

Cooling doctrine: On India's response to extreme heat

Access to safe indoor temperatures must be a public-health entitlement

Over the past **decade**, India's response to extreme heat has settled into a familiar **choreography**. Summer comes and the National Disaster Management Authority (NDMA) **regurgitates** its **tally** of rising **preparedness**. The 16th Finance Commission has gone further, recommending that heatwaves be notified as a national disaster — a designation that would **unbolt the door** to dedicated central funding. But the heat action plan, as currently **conceived**, has reached the limits of what it can do. Even the NDMA **concedes** that the quality of these plans is **uneven** — several are **imitations** of plans drafted elsewhere. Where implementation happens at all, it **leans heavily on** short-term **palliatives** such as water **kiosks**, public advisories, and shaded waiting areas at bus stops. While these measures save lives **at the margins**, they do not **alter** the **underlying exposure** of the tens of millions of Indians who work, **commute** and sleep in conditions that are becoming, in the most clinical sense of the word, biologically **untenable**.

What India needs is something larger and more ambitious — a national cooling doctrine; a **scalable** framework that treats **sustained** access to safe indoor temperatures as a public-health entitlement to be guaranteed. The doctrine must begin where the harm is most **acute**: mandatory minimum cooling standards for indoor workplaces — factories, warehouses, commercial kitchens, call centres, delivery hubs — **backed** by an honest and fair inspection **regime**. Technology will have to do **the heavy lifting** by **deploying passive** cooling materials, **reflective roofing deployed at scale**, district cooling systems for **dense** urban zones, and cheaper, more efficient air conditioning **calibrated** for the **peculiarities** of Indian grids. But the problem cannot be solved by importing solutions designed for the temperate, wealthy **economies** of the global North. India's heat is wetter, longer and more humid than the dry European summers that produced much of the **existing** cooling literature. Most Indians cannot afford the energy bills that western-style mechanical cooling **implicitly** assumes, as the grid in India, even on its best days, can supply at most 60% of its installed capacity. There is **no quick fix** on offer but to keep printing heat action plans while indoor temperatures **climb** is no longer a serious answer — it is **theatre**.

[Practice Exercise]

- Red/blue coloring of words in the sentence indicates subject verb relationship; where 'red' denotes 'subject' and 'blue' denotes 'verb'.

Vocabulary

1. **Doctrine** (noun) - principle, belief, precept, tenet, canon सिद्धांत या मत
2. **Entitlement** (noun) - right, prerogative, claim, privilege, allowance अधिकार या पात्रता
3. **Decade** (noun) - ten-year period दशक (दस वर्ष की अवधि)
4. **Choreography** (noun) - arrangement, sequence, composition, coordination, routine योजनाबद्ध क्रम या नृत्य कला
5. **Regurgitate** (verb) - repeat, parrot, echo, recite, restate बिना सोचे-समझे दोहराना
6. **Tally** (noun) - count, record, score, register, inventory गणना या हिसाब
7. **Preparedness** (noun) - readiness, alertness, equipment, availability, mobility तत्परता या तैयारी
8. **Unbolt the door** (phrase) - to remove obstacles or provide new opportunities रास्ता खोलना या अवसर देना
9. **Conceive** (verb) - devise, formulate, design, imagine, envision विचार करना या योजना बनाना
10. **Concede** (verb) - admit, acknowledge, grant, yield, allow स्वीकार करना या मानना
11. **Uneven** (adjective) - inconsistent, irregular, patchy, variable, fluctuating असमान या अनियमित
12. **Imitation** (noun) - copy, replica, simulation, mockery, counterfeit नकल या प्रतिरूप
13. **Lean on** (phrasal verb) - to depend on someone or something for support किसी पर निर्भर होना या सहारा लेना
14. **Palliative** (noun) - sedative, lenitive, temporary fix, relief, remedy पीड़ाशामक या अस्थायी समाधान
15. **Kiosk** (noun) - booth, stall, stand, counter, pavilion छोटा स्टाल या गुमटी
16. **At the margins** (phrase) - in small amounts or in less important/extreme areas rather than at the center or main part बहुत कम या मामूली स्तर पर
17. **Alter** (verb) - change, modify, transform, amend, adjust बदलना या परिवर्तित करना
18. **Underlying** (adjective) - fundamental, basic, latent, primary, intrinsic अंतर्निहित या बुनियादी
19. **Exposure** (noun) - vulnerability, subjection, contact, revealing, display असुरक्षित स्थिति या संपर्क
20. **Commute** (verb) - travel, journey, shuttle, traverse, transit यात्रा करना (काम पर आने-जाने के लिए)
21. **Untenable** (adjective) - indefensible, insupportable, flawed, weak, unsustainable असमर्थनीय या अस्थिर
22. **Scalable** (adjective) - adaptable, expandable, variable, modular, flexible मापनीय या विस्तार योग्य

