

Chip off the blocks: On semiconductor fabrication in India

As **incentives** for semiconductors **sputter**, **course corrections** are due

As funds for **production-linked incentives** (PLI) for manufacturing semiconductors lie under-utilised by upwards of 80%, the Union government must be far clearer on what it has achieved — and aims to **accomplish** — by continuing to spend crores of rupees on bringing more semiconductor fabrication capabilities to India. While the PLI scheme for IT hardware has a ₹17,000 crore **outlay**, the **one** for semiconductors and displays **has** ₹38,601 crore **earmarked**. On the employment and **substantive** value addition **fronts**, existing schemes in and of themselves show little promise: while chips are important for most hardware and appliances, making them employs advanced and automated systems, and manufacturing facilities **employ** few people for the value generated in sales. Not all **big-ticket** spending in the national interest translates into domestic employment, as import-heavy defence spending shows. But the central **wager** with these schemes, at much cost to the **exchequer**, **lies** in attracting an “ecosystem” that will increase the value addition of India’s electronics manufacturing sector. This is far from a guaranteed outcome, even if PLI benefits are **availed optimally**. The wager also **relies on** global manufacturing giants giving other benefits of a globally distributed supply chain a **go-by**, including cheap and accessible international transport facilities for chips.

The **constellation** of PLI schemes **remains** a wager **nonetheless**. And it must be **bolstered** by other efforts to **strengthen** India’s hand — encouraging semiconductor design talent to develop domestically. Some efforts here, such as the design-linked incentive scheme, show promise. But the bulk of the capital remains focused on the assembly and subsidising of large manufacturing plants, with much of the raw and even intermediate material still being imported. And with the limited scope of what the PLI funds are incentivising, multinational chipmakers are staying away from making substantive **commitments**, despite incentives. Private capital is also in a **state of flux**, with advancements in chips and emerging technologies such as **artificial intelligence** leaving **policymakers** guessing on how best to allocate resources to boost their technological position for the coming **decade**. These outlays must, therefore, be **pegged** to a **tangible** outcome: is this a matter of **safeguarding** cyber **sovereignty** to protect India from another pandemic-style supply chain shock, encouraging the domestic electronics industry to make electronics cheaper for Indian consumers, or **asserting** India as a global electronics manufacturing centre? Clarity on desired outcomes would make failures easier to spot. It would also make it possible to course correct before massive PLI spending has already **taken place** with little to show for the outflow. **[Practice Exercise]**

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

Vocabulary

1. **A Chip off the old block** (phrase) – It means a person who resembles a parent in behavior or qualities.
2. **Fabrication** (noun) – Manufacture, creation, construction, assembly, production निर्माण
3. **Incentive** (noun) – Motivation, stimulus, inducement, encouragement, impetus प्रोत्साहन
4. **Sputter** (verb) – proceed in a spasmodic and feeble way. लड़खड़ाना
5. **Course correction** (phrase) – It refers to a change or adjustment in a plan or strategy.
6. **Production-linked Incentive (PLI)** (noun) – It refers to a financial incentive provided to businesses based on their level of production or output.
7. **Accomplish** (verb) – Achieve, complete, fulfill, execute, realize पूरा करना
8. **Outlay** (noun) – Expenditure, expense, spending, cost, outgo खर्च
9. **Earmark** (verb) – Allocate, designate, set aside, reserve, apportion आवंटित करना
10. **Substantive** (adjective) – Significant, considerable, important, major, essential महत्वपूर्ण
11. **Front** (noun) – Aspect, side, face, part, facet पहलु
12. **Employ** (verb) – hire, engage, recruit, काम में लाना
13. **Big-ticket** (adjective) – High-cost, expensive, costly, premium, high-priced महंगा
14. **Wager** (noun) – Bet, gamble, stake, risk, speculation दांव
15. **Exchequer** (noun) – Treasury, finance department, government revenue, public purse, state treasury राजकोष
16. **Lie** (verb) – Rest, recline, be situated, be placed, be positioned स्थित होना
17. **Avail** (verb) – Benefit, use, take advantage of, profit from, exploit फायदा उठाना
18. **Optimally** (adverb) – Ideally, most effectively, most efficiently, in the best way, to the greatest degree सर्वोत्तम रूप से
19. **Rely** (on) (verb) – Depend (on), trust (in), count (on), bank (on), lean (on) निर्भर करना
20. **Go-by** (noun) – Passing, lapse, elapse, bypass, overlook उपेक्षा करना
21. **Constellation** (noun) – Cluster, group, collection, assembly, gathering समूह
22. **Nonetheless** (adverb) – Nevertheless, however, yet, still, notwithstanding फिर भी
23. **Bolster** (verb) – Support, strengthen, reinforce, underpin, buttress मजबूत करना

