

Therefore, the ratio of the average speed of Alto to Tiago during the 10 days is 25 : 36.

58. Answer: c

Explanation:

The correct answer is **0 hour**.

This means Alto needs to cover the distance that Kwid covered before they met, and Kwid needs to cover the distance that Alto covered before they met. Difference in time = $t_{\text{Alto, after}} - t_{\text{Kwid, after}}$ Difference in time = 23 hours – 23 hours = 0 hours Therefore, the difference in time taken by Alto and Kwid to reach their destination after meeting each other is 0 hours.

59. Answer: c

Explanation:

The correct answer is **56 : 99**.

Ratio = (Time taken by Mini) : (Time taken by Swift) Ratio = 14 hours : $\frac{99}{4}$ hours To simplify the ratio, we can multiply both sides by 4: Ratio = $(14 \times 4) : (\frac{99}{4} \times 4)$ Ratio = 56 : 99 Therefore, the ratio of the time taken by car Mini to travel 875 km to the time taken by car Swift to travel 990 km is 56:99.

60. Answer: a

Explanation:

The correct answer is **18 : 25**.

Ratio = Total distance covered by Tiago : Total distance covered by Mini Ratio = 3600 km : 5000 km To simplify the ratio, we find the greatest common divisor (GCD) of 3600 and 5000, which is 200. Divide both sides by 200: Ratio = $\frac{3600}{200} : \frac{5000}{200}$ Ratio = 18 : 25 Therefore, the ratio of the total distance covered by Tiago and Mini during the 10 days is 18:25.

61. Answer: d

Explanation:

The correct answer is **61 km/h**.

Average Speed of Car A = $\frac{18300 \text{ km}}{150 \text{ hours}}$ Average Speed of Car A = 122 km/h Calculate
Average Speed of Car B Similarly, Car B covers the same total distance of 18300 km,
but it takes 300 hours. Car Performance Data Car Mileage Average amount of diesel
used per day Total time taken to cover the total distance which is covered during 10
days Alto 25 km/litre 10 litres 50 hours Swift 22 km/litre 10 litres 55 hours Tiago 30
km/litre 12 litres 50 hours Mini 20 km/litre 25 litres 80 hours Kwid 25 km/litre 20 litres
100 hours

62. Answer: b

Explanation:

Calculation :

Number of employees working in the company during the year 2000 = 5000

Number of employees working in the company during the year 2001 =

= 5000 + (500 - 400)

= 5100

Number of employees working in the company during the year 2002 =

= 5100 + (450 - 600)

= 4950

Number of employees working in the company during the year 2003 =

= 4950 + (600 - 550)

= 5000

Hence, the correct answer is "5000".

63. Answer: d

Explanation:

Calculation:

The least number of employees who joined the company in year 2002 = 450.

The maximum number of employees who left company in year 2006 = 650.

Now required ratio:

$$\Rightarrow 450 : 650$$

$$\Rightarrow 9 : 13 \text{ (on dividing by 5)}$$

Hence, the correct answer is "9 : 13".

64. Answer: a

Explanation:

Calculation:

In 2001:

Th previous years employees who left the company data is NOT available.

In 2002:

The percentage increase/decrease:

$$\Rightarrow (600 - 400)/400 \times 100$$

⇒ 50% increase

In 2003:

The percentage increase/decrease:

$$\Rightarrow (550 - 600)/600 \times 100$$

$$\Rightarrow - 8.33\%$$

In 2004:

The percentage increase/decrease:

$$\Rightarrow (500 - 550)/550 \times 100$$

$$\Rightarrow - 9.09\%$$

In 2005:

The percentage increase/decrease:

$$\Rightarrow (600 - 500)/500 \times 100$$

$$\Rightarrow 20\%$$

In 2006:

The percentage increase/decrease:

$$\Rightarrow (650 - 600)/600 \times 100$$

$$\Rightarrow 8.33\%$$

We can see that the maximum percentage rise/fall was in year 2002.

Hence the correct answer is "2002".

65. Answer: b

Explanation:

Calculation:

The total number of employees in the year 2003:

$$= 5000 + (500 - 400) + (450 - 600) + (600 - 550)$$

$$= 5000 + 100 - 150 + 50$$

$$= 5000$$

The total number of employees in the year 2002:

$$= 5000 + (500 - 400) + (450 - 600)$$

$$= 5000 + 100 - 150$$

$$= 4950$$

Increase in employees from 2002 to 2003:

$$= 5000 - 4950$$

$$= 50$$

Percentage increase in employees:

$$= (50/4950) \times 100$$

$$= (1/99) \times 100$$

$$= 1.01$$

$$= 1\%$$

Hence the correct answer is "1%".