23. **Sustained** (adjective) - continuous, prolonged, steady, constant, unremitting
निरंतर या सतत
24. **Acute** (adjective) - severe, intense, critical, sharp, drastic गंभीर या तीव्र
25. **Back** (verb) - support, endorse, sponsor, uphold, champion समर्थन देना या सहारा देना
26. **Regime** (noun) - a system of government or a method of management and control
शासन प्रणाली या व्यवस्था
27. **The heavy lifting** (noun) - the most difficult or demanding part of a task सबसे कठिन काम या मुख्य जिम्मेदारी
28. **Deploy** (verb) - station, position, install, utilize, implement तैनात करना या उपयोग में लाना
29. **Passive** (adjective) - inactive, latent, inert, quiescent, non-mechanical निष्क्रिय या बिना बाहरी ऊर्जा वाला
30. **Reflective roofing** (noun) - cool roofs, solar reflective surfaces, thermal barriers गर्मी परावर्तित करने वाली छत
31. **At scale** (phrase) - extensively, widely, broadly, comprehensively, massively बड़े पैमाने पर
32. **Dense** (adjective) - thick, crowded, packed, jam-packed, condensed घना या सघन
33. **Calibrate** (verb) - adjust, tune, regulate, align, standardize मापना या सटीक रूप से समायोजित करना
34. **Peculiarity** (noun) - eccentricity, oddity, quirk, trait, characteristic विशेषता या विचित्रता
35. **Economy** (noun) - the system through which a country produces, distributes, and consumes goods and services अर्थव्यवस्था
36. **Existing** (adjective) - current, present, prevalent, extant, contemporary वर्तमान या मौजूद
37. **Implicitly** (adverb) - inherently, tacitly, indirectly, essentially, naturally अंतर्निहित रूप से या परोक्ष रूप से
38. **No quick fix** (phrase) - no easy solution, no simple remedy, long-term challenge कोई आसान या झटपट समाधान न होना
39. **Climb** (verb) - rise, ascend, escalate, mount, soar बढ़ना या ऊपर जाना
40. **Theatre** (noun) - show, display, drama, spectacle, pretense दिखावा या नाटक (यहाँ अर्थ 'दिखावा' है)

Summary of the Editorial

1. India's response to extreme heat has become repetitive, with authorities announcing similar preparedness measures every summer.

2. The National Disaster Management Authority (NDMA) continues to focus on heat action plans, but their effectiveness remains limited.
3. The 16th Finance Commission recommended declaring heatwaves a national disaster to enable dedicated central funding for mitigation efforts.
4. Many heat action plans across States are poorly designed and often copied from other regions without adapting to local needs.
5. Existing measures mainly include temporary relief such as water kiosks, public advisories, and shaded bus stops.
6. These short-term arrangements may reduce some deaths but fail to address the deeper issue of continuous exposure to dangerous heat.
7. Millions of Indians work, travel, and sleep in conditions that are increasingly unsafe for human health.
8. The editorial argues that India now needs a comprehensive “national cooling doctrine” instead of only seasonal heat action plans.
9. Safe indoor temperatures should be treated as a public-health right or entitlement for citizens.
10. The proposed doctrine should first focus on mandatory cooling standards in workplaces such as factories, warehouses, kitchens, and delivery hubs.
11. Proper inspection systems are necessary to ensure that these cooling standards are honestly implemented.
12. Technology-based solutions like reflective roofs, passive cooling materials, district cooling systems, and efficient air conditioners must be promoted.
13. India cannot simply copy cooling solutions from wealthy Western countries because India’s climate is hotter, more humid, and longer-lasting.
14. Most Indians cannot afford expensive air-conditioning costs, while India’s power grid itself has limited capacity.
15. The editorial concludes that relying only on traditional heat action plans without addressing indoor heat exposure is ineffective and merely symbolic.