24. **Strengthen** (verb) – Fortify, reinforce, bolster, enhance, intensify मजबूत करना
25. **Commitment** (noun) – Dedication, devotion, obligation, pledge, promise प्रतिबद्धता
26. **State** (noun) – Condition, situation, status, position, circumstance स्थिति
27. **Flux** (noun) – Change, transition, instability, fluctuation, variability परिवर्तनशीलता
28. **Artificial intelligence** (noun) – Machine intelligence, AI, computer intelligence, robotic intelligence, electronic intelligence कृत्रिम बुद्धिमत्ता
29. **Policymaker** (noun) – Regulator, law-maker, decision-maker, authority, administrator नीति निर्माता
30. **Decade** (noun) – Period of ten years दशक
31. **Peg** (verb) – Fix, secure, anchor, fasten, attach निर्धारित करना
32. **Tangible** (adjective) – Material, physical, real, concrete, palpable वास्तविक
33. **Safeguard** (verb) – Protect, secure, shield, guard, defend सुरक्षित रखना
34. **Sovereignty** (noun) – Independence, autonomy, self-rule, dominion, supremacy संप्रभुता
35. **Assert** (verb) – Declare, state, affirm, proclaim, avow दावा करना
36. **Take place** (phrase) – Occur, happen, transpire, come about, unfold घटित होना

Summary of the Editorial

- Underutilization of Funds:** Over 80% of the Production-Linked Incentive (PLI) funds for semiconductor manufacturing in India remain unutilized, necessitating clearer government objectives and accomplishments.
- Financial Allocation:** The PLI scheme for IT hardware is allocated ₹17,000 crore, while semiconductors and displays receive ₹38,601 crore, indicating significant government investment in these sectors.
- Employment and Value Addition Concerns:** Current schemes have limited impact on employment and value addition, as semiconductor manufacturing involves advanced automation and requires fewer workers relative to the value generated.
- Comparison with Other Sectors:** Unlike sectors like defense, which also have heavy import reliance, semiconductor manufacturing's domestic employment impact is minimal.
- Ecosystem Attraction Goal:** The primary objective of these schemes is to attract a semiconductor manufacturing ecosystem to enhance India's electronics manufacturing sector, but this outcome is uncertain.
- Global Supply Chain Dynamics:** The success of these schemes depends on major global manufacturers overlooking other benefits of a distributed supply chain, such as cheaper international transport for chips.
- Risk Factor:** The PLI schemes represent a significant financial risk, given their uncertain outcomes.
- Focus on Semiconductor Design Talent:** Strengthening India's semiconductor design capabilities is crucial, with some promising efforts like the design-linked incentive scheme.
- Import Reliance:** Despite the focus on assembly and plant subsidies, much raw and intermediate material is still imported, limiting the schemes' effectiveness.
- Multinational Companies' Hesitance:** Global chipmakers are reluctant to commit significantly due to the limited scope of what PLI funds incentivize.
- Uncertainty in Private Capital:** Advances in chip technology and emerging areas like artificial intelligence create uncertainty in private investment and policy decision-making.
- Need for Tangible Outcomes:** Outlays should be linked to specific goals, whether enhancing cyber sovereignty, reducing electronics costs for Indian consumers, or establishing India as a global manufacturing hub.