66. Answer: a

Explanation:

Calculation :

The total number of employees in the year 2003:

$$= 5000 + (500 - 400) + (450 - 600) + (600 - 550)$$

$$= 5000 + 100 - 150 + 50$$

$$= 5000$$

The total number of employees in the year 2006:

$$= 5000 \text{ (employees in the year 2003)} + (700 - 500) + (550 - 600) + (700 - 650)$$

$$= 5000 + 200 - 50 + 50$$

$$= 5200$$

Now required percentage:

$$= (5000/5200) \times 100$$

$$= (50/52) \times 100$$

$$= 96.153 \times 100$$

$$= 96.15\%$$

Hence, the correct answer is **"96.15%"**.

67. Answer: d

Explanation:

Calculation:

Options (1):

Production in 2013 = 75

Production in 2012 = 55

In 2013, Percentage increase in production:

$$= \{(75 - 55)/55\} \times 100$$

$$= (20/55) \times 100$$

$$= 36.36\%$$

Options (2):

Production in 2012 = 55

Production in 2011 = 40

In 2012, Percentage increase in production:

$$= \{(55 - 40)/40\} \times 100$$

$$= (15/40) \times 100$$

$$= 37.5\%$$

Options (3):

Production in 2015 = 80

Production in 2014 = 60

In 2015, Percentage increase in production:

$$= \{(80 - 60)/60\} \times 100$$

$$= (20/60) \times 100$$

$$= 33.33\%$$

Options (4):

Production in 2017 = 90

Production in 2016 = 65

In 2017, Percentage increase in production:

$$= \{(90 - 65)/65\} \times 100$$

$$= (25/65) \times 100$$

$$= 38.46\%$$

Hence we can clearly see that the percentage increase in production was the maximum in the Year 2017.

The correct answer is "2017".

68. Answer: d

Explanation:

Formula used:

Average = Sum of production in all years ÷ Total number of years.

Calculation:

Average production of toys:

$$= (40 + 55 + 75 + 60 + 80 + 65 + 90 + 95)/8$$

$$= 560/8$$

$$= 70$$

Now we can see in the graph that in the years 2013, 2015, 2017 & 2018 the production of toys is more than the average production of toys.

Hence, the correct answer is "4".

69. Answer: c

Explanation:

Given:

Production in the year 2013: 75

Production in the year 2014: 60

Calculation:

The difference in production:

$$\Rightarrow 75 - 60$$

$$\Rightarrow 15 \text{ unit}$$

Now required percentage decline:

$$= (15/75) \times 100$$

$$= 20\%$$

Hence, the correct answer is "20%".

70. Answer: c

Explanation:

Calculation:

Average production of years 2015 and 2016:

$$= (80 + 65)/2$$

$$= 72.5 \text{ Unit}$$

Now, check all the options:

Options (1): The average production of 2014 and 2015:

$$= (60 + 80)/2$$

$$= 70 \text{ Unit}$$

Options (2): Average production of 2016 and 2017:

$$= (90 + 95)/2$$

$$= 92.5 \text{ Unit}$$

Options (3): Average production of 2012 and 2017 :

$$= (55 + 90)/2$$

$$= 145/2$$

$$= 72.5 \text{ Unit}$$

we can see that the average production of years 2015 and 2016 is exactly equal to the average production of years 2012 and 2017 which is **72.5 units**.

Hence the correct answer is "**year 2012 & 2017**".

Your Personal Exams Guide

71. Answer: a

Explanation:

Calculation:

production of toys in 2018:

$$\Rightarrow 95 \text{ Lakhs}$$

Production of toys in 2011:

⇒ 40 Lakhs

The difference in production:

⇒ 95 - 40

⇒ 55 Lakhs

Required percentage increase:

$$= (55/40) \times 100$$

$$= 275/2$$

$$= 137.5\%$$

Hence, the correct answer is "137.5 %".

72. Answer: b

Explanation:

Emperor Shahjahan was a passionate patron of architecture and craftsmanship. Considering the historical evidence, particularly the extensive and masterfully executed pietra dura work found in the iconic monuments built during his reign, it is clear that the pietra dura or coloured stone inlay work on marble became most popular during the reign of Emperor Shahjahan .

73. Answer: b

Explanation:

The Chalcolithic Age, sometimes referred to as the Copper Age, represents a major technological leap. Therefore, the age characterized by the first significant use of copper is the Chalcolithic Age.

74. Answer: c

Explanation:

The First Buddhist Council took place in Rajgir (ancient name: Therefore, based on historical accounts, Rajgir is the correct location for the First Buddhist Council.

