Express View on semiconductors: Betting big

The government is moving on its **ambitious** semiconductor plans. On Thursday, the Union cabinet approved three chip projects worth Rs 1.26 lakh crore. These include India's first semiconductor **fabrication** plant to be **set up** in Dholera, Gujarat, by the Tata Group.

The **project**, which has been set up in partnership with the Taiwan-based Powerchip Semiconductor Manufacturing Corporation (PSMC), **is** estimated to cost Rs 91,000 crore. **Alongside**, a separate Tata Group **proposal** for setting up an **assembly plant** in Assam at a cost of Rs 27,000 crore **has** also been cleared, along with another one by CG Power in Sanand Gujarat which involves an investment of Rs 7,600 crore. These projects follow the government's approval in June last year of Micron Technology's assembly and test facility in Gujarat.

In December 2021, looking to develop a semiconductor **ecosystem** in the country, the government had **put in place** a Rs 76,000 crore chip **incentive** scheme, announcing incentives for "every part of **supply chain** including electronic components, sub-assemblies, and **finished goods**."

Under this, the central government offers **fiscal** support and state governments can offer additional incentives to attract investments. **For instance**, as reported in this paper, in the case of Micron, of the project cost of Rs 2.75 billion, the company will contribute $825 million, with 50 per cent coming from the central government and 20 per cent from the Gujarat government.

The Tata-PSMC plant is expected to serve industries such as high-performance computing, electric vehicles, defence and others. The chips will be primarily 28 nanometre, along with 50 nm and 55 nm.

In recent times, **competition** in this **arena has** become **fierce**. Countries like the US have put in place attractive schemes to **facilitate** investments. In fact, government support is seen as **critical**. Currently, South Korea, Taiwan and China **account for** around 70 per cent of the global manufacturing capacity, with the balance in the US and Japan. As reported in this paper, India's incentive schemes are focused on all three parts of the semiconductor ecosystem — packaging units (ATMP facilities), assembly and testing projects (OSAT plants), and **full-scale foundries** that can manufacture chips.

In fact, the government is also setting up an **R&D** lab at the Semiconductor Laboratory, with the modernisation plan for the organisation involving an **outlay** of Rs 10,000 crore. A strong domestic ecosystem will help **cater to** the **burgeoning** demand in the country, **assist** in building of secure and **resilient** supply chains, while reducing **reliance on** some, the importance of which has become **apparent** during periods of **geopolitical uncertainty**. The government is providing support at a fiscal and regulatory level. It must also ensure a **stable** policy environment.   **[Practice Exercise]**

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

Vocabulary

1. **Semiconductor** (noun) – Chip, electronic component, integrated circuit, microchip, transistor सेमीकंडक्टर

2. **Bet big on something** (phrase) – Invest heavily, gamble on, stake a lot on, put a lot of money into, wager on किसी चीज पर बड़ा दांव लगाना

3. **Ambitious** (adjective) – Aspiring, determined, driven, enterprising, go-getting महत्वाकांक्षी

4. **Fabrication** (noun) – Construction, creation, manufacture, production, assembly निर्माण

5. **Set up** (phrasal verb) – Establish, organize, arrange, initiate, create स्थापित करना

6. **Alongside** (adverb) – Adjacent, beside, next to, parallel to, together with के साथ-साथ

7. **Assembly plant** (noun) – a factory where large items such as cars are put together, usually using parts which have been made in other factories

8. **Ecosystem** (noun) – Environment, habitat, system, community, complex पारिस्थितिकी तंत्र

9. **Put in place** (phrase) – Implement, establish, set up, arrange, institute स्थापित करना

10. **Incentive** (noun) – Motivation, stimulus, encouragement, inducement, reward प्रोत्साहन

11. **Supply chain** (noun) – the sequence of processes involved in the production and distribution of a commodity.

12. **Finished goods** (noun) – goods that have completed the manufacturing process but have not yet been sold or distributed to the end user. तैयार माल

13. **Fiscal** (adjective) – Financial, monetary, economic, budgetary, tax-related वित्तीय

14. **For instance** (phrase) – For example, as an example, to illustrate, such as, like उदाहरण के लिए

15. **Arena** (noun) – Field, domain, sphere, area, sector क्षेत्र

16. **Fierce** (adjective) – Intense, strong, powerful, forceful, aggressive प्रचंड

17. **Facilitate** (verb) – Enable, assist, support, aid, help सुगम बनाना

18. **Critical** (adjective) – Crucial, vital, essential, key, important महत्वपूर्ण

19. **Account for** (phrasal verb) – Constitute, represent, comprise, make up, form के लिये उत्तरदयी होना

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20. **Full-scale** (adjective) – Complete, comprehensive, total, entire, whole पूर्ण पैमाने पर

21. **Foundry** (noun) – Casting plant, metalworks, forge, smelter, metalcasting facility ढलाई कारखाना