Practice Exercise: SSC Pattern Based

1. **Based on the passage, what inference can be made about the relationship between the level of employment generated by semiconductor manufacturing and the value created from sales in this sector?** [Editorial page]
 - A. Semiconductor manufacturing generates a high level of employment relative to the value created from sales, unlike other sectors.
 - B. The advanced and automated systems used in semiconductor manufacturing reduce the employment generated relative to the value created from sales.
 - C. The employment generated in semiconductor manufacturing is directly proportional to the value created from sales.
 - D. The semiconductor manufacturing sector employs more people than other sectors for the same value generated in sales.
2. **Considering the passage, what can be inferred about the Union government's primary goal in continuing to spend significant amounts on semiconductor and display PLI schemes?**
 - A. To directly increase domestic employment in the semiconductor and display manufacturing sector.
 - B. To focus primarily on the domestic manufacturing of IT hardware through the PLI scheme.
 - C. To attract an ecosystem that enhances the value addition of India's electronics manufacturing sector.
 - D. To ensure the immediate success of domestic semiconductor manufacturing through these schemes.
3. **What is the tone of the passage regarding India's semiconductor fabrication initiatives and related government schemes?**
 - A. Optimistic and Praising
 - B. Critical and Analytical
 - C. Indifferent and Neutral
 - D. Supportive and Encouraging
4. **What is the main theme of the passage?**
 - A. The successful implementation of semiconductor manufacturing in India.
 - B. The challenges and uncertainties in India's semiconductor fabrication and PLI schemes.
 - C. The technical advancements in semiconductor technology and its global impact.
 - D. The economic benefits of semiconductor manufacturing for Indian consumers
5. **Which aspect of India's semiconductor and electronics sector does the passage primarily focus on?**
 - A. The success of multinational chipmakers in establishing significant operations in India due to PLI schemes
 - B. The design and development of semiconductor technologies, emphasizing the need for domestic talent cultivation
 - C. The reliance on imported materials for large-scale manufacturing plants despite PLI incentives
 - D. The efficiency and profitability of India's electronics manufacturing in comparison to global standards

6. **Based on the passage, it can be concluded that multinational chipmakers are making significant commitments in India encouraged by the PLI schemes**
- A. True
 - B. False
 - C. Cannot be determined
 - D. Partially true, as some are committed while others are not
7. **Arrange the following sentences to form a coherent paragraph.**
- P. Even though the SC maintained that it didn't want a confrontation,
 - Q. There is no respect for the judgments of this court,' it said, warning the Centre of contempt action
 - R. its observation that the government was attempting to emasculate tribunals by not making the appointments reflects its frustration
 - S. The Supreme Court's outburst over inordinate delay in filling up around 250 vacancies in various tribunals has given rise to apprehensions about a face-off between the government and the judiciary
- A. RSQP B.SRQP C.SQRP D.SPRQ
8. **Arrange the following sentences to form a coherent paragraph.**
- P. In the region, the schools of Kapurthala (Punjab), Kunjpura (Haryana), Sujapur Tihra (Himachal Pradesh) and Nagrota (J&K) have opened the doors to girl cadets in Class VI from the current academic session
 - Q. Haryana — known for producing gritty sportswomen — have entered the portals of the Kunjpura school
 - R. The initial admission trends are encouraging: while a tribal girl from Lahaul has cracked the tough competitive entrance test to secure a seat in Sujapur Tihra, 10 girls of
 - S. Buoyed by the successful experimentation of admitting girl cadets in the Mizoram Sainik School since 2018-19 and the tentative steps taken subsequently by more schools to follow suit, the government earlier this year, finally, decided to allow all 33 Sainik Schools in the country to take in girls and even reserved 10 per cent seats for them
- A. SPQR B.QRPS C.SPRQ D.PRQS
9. **Parts of the following sentence have been underlined and given as options. Select the option that contains a misspelt word.**
- A piano teacher described an interesting encouantar she had with a young lady who came to inquire about music lessons
- A. interesting
 - B. inquire
 - C. piano
 - D. Encounter
10. **Select the most appropriate meaning of the underlined idiom.**
- The executives were running around in circles, without any success.
- A. Achieving maximum mileage
 - B. Suffering huge profits and losses
 - C. Successfully accomplishing the target