75. Answer: b

Explanation:

Mauryan Emperor Ashoka

This title is primarily associated with Mauryan Emperor Ashoka .

76. Answer: c

Explanation:

The correct answer is **A Mughal Emperor**.

This period is significantly earlier than the establishment of the EIC. A Sunga Emperor: The Sunga Dynasty followed the Mauryas and ruled from about 185 BC to 73 BC. This empire also predates the arrival of the East India Company by many centuries. on Indian Rulers Therefore, when the East India Company was established in 1600 AD, India was under the rule of A Mughal Emperor , specifically Akbar the Great.

77. Answer: a

Explanation:

The Bhoodan Movement , meaning 'land-gift', was initiated by Vinoba Bhave in April 1951. Based on historical context and the initiation of the movement, Vinoba Bhave is the correct answer as the founder of the Bhoodan-Gramdan movement.

78. Answer: b

Explanation:

Dandi March: Kamaladevi Chattopadhyay's Role in Women's Inclusion

The Dandi Salt March, a cornerstone event in India's struggle for independence, involved Mahatma Gandhi and his followers marching to the coastal village of Dandi to protest the British monopoly on salt. This act of civil disobedience, known as the Salt Satyagraha, aimed to challenge the unfair British salt laws.

Historical accounts highlight that the initial planning for the march primarily focused on male participants. However, prominent social activist **Kamaladevi Chattopadhyay** played a crucial role in advocating for the inclusion of women in this significant protest. She actively persuaded Mahatma Gandhi that the movement should not be restricted to men alone, emphasizing the vital role women could and should play in the fight for freedom.

Gandhiji was convinced by her arguments, and women were subsequently allowed to participate actively in the Dandi Salt March and the broader civil disobedience movement. This decision significantly broadened the movement's reach and demonstrated the commitment of women to the cause of Indian independence. While figures like Pandita Ramabai and Madam Bhikaiji Cama were influential in advocating for women's rights and India's freedom, it was **Kamaladevi Chattopadhyay** who specifically urged Gandhiji to ensure women's participation in the Dandi Salt March.

79. Answer: d

Explanation:

The French Revolution (1789–1799) is widely regarded as the turning point for the emergence of modern nationalism. Based on the historical significance and the specific developments during each period, the French Revolution stands out as the revolution that first provided a clear and influential expression of nationalism.

80. Answer: d

Explanation:

The Government of India Act, 1935 specifically provided for the separation of Sind from the Bombay Presidency and its constitution as an autonomous province. Therefore, the legislative act responsible for the creation of the Sind Province from Bombay was the Government of India Act, 1935.

81. Answer: b

Explanation:

The prominent battle cry 'Dilli Chalo' was given by Netaji Subhash Chandra Bose. While all these individuals were instrumental in the fight for India's freedom, the specific battle cry 'Dilli Chalo' is famously associated with Subhash Chandra Bose and his efforts with the INA.

82. Answer: d

Explanation:

In essence, while economic factors like industrialisation, urbanisation, and the presence of minerals actively draw populations by offering opportunities, the availability of water is a fundamental physical requirement that enables settlement and supports economic activities, distinguishing it as a non-economic factor among the choices.

83. Answer: c

Explanation:

Nepal & Tibet

Mount Everest Location: Nepal & Tibet Border Mount Everest is renowned as the highest peak in the world, soaring high above the sea level.

84. Answer: b

Explanation:

High temperature associated with high humidity: Therefore, the main reason for "October heat" in India is the high temperature coupled with high humidity.

85. Answer: c

Explanation:

Indian Standard Time Difference Explained

The question asks by how much Indian Standard Time (IST) is ahead of Greenwich Mean Time (GMT). This difference is determined by India's geographical location based on longitude.

Understanding Time Zones and Longitude

Time zones are based on the Earth's rotation. The Earth spins 360 degrees in 24 hours.

- This means the Earth rotates 15 degrees ($\frac{360^\circ}{24 \text{ hours}}$) every hour.
- Consequently, for every degree of longitude, there is a 4-minute time difference ($\frac{60 \text{ minutes}}{15^\circ}$).

Greenwich Mean Time (GMT) is the time reference based on the Prime Meridian, which is at 0 degrees longitude.

Calculating India's Time Offset

India follows a standard meridian based on its longitude to maintain a uniform time across the country. India's standard meridian is $82^\circ 30'$ East longitude, which is $82.5^\circ E$.