Practice Exercise: SSC Pattern Based

1. **For which of the following claims does the passage provide specific supporting evidence or explanation?** [Editorial Page]
 - A. Heat action plans are often derivative rather than being tailored to local needs.
 - B. Western-style mechanical cooling is an effective solution for the Indian climate.
 - C. The 16th Finance Commission has reduced heatwave deaths through funding.
 - D. Passive cooling materials are currently being used at a national scale in India.
2. **Which of the following statements is false as it pertains to the information given in the passage?**
 - A. India's power grid cannot provide electricity that matches its total installed capacity levels.
 - B. The NDMA is satisfied with the way regional heat action plans are currently being done.
 - C. Summers in Europe are generally defined by having lower humidity than typical Indian summers.
 - D. Local cooling solutions must be adjusted to fit the specific limits of India's power networks.
3. **If the claims made in the passage are correct, why would "importing solutions" from wealthy Northern economies be problematic for India?**
 - A. Because Northern nations prioritize outdoor water kiosks over the implementation of indoor cooling standards.
 - B. Because the Indian power grid provides a much higher capacity than Western cooling systems are able to handle.
 - C. Because Indian environmental factors and economic limits are completely different from those in the North.
 - D. Because Northern cooling literature fails to consider passive materials or the use of reflective roof paint.
4. **Which tense is mainly used in the passage to describe the current state of heat action plans and the author's arguments?**
 - A. Future Continuous
 - B. Past Simple
 - C. Present Perfect
 - D. Present Simple
5. **In the sentence "What India needs is something larger and more ambitious — a national cooling doctrine," the word "Doctrine" is:**
 - A. Verb
 - B. Adjective
 - C. Noun
 - D. Preposition
6. **Directions: Given below are four jumbled sentences. Pick the option that gives their logically correct order.**
 - A. However, Chiang cautioned that the international political and economic landscape is still evolving rapidly, potentially impacting the industry.
 - B. Taiwanese tech hardware giant Foxconn recently logged a record net profit for the first quarter as the booming market for artificial intelligence servers drives growth.

- C. He added that despite these challenges, they remain "cautiously optimistic" about this year thanks to the company's "relatively solid operational resilience."
- D. Announcing these impressive results, rotating chief executive officer Michael Chiang stated that both net and operating profits had hit record highs.
- A. B D A C
B. B A D C
C. D B A C
D. A C B D
7. **Select the most appropriate SYNONYM of the word "Frailty."**
- A. Vocationally
B. Voraciously
C. Vagrancy
D. Vulnerability
8. **Select the most appropriate SYNONYM of the word "Astronomically."**
- A. Colossally
B. Colloquially
C. Collusively
D. Collaterally
9. **Select the most appropriate MEANING of the word "Paraphernalia."**
- A. A disruption of growth caused by a sudden global recession
B. A validation of facts through a rigorous scientific process
C. A collection of items or equipment needed for an activity
D. A suppression of truth within a corrupted state department
10. **What is the correct meaning of the idiom "The real McCoy"?**
- A. Fake item
B. Cheap product
C. Duplicate version
D. Genuine article
11. **Choose the most suitable option to replace the underlined part of the sentence:**
Rarely you come across someone so dedicated.
- A. do you come across
B. have you come across
C. you come across
D. did you came across
12. **What is the correct meaning of the idiom "Mind your P's and Q's"?**
- A. Be careless
B. Be careful in behaviour
C. Speak loudly
D. Act freely
13. **Select the most appropriate ANTONYM of the word "Scarcity."**
- A. Platitude
B. Plethora
C. Penury
D. Probity