- D. Putting efforts into something that does not give a worthwhile result
11. **Select the most appropriate option that can substitute the underlined segment in the given sentence. If there is no need to substitute it, select 'No substitution required'.**
Many great people born in that small village.
- A. was born
B. No substitution required
C. is born
D. were born
12. **The given sentence contains an error. Select the option that correctly rectifies the error.**
He was carefulest while stealing the crown jewels.
- A. He was more careful while stealing the crown jewels.
B. He was most carefuller while stealing the crown jewels.
C. He was carefuller while stealing the crown jewels.
D. He was most careful while stealing the crown jewels
13. **Select the most appropriate synonym of the given word.**
Hesitate
- A. Blabber
B. Recoil
C. Conceal
D. Falter
14. **The sentence given below has spelling errors. Select the sentence without spelling errors.**
We can also contribute to presarvation of water bodies by not dumping our garbage in them.
- A. We can also contribute to presarvation of water bodies by not dumpeing our garbage in them.
B. We can also contribute to preservation of water bodies by not dumping our garbage in them.
C. We can also contribut to presarvation of water bodies by not dumping our garbage in them.
D. We can also contribute to presarvation of water bodies by not dumping our garbag in them.
15. **Select the most appropriate meaning of the given idiom.**
Call it a day
- A. To have the greatest day ever
B. To stop working
C. To be very straightforward
D. To refer to something as something else
16. **Select the most appropriate ANTONYM of the given word.**
Stern
- A. Stable
B. Sincere
C. Profound
D. Lenient

17. **Select the most appropriate option that can substitute the underlined segment in the given sentence.**

His older brothers were quite willing that he should went to sea.

- A. had go to
 - B. have gone in
 - C. gone to
 - D. go to
18. **Select the most appropriate option that can substitute the underlined segment in the given sentence. If there is no need to substitute it, select 'No improvement required'.**

It is true that learning English is essential for professionals to survived the national and international competitions.

- A. to be survive
 - B. having to survive
 - C. No improvement required
 - D. for surviving
19. **Select the most appropriate option to fill in the blank.**

The tigress that was killed by the villagers was not only a man-eater, _____ a mother

- A. but
 - B. but also
 - C. and
 - D. but often
20. **Select the most appropriate meaning of the given idiom.**

Spill the beans

- A. Excellent health
- B. Behave or speak in a rash manner
- C. Things always get worse
- D. To reveal a secret information unintentionally

Comprehension:

In the following passage, some words have been deleted. Read the passage carefully and select the most appropriate option to fill in each blank.

Photosynthesis is the _____ 1 _____ used by plants, algae and some bacteria to turn sunlight into energy. The process chemically _____ 2 _____ carbon dioxide and water into food and oxygen. The chemical reaction often _____ 3 _____ on a pigment called chlorophyll, which gives plants their green colour. Photosynthesis is also the _____ 4 _____ our planet is blanketed in an oxygen-rich atmosphere. Plants absorb carbon dioxide from the _____ 5 _____ air and release water and oxygen via microscopic pores on their leaves called stomata.