22. **R&D** (noun) – Research and development अनुसंधान और विकास

23. **Outlay** (noun) – Expenditure, expense, cost, investment, spending लागत, खर्च

24. **Cater** (to) (verb) – Serve, provide for, accommodate, meet the needs of, supply पूरा करना

25. **Burgeoning** (adjective) – Growing, expanding, increasing, flourishing, thriving बढ़ता हुआ

26. **Assist** (verb) – Help, aid, support, back, lend a hand सहायता करना

27. **Resilient** (adjective) – Strong, tough, hardy, robust, मजबूत

28. **Reliance** (on) (noun) – Dependence, trust, confidence, faith, reliance निर्भरता

29. **Apparent** (adjective) – Obvious, clear, evident, manifest, visible स्पष्ट

30. **Geopolitical** (adjective) – Political and geographical, strategic, diplomatic, global, international भू-राजनीतिक

31. **Uncertainty** (noun) – Doubt, unpredictability, insecurity, instability, risk अनिश्चितता

32. **Stable** (adjective) – Steady, secure, fixed, firm, solid स्थिर

Summary of the Editorial

1. The Indian government has approved three semiconductor projects totaling an investment of Rs 1.26 lakh crore.

2. The projects include India's first semiconductor fabrication plant in Dholera, Gujarat, by the Tata Group in partnership with Taiwan's Powerchip Semiconductor Manufacturing Corporation (PSMC), costing Rs 91,000 crore.

3. Another Tata Group project for an assembly plant in Assam at Rs 27,000 crore and a CG Power project in Sanand, Gujarat at Rs 7,600 crore were also approved.

4. This follows the approval of Micron Technology's assembly and test facility in Gujarat in June of the previous year.

5. In December 2021, the government introduced a Rs 76,000 crore chip incentive scheme to develop a semiconductor ecosystem in India, covering the entire supply chain.

6. The central government offers fiscal support, and state governments provide additional incentives to attract investments.

7. For instance, Micron's project cost of Rs 2.75 billion includes contributions from the company, central government, and Gujarat government.

8. The Tata-PSMC plant aims to serve various industries with 28 nm chips, along with 50 nm and 55 nm technologies.

9. Global competition in semiconductor manufacturing has intensified, with significant capacity concentrated in South Korea, Taiwan, and China.

10. India's incentive schemes target all parts of the semiconductor ecosystem, including packaging units, assembly and testing projects, and full-scale foundries.

11. The government is also establishing an R&D lab at the Semiconductor Laboratory with a modernization plan involving Rs 10,000 crore.

12. A strong domestic semiconductor ecosystem will help meet India's growing demand, enhance supply chain security and resilience, and reduce dependence on certain regions.

13. The support includes both fiscal incentives and regulatory facilitation by the government.

14. Ensuring a stable policy environment is crucial for the success of these ambitious semiconductor initiatives.

15. These projects signify a major step towards establishing India as a player in the global semiconductor manufacturing sector, with potential benefits for various high-tech industries.

Practice Exercise: SSC Pattern Based

1. **What is the tone of the passage?**
   A. Critical
   B. Optimistic
   C. Pessimistic
   D. Indifferent

2. **What is the main theme of the passage?**
   A. Challenges in the semiconductor industry
   B. Government incentives for the semiconductor sector
   C. Global competition in semiconductor manufacturing
   D. The role of semiconductors in electric vehicles

3. **Which of the following statements is accurate regarding the Tata Group's semiconductor project in Dholera, Gujarat?**
   A. The project is a collaboration between the Tata Group and the South Korea-based Samsung Electronics.
   B. The project is entirely funded by the Indian government as part of its semiconductor incentive scheme.
   C. The fabrication plant will primarily produce chips of 10 nanometre, 20 nm, and 30 nm sizes.
   D. The estimated cost of the project is Rs 91,000 crore, and it involves setting up India's first semiconductor fabrication plant.

4. **What is the primary purpose of the Tata-PSMC semiconductor plant in Gujarat?**
   A. To produce electronic components and sub-assemblies for the Indian market.
   B. To serve industries such as high-performance computing, electric vehicles, and defence.
   C. To solely focus on the manufacturing of 10 nanometre chips for smartphones.
   D. To provide fiscal support and incentives for foreign investments in the semiconductor industry.

5. **What is the focus of India's incentive schemes in the semiconductor ecosystem?**
   A. Only on full-scale foundries that can manufacture chips
   B. On packaging units, assembly and testing projects, and full-scale foundries
   C. Solely on the modernisation of the Semiconductor Laboratory
   D. Exclusively on R&D labs and fiscal support

6. Select the most appropriate **synonym** of the underlined word in the given sentence.
   I am in a difficult **predicament** as I have two offers at a time.
   A. Dilemma
   B. Success
   C. Offer
   D. Advantage

7. Select the option that can be used as a **one-word substitute** for the given group of words.
   The murder of a king
   A. Sacrilege
   B. Rebel

C. Reticule

D. Regicide

8. **Parts of the following sentence have been given as options. Select the option that contains an error.**

This region was struck by unusual wave of violence last year.