14. **Select the most appropriate ANTONYM of the word “Mercurial.”**
- A. Impeccable
 - B. Implacable
 - C. Improvident
 - D. Immutable
15. **Choose the most suitable one-word substitution for the following.**
The person who cuts precious stones.
- A. Gemologist
 - B. Polyglot
 - C. Lapidist
 - D. Drover
16. **Choose the most suitable one-word substitution for the following.**
The study of mountains.
- A. Mycology
 - B. Entomology
 - C. Virology
 - D. Orology
17. **Which of the following is the correct spelling of the word?**
- A. Prophylaxis
 - B. Prophylacsis
 - C. Prophilaxis
 - D. Prophallaxis
18. **Choose the correctly spelt word:**
- A. Surveillance
 - B. Survilance
 - C. Survailance
 - D. Servillance
19. **Which of the following options is the most suitable conversion of the following sentence into active voice?**
Why is this day celebrated as ‘Children’s Day’?
- A. Why did people celebrate this day as 'Children's Day'?
 - B. Why are they celebrating this day as 'Children's Day'?
 - C. Why do people celebrate this day as 'Children's Day'?
 - D. Why is 'Children's Day' celebrated as this day?
20. **Which of the following pairs of homonyms can be used to fill in the blanks most suitably?**
The teacher’s decision was guided by the core _____ of fairness, even though the _____ disagreed with her approach.
- A. principle, principal
 - B. principal, principle
 - C. principle, principle
 - D. principal, principal

Comprehension

Volcanoes change the earth’s atmosphere by releasing gases and particles in large quantities. When a volcano (1)____, it blasts sulphur dioxide high into the sky, which reacts with water to

form aerosols. Since aerosols (2)____ sunlight, a powerful eruption can end up cooling the earth's surface for many years. Large eruptions also (3)____ clouds of ash and dust that block sunlight around the eruption site while most of the ash falls back down in a few weeks. Eruptions also release carbon dioxide. While modern human activity produces much more carbon dioxide than volcanoes, eruptions throughout history have helped drive long-term warming trends. They also (4) ___ compounds that can create acid rain or damage the protective ozone layer. Taken together, volcanic eruptions have continuously influenced the earth's climate. Recently, researchers used satellites to study the 2022 Hunga Tonga-Hunga Ha'apai eruption in the South Pacific. They found the volcano released massive quantities of methane into the stratosphere, where volcanic ash triggered chemical reactions that turned the methane into formaldehyde. Scientists have said the finding could point the way to new ways to slow global warming, since methane is a (5)___ greenhouse gas.

21. **What should come in the place of blank number (1)?**
 - A. detonates
 - B. ruptured
 - C. erupts
 - D. effuse
22. **What should come in the place of blank number (2)?**
 - A. dissipate
 - B. scatter
 - C. refract
 - D. squander
23. **What should come in the place of blank number (3)?**
 - A. exude
 - B. regurgitate
 - C. spew
 - D. expectorate
24. **What should come in the place of blank number (4)?**
 - A. emanate
 - B. secrete
 - C. instill
 - D. emit
25. **What should come in the place of blank number (5)?**
 - A. omnipotent
 - B. robust
 - C. virulent
 - D. potent

Answers

1. A 2. B 3.C 4. D 5. C 6.A 7. D 8. A 9. C 10. D 11.A 12.B
 13. B 14.D 15.C 16.D 17.A 18.A 19.C 20.A 21.C 22.B 23.C 24.D
 25. D

[\[Practice Exercise\]](#)

Explanations

- A) Heat action plans are often derivative rather than being tailored to local needs.**
 line from the passage: "Even the NDMA concedes that the quality of these plans is uneven — several are imitations of plans drafted elsewhere." The passage mentions that the National Disaster Management Authority (NDMA) admits that the heat action plans are not all good. The reason given is that many of these plans are "imitations," meaning they are just copies or derivatives of plans that were originally written for different places, rather than being made specifically for the local area.
 Option B : The passage states, "the problem cannot be solved by importing solutions designed for... the global North." This shows the author believes Western solutions are not effective for India's wet heat.
 Option C: The says they are "recommending that heatwaves be notified as a national disaster." This is a suggestion for the future; it does not say they have successfully used funding to stop deaths.
 Option D: The passage says, "Technology will have to do the heavy lifting by deploying passive cooling materials." The words "will have to" show this is a future goal, not something happening right now across the country.
- B) The NDMA is satisfied with the way regional heat action plans are currently being done.**
 The passage says, "Even the NDMA concedes that the quality of these plans is uneven." This means the NDMA is not "satisfied" but actually admits the plans are inconsistent and often just "imitations," making this statement false and the correct answer.
 Option A: The passage states that the Indian grid "can supply at most 60% of its installed capacity." This proves the statement is true because the grid is unable to provide 100% (the full amount) of its capacity.
 Option C: The passage refers to "dry European summers" and contrasts them by saying India's heat is "wetter, longer and more humid." Since "dry" means low humidity, the statement is true based on the passage.
 Option D: The author mentions that cooling technology must be "calibrated for the peculiarities of Indian grids." This confirms that local solutions must be adjusted to handle the specific limits and problems of India's power network, making the statement true.
- C) Because Indian environmental factors and economic limits are completely different from those in the North.**
 The author explains that "India's heat is wetter... than the dry European summers" and "Indians cannot afford the energy bills" of Western cooling. This shows that both the weather (environmental) and money (economic) factors are fundamentally different.
 Option A: The passage says "short-term palliatives such as water kiosks" are what the Indian plans currently rely on. The reason for not importing Northern solutions is their mismatch with India's humidity and high energy costs, not because the North focuses on kiosks.