21. **Select the most appropriate option to fill in blank number 1.**

- A. process
- B. guess
- C. chaos
- D. Area

22. **Select the most appropriate option to fill in blank number 2.**
- A. converts
 - B. exceeds
 - C. crates
 - D. Bows
23. **Select the most appropriate option to fill in blank number 3.**
- A. relies
 - B. creates
 - C. hopes
 - D. Wants
24. **Select the most appropriate option to fill in blank number 4.**
- A. goal
 - B. sense
 - C. reason
 - D. Occasion
25. **Select the most appropriate option to fill in blank number 5.**
- A. afar
 - B. distant
 - C. surrounding
 - D. close

Answers

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

[Practice Exercise]

Explanations

1. **B) The advanced and automated systems used in semiconductor manufacturing reduce the employment generated relative to the value created from sales.**

The passage states that semiconductor manufacturing employs advanced and automated systems and that manufacturing facilities employ few people relative to the value generated in sales. This suggests that the nature of technology and automation in semiconductor manufacturing leads to lower employment compared to the high value of sales in this sector.

2. **C) To attract an ecosystem that enhances the value addition of India's electronics manufacturing sector.**

The passage highlights that despite the low promise of direct employment and substantive value addition through existing schemes, the central objective of the PLI schemes is to attract an ecosystem that would augment the value addition in India's electronics manufacturing sector. This indicates that the government's focus is on broader sectoral growth and value addition rather than immediate employment generation or specific manufacturing successes.

3. **B)Critical and Analytical**

The passage adopts a tone that is critical and analytical towards the government's efforts in promoting semiconductor fabrication in India. It scrutinizes the under-utilization of funds, the efficacy of the production-linked incentive (PLI) schemes, and the overall strategy and outcomes of these initiatives. The tone is not overly negative but rather focuses on analyzing what has been achieved, what could be improved, and the realistic outcomes of these efforts

4. **B) The challenges and uncertainties in India's semiconductor fabrication and PLI schemes.**

The main theme of the passage revolves around the challenges, uncertainties, and critical aspects of India's initiatives in semiconductor fabrication, particularly focusing on the PLI schemes. It discusses the under-utilization of funds, the lack of clear outcomes, and the broader implications of these initiatives on employment, domestic manufacturing, and India's position in global electronics manufacturing. The passage does not primarily focus on the success, technical aspects, or direct economic benefits, but rather on the strategic and operational challenges in this sector.

5. **C) The reliance on imported materials for large-scale manufacturing plants despite PLI incentives**

The passage discusses the limitations of the Production-Linked Incentive (PLI) schemes in India, particularly highlighting that despite these incentives, much of the raw and intermediate material for semiconductor and electronics manufacturing is still being imported. It points out the need for more comprehensive strategies, beyond just the assembly and subsidizing of

large manufacturing units, to strengthen India's position in the semiconductor and electronics sector.

6. **B) False**

The passage explicitly mentions that despite the incentives offered by the PLI schemes, multinational chipmakers are refraining from making substantive commitments in India. This indicates a gap between the incentives provided and the expectations or requirements of these multinational companies.

7. **D) SPRQ**

S: This sentence acts as the opening statement, introducing the issue at hand which is the Supreme Court's anger over vacancies in tribunals, and the potential tension between the government and the judiciary.

P: "Even though the SC maintained that it didn't want a confrontation," This sentence logically follows the first, as it explores the Supreme Court's perspective and desire to avoid a confrontation despite the escalating issue.

R: its observation that the government was attempting to emasculate tribunals by not making the appointments reflects its frustration." This sentence adds depth to the Supreme Court's stance, elaborating on its frustration with the government's inaction in filling the tribunal vacancies.

Q: This sentence logically concludes the paragraph. It sums up the Supreme Court's frustration, claiming a lack of respect for its judgments, and warning of potential legal action.

8. **C) SPRQ**

S: This sentence should be the starting sentence as it provides a background context and broad policy change.

P: This sentence logically follows after 'S' as it provides specific examples of where the new policy is being implemented

R: The sentence 'R' gives some early results and feedback of the new policy, and should thus come after 'P'

Q: This sentence provides an example of a specific state and should logically come after 'R', once the general trends have been outlined

9. D) The misspelt word in the given sentence is "**encountar**". The correct spelling is "encounter"
सामना करना

10. D) **Running around in circles** (idiom) – Putting efforts into something that does not give a worthwhile result अच्छा परिणाम नहीं देने वाली चीज में प्रयास डालना।

11. D) 'born' के बदले '**were born**' का प्रयोग होगा क्योंकि 'Many great people' plural है और इसलिए उसके लिए plural Verb का प्रयोग होगा; जैसे— Many students were present in the class.