To find out how much IST is ahead of GMT, we calculate the time difference based on this longitude:

Time Difference = (Longitude of Standard Meridian in degrees) $\times$ (Time difference per degree)

Time Difference = $82.5^\circ \times 4 \text{ minutes/degree}$

Time Difference = 330 minutes

Now, we convert these minutes into hours and minutes:

Time Difference = $\frac{330 \text{ minutes}}{60 \text{ minutes/hour}} = 5.5 \text{ hours}$

This value, 5.5 hours, can also be written as $5\frac{1}{2}$ hours.

Since $82.5^\circ E$ is east of the Prime Meridian (0°), Indian Standard Time is ahead of GMT.

Analyzing the Options

The calculation shows that IST is ahead of GMT by $5\frac{1}{2}$ hours. Let's compare this with the given options:

Option	Time Difference	Calculation Check
1. 4 hours	4 hours	Incorrect.
2. 7 hours	7 hours	Incorrect.
3. $5\frac{1}{2}$ hours	5.5 hours	Correct. Matches our calculation.
4. $3\frac{7}{2}$ hours	$3 + \frac{7}{2} = 3 + 3.5 = 6.5$ hours	Incorrect.

The correct option is the one stating $5\frac{1}{2}$ hours.

86. Answer: d

Explanation:

Therefore, the expansion and improvement of irrigation facilities, including canals, tube wells, and other water management techniques, were integral parts of the Green Revolution strategy. Therefore, the strategy encompassed the integrated use of high-yielding variety seeds, chemical fertilizers, pesticides, and modern irrigation techniques. Therefore, the correct answer is All of these.

87. Answer: d

Explanation:

The river famously referred to as the 'Sorrow of Bihar' is the Kosi river. Therefore, the Kosi river's volatile nature makes it the correct answer.

88. Answer: c

Explanation:

The final approval for the Five-Year Plans of India was given by the National Development Council (NDC) . Therefore, the National Development Council was the key institution responsible for the final sanction of India's Five-Year Plans.

89. Answer: b

Explanation:

Primary Sector Dominance in Developing Economies

Understanding the structure of economies at different stages of development is crucial. Developing economies, particularly in their initial phases, typically exhibit a distinct economic structure compared to more advanced economies.

Understanding Economic Sectors

Economic activities are broadly categorized into three main sectors:

- **Primary Sector:** This sector includes activities directly related to the extraction and harvesting of natural resources. Key examples are agriculture, fishing, forestry, mining, and quarrying.
- **Secondary Sector:** This sector involves the processing of raw materials obtained from the primary sector into finished goods. It encompasses manufacturing, construction, and utilities like electricity and gas supply.
- **Tertiary Sector:** This sector provides services rather than producing physical goods. It includes a wide range of activities such as retail, transportation, healthcare, education, finance, hospitality, and information technology.

Economic Development and Sectoral Evolution

The contribution and employment share of these sectors change significantly as an economy progresses through different stages of development:

- **Initial Stages of Developing Economies:** In the early phases, developing economies heavily depend on natural resources and agriculture. A large portion of the workforce is typically engaged in farming, fishing, or mining activities falling under the **primary sector**. This is often due to basic subsistence needs, limited technological advancement, and the absence of widespread industrialization or service-based industries.
- **Transition and Growth:** As development progresses, economies tend to shift focus towards manufacturing and industrial activities, leading to growth in the **secondary sector**. Improved agricultural productivity can release labor for industrial employment.
- **Mature Economies:** In advanced economies, the **tertiary sector** usually becomes the largest contributor to GDP and employment, reflecting a shift towards service-based industries and technological innovation.

Given this pattern, it is clear that in the initial stages of any developing economy, the **primary sector** accounts for the majority of economic activities.

90. Answer: d

Explanation:

SIDBI stands for the Small Industries Development Bank of India. Based on the functions and operational focus, SIDBI stands out as an institution primarily involved in development finance for MSMEs, distinguishing it from the general commercial banking activities of HSBC, State Bank of India, and ICICI Bank.

91. Answer: b

Explanation:

A Statutory Corporation is a distinct legal entity created by a specific Act (or statute) passed by the Parliament (or a state legislature). Based on the analysis, a Statutory Corporation is explicitly established through a special law passed by Parliament.

92. Answer: d

Explanation:

Understanding the Union Executive of India

The Union Executive is a vital part of the Indian governmental structure, responsible for the implementation of laws and the administration of the country. It plays a key role in the day-to-day functioning of the government.

Components of the Union Executive

According to the Constitution of India, the Union Executive consists of the following key figures:

- The President of India: The constitutional head of state.
- The Vice-President of India: Holds the second-highest office.
- The Prime Minister of India: The head of the government.
- The Council of Ministers: Including cabinet ministers and ministers of state, who assist the Prime Minister.
- The Attorney-General of India: The government's chief legal advisor.