Option B: The passage states the Indian grid "can supply at most 60% of its installed capacity," which means it is weaker and less reliable than what Western systems need. This contradicts the statement that the Indian grid provides "higher capacity."

Option D: While the author advocates for these technologies, the passage says importing solutions fails because they were designed for "temperate, wealthy economies" where the climate is dry. It doesn't say Northern literature "ignores" these materials, just that their mechanical solutions don't fit India.

4. D) Present Simple

Based on the passage, the tense mainly used to describe the current state of heat action plans and the author's arguments is the Present Simple.

"Summer comes...", "NDMA regurgitates...", "...heat action plan... has reached...", "...it leans heavily...", "...what India needs is...", "...indoor temperatures climb..."

The Present Simple is used to describe current, ongoing, or habitual situations and the author's present opinions.

5. C) Noun

A noun is a person, place, thing, or idea. The passage uses "doctrine" as the name of a specific framework or idea, stating that India needs a "national cooling doctrine" as a public-health entitlement, making it the object/thing in the sentence. Also, the words "national" and "cooling" are adjectives that describe the word "doctrine." Since adjectives describe nouns, "doctrine" must be a noun.

6. A) BDAC

Sentence B, पैराग्राफ की शुरुआत में आएगा क्योंकि यह उस "factual ground" को तैयार करता है जो Foxconn और उसके 'record net profit' को introduce करता है। यह पूरे विषय का मुख्य आधार पेश करता है।

Sentence D, Sentence B के बाद आएगा क्योंकि इसमें मौजूद "these impressive results" शब्द सीधे तौर पर B में दिए गए 'record net profit' की ओर इशारा करते हैं। यह CEO Michael Chiang को पेश करके एक अनिवार्य लिंक बनाता है।

Sentence A, Sentence D के बाद आएगा क्योंकि इसमें मौजूद "Chiang" सीधे तौर पर D में पेश किए गए Michael Chiang से जुड़ता है। यह चर्चा को वित्तीय सफलता से हटाकर भविष्य की संभावित चुनौतियों (potential challenges) की चेतावनी की ओर ले जाता है।

Sentence C, Sentence A के बाद आएगा क्योंकि यह पूरे scenario को एक "conclusion" की ओर ले जाता है। इसमें "these challenges" का जिक्र है जो सीधे तौर पर A में बताई गई चुनौतियों से जुड़ता है, और कंपनी के 'cautiously optimistic' होने की specific detail जोड़कर तार्किक प्रवाह को पूरा करता है।

Sentence B comes at the beginning because it identifies the factual ground by introducing the primary subject, Foxconn, and establishing its 'record net profit' for the first quarter.

Sentence D follows B because of the phrase "these impressive results," which creates a mandatory link pointing directly back to the 'record net profit' mentioned in B. It provides an elaboration by introducing the CEO, Michael Chiang, who announced the figures.

Sentence A follows D as it uses the name "Chiang" to create a mandatory link pointing directly to Michael Chiang introduced in D. It transitions the topic from financial success to a warning about potential industry challenges caused by the political landscape.

Sentence C follows A as the conclusion. It uses the phrase "these challenges" to create a mandatory link directly to the evolving challenges mentioned in A, highlighting the company's cautious optimism, thereby completing the logical flow.