- 'were born' will be used instead of 'born' because 'Many great people' is plural and therefore a plural verb will be used for it; Like— Many students were present in the class

12. D) He was most careful while stealing the crown jewels

13. D) **Hesitate** (verb) – To pause before you do or say something, often because you are uncertain or nervous about it. **संकोच**

Synonym: **Falter** (verb) – To lose strength or momentum, to move or speak hesitantly.

डगमगाना, अटकना

- **Blabber** (verb) – Talk in a long-winded way without making very much sense. **बकबक**
- **Recoil** (verb) – To suddenly move away from something or someone because you are frightened or shocked. **पीछे हटना**
- **Conceal** (verb) – To hide something or keep it secret. **छिपाना**

14. B) We can also contribute to preservation of water bodies by not dumping our garbage in them.

15. B) **Call it a day** (idiom) – To stop working **अंत करना**

16. D) **Stern** (adjective) – Harsh, severe, strict, rigorous. **कठोर**

Antonym: Lenient (adjective) – Merciful, tolerant, forgiving, indulgent. **सौम्य**

- **Stable** (adjective) – Not likely to change or fail; firmly established. **स्थिर**
- **Sincere** (adjective) – Free from pretense or deceit; genuine, honest. **सजीव**
- **Profound** (adjective) – Very deep; intensely felt; insightful. **गहरा**

17. D) 'go to' का प्रयोग होगा क्योंकि 'should' के साथ base form of the verb ('go') का प्रयोग होता है। 'Went to' गलत है क्योंकि 'should' के साथ past form ('went') का प्रयोग नहीं होता है। इस प्रकार, 'go to' सबसे उपयुक्त विकल्प है।

- 'go to' will be used instead of 'went to' because with 'should,' the base form of the verb ('go') is used. 'Went to' is incorrect because the past form ('went') is not used with 'should.' Therefore, 'go to' is the most appropriate option.

18. D) **'to survived'** के बदले 'for surviving' का प्रयोग होगा क्योंकि यहाँ पर purpose या reason दिखाने के लिए 'for + -ing form' का सही प्रयोग होता है।

- 'for surviving' will be used instead of 'to survived' because the correct usage to indicate purpose or reason here is 'for + -ing form'.

19. B) **'but also'** का use होगा क्योंकि यह phrase दो contrasting ideas या additional information को highlight करने के लिए use होता है। Sentence में mention किया गया है कि वह बाघिन न केवल एक मनुष्यखोर थी, बल्कि एक माँ भी थी, इसलिए 'but also' यहाँ सही है। 'but' केवल

contrast के लिए use होता है जो यहाँ पूरी तरह से fit नहीं होता, 'and' additional information के लिए use होता है बिना contrast के, और 'but often' का यहाँ कोई context नहीं है।

- **'but also'** should be used because this phrase is utilized to highlight two contrasting ideas or additional information. The sentence mentions that the tigress was not only a man-eater but also a mother, making 'but also' the most fitting choice. 'but' is used just for contrast and doesn't fully fit here, 'and' is used for additional information without contrast, and 'but often' doesn't have a context in this scenario.

20. D) **Spill the beans** (idiom) – To reveal a secret information unintentionally रहस्य जानकारी अनजाने में प्रकट करना।

21. A) **'Process'** को चुना जाएगा क्योंकि "process" का अर्थ होता है एक विशेष तरीका या प्रक्रिया जिसके जरिए कुछ पाया जाता है। पैराग्राफ में बताया गया है कि कैसे पेड़-पौधे सूरज की रोशनी को ऊर्जा में बदलते हैं, इसलिए 'process' यहाँ सही है। जबकि 'Guess' का अर्थ होता है अनुमान लगाना, 'Chaos' का अर्थ है अव्यवस्था, और 'Area' का अर्थ है क्षेत्र या जगह, जो इस context में सही नहीं है।

- **'Process'** should be used because it refers to a specific method or procedure to achieve something. The paragraph explains how plants convert sunlight into energy, making 'process' the right choice here. Whereas, 'Guess' implies making an estimate, 'Chaos' means disorder, and 'Area' denotes a region or space, which are not fitting in this context.