Analyzing the Options

Let's examine each option provided in the context of the Union Executive:

- **The Vice-President:** The Vice-President is indeed a part of the Union Executive, often presiding over the Rajya Sabha when not acting as President.
- **The President:** The President is the nominal head of the executive and a core component of the Union Executive.

- **The Prime Minister:** The Prime Minister is the real head of the executive and leads the Council of Ministers, making them an integral part of the Union Executive.
- **The Chief Minister of States:** This position is fundamentally different. A Chief Minister is the head of the executive branch of a *State* government, not the Union (central) government. While states have their own executives, they are distinct from the Union Executive.

Identifying the Excluded Member

Based on the constitutional framework of India, the Union Executive comprises the President, Vice-President, Prime Minister, and the Council of Ministers, along with the Attorney-General. The Chief Minister of States operates at the state level and is therefore not included in the Union Executive.

93. Answer: d

Explanation:

Article 124 of the Constitution of India is the key provision that lays down the framework for the establishment and constitution of the Supreme Court. Therefore, Article 124 is the correct provision concerning the establishment and constitution of the Supreme Court of India.

94. Answer: a

Explanation:

Implementing Fundamental Rights: The Judiciary's Role

Fundamental Rights are essential rights guaranteed to all citizens of India, ensuring dignity, liberty, and equality. These rights are enshrined in Part III of the Indian

Constitution. The question asks which body has the authority to implement these rights, meaning to enforce them when they are violated.

Constitutional Provisions for Enforcement

The Constitution of India specifically empowers certain courts to enforce Fundamental Rights. This power ensures that these rights are protected effectively.

- **Article 32:** This article is considered the very soul of the Constitution. It empowers the **Supreme Court** of India to issue specific orders or directions, known as 'writs', to enforce Fundamental Rights. These include Habeas Corpus, Mandamus, Prohibition, Quo Warranto, and Certiorari.
- **Article 226:** This article grants similar powers to the **High Courts** in India. High Courts can also issue these writs for the enforcement of Fundamental Rights within their respective jurisdictions.

Analysis of Options

Let's examine why the other options are not the primary bodies for implementing Fundamental Rights:

- **Members of Parliament:** While Parliament makes laws, including those that may relate to or restrict Fundamental Rights under certain conditions, they do not directly issue orders or writs to enforce these rights against violations. Their role is legislative, not judicial enforcement.
- **The President:** The President is the head of the executive branch. While the President can take certain actions, like declaring an emergency which might affect the enforcement of some Fundamental Rights (under specific constitutional articles), the President does not possess the direct power to issue writs or orders to implement and enforce Fundamental Rights on a case-by-case basis.
- **None of these:** This option is incorrect because the Supreme Court and High Courts do indeed have the power to implement Fundamental Rights.

Conclusion

Based on the constitutional framework, particularly Articles 32 and 226, the **Supreme Court** and **High Courts** are the designated authorities responsible for the implementation and enforcement of Fundamental Rights. They act as guardians of these rights, providing remedies through the issuance of various writs when violations occur.

95. Answer: a

Explanation:

The National Human Rights Commission (NHRC), set up under the Protection of Human Rights Act, 1993, is administratively linked to the **Ministry of Home Affairs**.

96. Answer: b

Explanation:

The Parliament can by law constitute a High Court for a Union Territory or any part thereof. Therefore, the Parliament is the correct authority to establish a High Court in any Union Territory.

97. Answer: c

Explanation:

Therefore, Nylon is a synthetic fibre , not a plant fibre. Thus, Nylon is the fibre that is not a plant fibre.

98. Answer: b

Explanation:

When asked what determines the colors of stars, the primary factor is indeed its temperature. Stars with temperatures around 5,000 K to 6,000 K, like our Sun, peak in the green-yellow part of the spectrum but appear white or yellowish to our eyes because they emit strongly across multiple colors.

99. Answer: b**Explanation:****Greenhouse Gas**

Therefore, the term 'Greenhouse Gas' encompasses the specific gases contributing to the warming of the planet.

100. Answer: b**Explanation:**

Correct answer: Lungs

Pneumonia is a condition that affects the respiratory system. Specifically, it is an infection that causes inflammation in the air sacs found in one or both lungs.

When someone has pneumonia, the tiny air sacs in their lungs, called alveoli, can fill up with fluid or pus. This buildup makes it difficult for the lungs to exchange oxygen and carbon dioxide effectively, leading to symptoms like difficulty breathing, cough, fever, and chills.