7. D) **Frailty** (noun) – infirmity, weakness, susceptibility, vulnerability, fragility. (कमजोरी/दुर्बलता)
Synonym: **Vulnerability** (noun) – The state of being exposed to the possibility of being attacked or harmed. (असुरक्षा / सुभेद्यता)

- **Vocationally** (adverb): Relating to an occupation or employment. (व्यवसायिक रूप से)

- **Voraciously** (adverb): Engaging in an activity with great eagerness or greed. (अति-उत्सुकता से)

- **Vagrancy** (noun): The state of living as a homeless person who wanders. (आवारागर्दी)

8. A) **Astronomically** (adverb) – Enormously, colossally, vastly, hugely, immensely. (अत्यधिक रूप से)

Synonym: **Colossally** (adverb) – To a very great or impressive degree; extremely. (वृहत रूप से/अत्यधिक)

- **Colloquially** (adverb): Used in ordinary or familiar conversation; not formal or literary. (बोलचाल की भाषा में)

- **Collusively** (adverb): In a way that involves secret or illegal cooperation or conspiracy. (साठगांठ करके)

- **Collaterally** (adverb): In a way that is secondary or subordinate; or relating to security pledged for a loan. (पार्श्विक रूप से/अतिरिक्त रूप से)

9. C) **Paraphernalia** (noun) - means a collection of items or equipment needed for a particular activity सामग्री/साजो-सामान

10. D) "The real McCoy" means Genuine article असली वस्तु

11. A) 'you come across' के बदले 'do you come across' का प्रयोग होगा क्योंकि जब कोई Negative Adverb (Rarely, Seldom, Never, Hardly, Scarcely) वाक्य के आरम्भ में आता है, तो Subject-Auxiliary Inversion होती है अर्थात् Auxiliary Verb Subject से पहले आती है; जैसे –

Rarely do you come across someone so dedicated.

- 'do you come across' should be used because when a negative/restrictive adverb (Rarely, Seldom, Never, Hardly) begins a sentence, subject-auxiliary inversion is required: Auxiliary + Subject + Main Verb.

B (have you come across) is incorrect – Present Perfect is unsuitable here; the general statement requires Simple Present with inversion.

C (you come across) is incorrect – No inversion is applied, making the sentence grammatically wrong after the fronted adverb.

D (did you came across) is incorrect – Past tense is contextually wrong, and "came" after "did" is grammatically incorrect (should be base form).

12. B) "Mind your P's and Q's" means Be careful सावधानी रखना

13. B) **Scarcity** (noun) – Dearth, paucity, shortage, insufficiency, deficiency. (कमी/अभाव)

Antonym: **Plethora** (noun) – A large or excessive amount of something. (बहुतायत)

- **Platitude** (noun): A remark or statement, especially one with a moral content, that has been used too often to be interesting. (घिसी-पिटी बात)

- **Penury** (noun): Extreme poverty; destitution. (दरिद्रता)
 - **Probity** (noun): The quality of having strong moral principles; honesty and decency. (ईमानदारी)
14. D) **Mercurial** (adjective) - volatile, capricious, temperamental, fickle, erratic अस्थिर
Antonym: **Immutable** (adjective) – Unchanging over time or unable to be changed. (अपरिवर्तनीय/स्थिर)
- **Impeccable** (adjective): In accordance with the highest standards; faultless. (त्रुटिहीन)
 - **Implacable** (adjective): Unable to be appeased, calmed, or placated. (जिसे शांत न किया जा सके)
 - **Improvident** (adjective): Not having or showing foresight; spendthrift. (लापरवाह/अदूरदर्शी)
15. C) **Lapidist** (noun) – A person who cuts, polishes, and engraves precious stones रत्न तराशने वाला
- **Gemologist** (noun) – A person who studies gemstones रत्न विशेषज्ञ
 - **Polyglot** (noun) – A person who knows many languages बहुभाषी व्यक्ति
 - **Drover** (noun) – A person who drives livestock पशु हंकांने वाला
16. D) **Orology** (noun) – The study of mountains पर्वतों का अध्ययन
- **Mycology** (noun) – The study of fungi कवक विज्ञान
 - **Entomology** (noun) – The study of insects कीट विज्ञान
 - **Virology** (noun) – The study of viruses विषाणु विज्ञान
17. A) The correct spelling is '**Prophylaxis**', which means "a measure taken to prevent disease or another unwanted condition" – रोग-निरोधक उपाय, बचाव।
18. A) The correct spelling is '**Surveillance**' which means "close observation, especially of a suspected person or group" निगरानी, पर्यवेक्षण.
19. C) **Why do people celebrate this day as 'Children's Day'?**
Passive से Active Voice में बदलने के लिए, Passive वाक्य का Subject (agent) Active वाक्य का Subject बन जाता है और Passive का Subject Active का Object बन जाता है। Interrogative sentence में helping verb पहले आता है और tense वही रखा जाता है। दिए गए वाक्य में "this day" Passive Subject है, "is celebrated" Verb (Simple Present Passive) है और agent understood है (people)। Active में बदलने पर "people" Subject बन गया है, Verb को "do celebrate" (Simple Present Interrogative) में बदला गया है और "this day" Object के रूप में प्रयोग हुआ है। इसलिए सही वाक्य होगा – "Why do people celebrate this day as 'Children's Day'?"
- To change a sentence from Passive to Active Voice, the agent becomes the subject and the passive subject becomes the object, while maintaining the same tense and interrogative structure. Here, "this day" (Passive Subject) and "is celebrated" (Simple Present Passive) are transformed into "people" (Subject), "do celebrate" (Active Verb in Simple Present Interrogative), and "this day" (Object). Therefore, the correct sentence is – "Why do people celebrate this day as 'Children's Day'?"
20. A) principle, principal का प्रयोग होगा क्योंकि पूरे संदर्भ में पहला blank किसी नैतिक/आदर्श मूल्य (moral value) की ओर संकेत कर रहा है और दूसरा blank किसी पद/व्यक्ति (authority figure) की