22. A) **Converts'** का use होगा क्योंकि "converts" का अर्थ होता है किसी चीज को दूसरे रूप में परिवर्तित करना। sentence में mention किया गया है कि प्रक्रिया केमिकल रूप से कार्बन डाइऑक्साइड और पानी को खाना और ऑक्सीजन में परिवर्तित करती है, इसलिए 'converts' यहाँ सही है। जबकि 'Exceeds' का अर्थ है पार करना, 'Crates' का अर्थ है बक्सा या पेटी, और 'Bows' का अर्थ है झुकना, जो इस context में सही नहीं है।

- **Converts'** should be used because it means to change something into a different form or properties. The sentence mentions that the process chemically changes carbon dioxide and water into food and oxygen, making 'converts' fitting here. Whereas, 'Exceeds' means to go beyond, 'Crates' means boxes or containers, and 'Bows' implies a bending forward gesture, which don't fit in this context.

23. A) **Relies'** का use होगा क्योंकि "relies" का अर्थ होता है किसी पर निर्भर रहना। Sentence में mention किया गया है कि chemical reaction chlorophyll पिग्मेंट पर होता है, जो पौधों को उनका हरा रंग देता है। इसलिए, 'relies' यहाँ सही है। जबकि 'Creates' का अर्थ है बनाना, 'Hopes' का अर्थ है आशा करना, और 'Wants' का अर्थ है चाहना, जो इस context में सही नहीं है।

- **Relies'** should be used because it means to depend on someone or something. The sentence mentions that the chemical reaction often depends on a pigment called chlorophyll, making 'relies' the most fitting choice here. Whereas, 'Creates' means to make, 'Hopes' means to wish for something, and 'Wants' means to desire, which don't fit in this context.

24. C) **Reason'** का use होगा क्योंकि "reason" का अर्थ होता है किसी चीज का कारण या मुख्य स्थल। Sentence में बताया गया है कि Photosynthesis की वजह से हमारे ग्रह का वातावरण ऑक्सीजन से भरा हुआ है, इसलिए 'reason' यहाँ सही है। जबकि 'Goal' का अर्थ है लक्ष्य, 'Sense' का अर्थ है अभिग्रहण या समझ, और 'Occasion' का अर्थ है अवसर, जो इस context में सही नहीं है।

- **Reason'** should be used because it means the cause or primary basis for something. The sentence indicates that Photosynthesis is the cause why our planet has an oxygen-rich atmosphere, making 'reason' appropriate here. Whereas, 'Goal' means an aim or objective, 'Sense' refers to perception or understanding, and 'Occasion' means a particular time or event, which don't fit in this context.

25. C) **surrounding'** का use होगा क्योंकि पेड़-पौधे अपने आस-पास की हवा से कार्बन डाइऑक्साइड को अवशोषित करते हैं। इस context में, "surrounding" वायुमंडल का उल्लेख करता है जिसमें पेड़-पौधे कार्बन डाइऑक्साइड को अवशोषित करते हैं। जबकि 'afar' का अर्थ है दूर से, 'distant' का अर्थ है दूर, और 'close' का अर्थ है पास, जो इस context में सही नहीं है।

- **Surrounding'** should be used because plants absorb carbon dioxide from the air around them. In this context, "surrounding" refers to the immediate atmosphere in which plants absorb carbon dioxide. Whereas, 'Afar' means from a distance, 'Distant' also means far away, and 'Close' means near, which don't fit in this context.