ओर। Sentence में "core _____ of fairness" नैतिक सिद्धांत की बात कर रहा है इसलिए principle सही होगा, जबकि "even though the _____ disagreed" में विद्यालय/संस्था के प्रमुख की असहमति की बात है इसलिए principal उपयुक्त है।

- 'Principle' should be used in the first blank because the context refers to a moral rule or value ("core principle of fairness"). In the second blank, 'Principal' fits because it denotes the head/authority of an institution who disagreed with the teacher's approach. Thus, the pair principle, principal is the most appropriate choice.

21. C) **erupts** (फटना / ज्वालामुखी का फटना) सही है क्योंकि यह ज्वालामुखी (volcano) के लिए इस्तेमाल होने वाला standard scientific word है और sentence present tense में है ("blasts")। detonates का मतलब बम का धमाका होना होता है। ruptured (फट गया) past tense में है और यह नस (vein) या पाइप के फटने के लिए आता है। effuse का मतलब धीरे-धीरे रिसना होता है, और grammar के हिसाब से भी यहाँ singular verb (effuses) होना चाहिए था।

- The correct answer is "erupts" because it is the specific scientific term used for a volcano exploding, and it matches the present tense of the sentence. "Detonates" refers strictly to bombs or explosives. "Ruptured" is in the past tense and refers to the breaking of a bodily organ or pipe. "Effuse" means to flow out slowly, which contradicts the violent context, and it is grammatically incorrect (it would need to be "effuses").

22. B) **scatter** (बिखेरना) सही है क्योंकि aerosols सूरज की रोशनी (sunlight) को अलग-अलग दिशाओं में बिखेर देते हैं, जिसे science में "scattering of light" कहते हैं। dissipate का मतलब गायब हो जाना या खत्म हो जाना (disappear) होता है। refract का मतलब रोशनी का मुड़ना (बेंड होना) होता है जो पानी या कांच (prism) में होता है। squander का मतलब पैसा या समय बेवकूफी से बर्बाद करना होता है।

- The correct answer is "scatter" because it accurately describes the scientific phenomenon where aerosols deflect sunlight in multiple directions ("scattering of light"). "Dissipate" means to disappear or cause to vanish. "Refract" means the bending of light as it passes through mediums like water or glass. "Squander" means to recklessly waste time or money, which is entirely irrelevant here.

23. C) **spew** (तेज़ी से बाहर फेंकना या उगलना) सही है क्योंकि ज्वालामुखी बड़ी मात्रा में राख (ash) को हवा में ज़ोर से फेंकता है। exude का मतलब पसीना या रस का धीरे-धीरे बाहर निकलना (ooze out) होता है। regurgitate का मतलब खाया हुआ खाना वापस उगलना होता है (उल्टी करना)। expectorate का मतलब खांस कर बलगम या थूक (spit) बाहर निकालना होता है, जो ज्वालामुखी के लिए बिल्कुल बेतुका है।

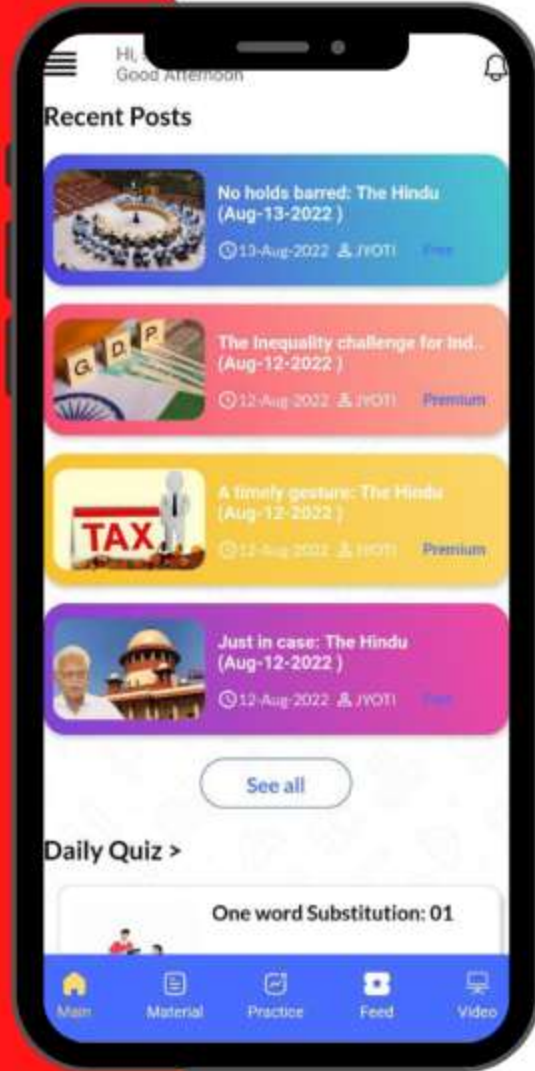
- The correct answer is "spew" because it means to expel large quantities of something rapidly and forcefully, fitting the violent expulsion of volcanic ash. "Exude" means to discharge slowly or ooze, which contradicts the violence of an eruption. "Regurgitate" means to bring swallowed food back up. "Expectorate" is a medical term for coughing up phlegm or spitting.

24. D) **emit** (छोड़ना या उत्सर्जित करना) सही है क्योंकि गैस, रेडिएशन या केमिकल यौगिकों (compounds) को छोड़ने के लिए 'emit' सबसे standard word है। emanate एक बहुत बड़ा grammar trap है; इसके साथ अक्सर 'from' आता है (emanate from something)। secrete का मतलब शरीर की ग्रंथियों (glands) से केमिकल या हार्मोन निकलना होता है। instill का मतलब किसी के दिमाग में कोई विचार या भावना धीरे-धीरे डालना होता है।

- The correct answer is "emit" because it is the standard verb for producing and discharging gases, radiation, or chemical compounds. "Emanate" is a major grammatical trap; it is typically an intransitive verb that requires the preposition 'from'. "Secrete" is a biological term referring to glands producing fluids. "Instill" means to gradually establish an idea or attitude in someone's mind.

25. D) **potent** (असरदार / शक्तिशाली) सही है क्योंकि मीथेन एक बहुत ही शक्तिशाली और असरदार ग्रीनहाउस गैस है जिसका पर्यावरण पर गहरा असर होता है। omnipotent का मतलब सर्वशक्तिमान (जैसे भगवान) होता है, एक गैस भगवान नहीं हो सकती। robust का मतलब हट्टा-कट्टा या मज़बूत (healthy system/person) होता है। virulent का मतलब बहुत ही खतरनाक और जानलेवा वायरस या बीमारी होता है, जो गैस के लिए यूज़ नहीं होता।

- The correct answer is "potent" because it means having great power, influence, or effect, perfectly describing a strong greenhouse gas. "Omnipotent" means having unlimited and absolute power, which is reserved for deities. "Robust" means sturdy and healthy, usually applied to living beings or physical systems. "Virulent" refers to extremely severe or harmful diseases and viruses.



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