A. was struck by unusual

B. wave of violence

C. This region

D. last year

9. **Parts of the following sentence have been given as options. One of them may contain an error. Select the option that contains the error. If you don't find any error, mark 'No error' as your answer.**

With reference of your letter, the organisation wishes to hire you for the security services.

A. With reference of your letter

B. for the security services

C. the organisation wishes to hire you

D. No error

10. **Select the correct spelling of the underlined word in the given sentence.**

Incidently, I happened to bump into my childhood friend at the airport yesterday.

A. Incidantly

B. Incidentaly

C. Incidantally

D. Incidentally

11. **Select the option that expresses the given sentence in passive voice.**

The boy will bring the coffee.

A. The coffee will be brought by the boy.

B. The coffee will have been brought by the boy.

C. The coffee would have been brought by the boy.

D. The coffee must have been brought by the boy.

12. Select the correctly spelt word.

A. Recommend

B. Recemmend

C. Reccommend

D. Recomend

13. **Select the option that expresses the given sentence in active voice.**

The dog was run over by a truck

A. A truck had run over the dog.

B. A truck runs over the dog.

C. A truck has run over the dog.

D. A truck ran over the dog.

14. **Select the most appropriate synonym of the underlined word.**

Demand for water is also **rapidly** rising due to population growth, urbanisation and increasing pressures from the agriculture and energy sector.

A. promptly

B. luxuriously

C. leisurely

D. Hopefully

15. **Parts of a sentence are given below in jumbled order. Select the option that arranges the parts in the correct order to form a meaningful sentence.**

A. By conquest, rather than by economic contract

B. Other types of feudalism was the relation

C. The principal difference between Indian and

D. Between lord and vassal, established in this case

     A. B, D, A, C

     B. C, B, D, A

     C. B, A, D, C

     D. C, B, A, D

16. **Select the most appropriate idiom for the following statement.**

We should be together to fight any danger. Otherwise, separately, we won't be able to fight.

A. Nothing ventured, nothing gained.

B. A full purse makes the mouth speak.

C. United we stand, divided we fall.

D. Well begun is half done.

17. **Select the option that can be used as a one-word substitute for the given group of words.**

One who is new to some trade or profession

A. Novice

B. Philistine

C. Martyr

D. Omnipresent

18. **Parts of a sentence are given below in jumbled order. Arrange the parts in the correct order to form a meaningful sentence.**

A. and he shone like a beacon

B. but also for the whole world

C. our country gave birth to a mighty soul

D. not only for India

     A. DBCA

     B. ACDB

     C. CADB

     D. ADBC

19. **Select the most appropriate synonym of the underlined word.**

The Sustainable Development Goals are a call for action by all countries—poor, rich and middle-income—to promote prosperity while protecting the planet.

A. conceal

B. holistic
C. growl
D. Boost

20. **Select the most appropriate option that can substitute the underlined segment in the following sentence.**

As the storm raged outside, the children huddled together under blankets, listening to the sound of the rain **hitting the windows hard** and hoping that the power wouldn't go out.

A. climbing up to the windows
B. setting off the windows
C. pounding against the windows
D. beating off the windows

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.

Once king Krishnadeva Raya (1)_____ a parrot of which he was excessively fond. He kept it in a silver cage and fed it fruits and nuts and anything else the bird asked for. The parrot longed for freedom and often asked for it, but the king would always reply, "Ask for anything else." One day, the parrot said to the king, "Give me freedom and I'll give you three (2)_____ advice that could be of great benefit to you." The king loved the parrot, but he loved money (3)_____. The parrot said, "Never believe everything that is told to you. What you don't know is that I've two priceless gems in my stomach," said the bird. "Two priceless gems," echoed the king, "Oh, what a fool I was to set you free! I'll regret this for the rest of my life!" I (4)_____ you never to grieve over losses but here you are grieving over losing me," said the parrot, "I advised you never to believe everything you hear, but you immediately believed me when I told you I had two gems in my stomach. (5)_____ I have survived if I really had two gems in my stomach?" My third advice is, "Listen, learn to listen with your mind instead of just with your ears." Saying these words, the parrot flew away.

21. **Select the most appropriate option to fill in blank number 1.**
A. has
B. had
C. have
D. will have

22. **Select the most appropriate option to fill in blank number 2.**
A. digit of
B. number of
C. pieces of
D. quantity of

23. **Select the most appropriate option to fill in blank number 3.**
A. most
B. better
C. extra
D. More

24. **Select the most appropriate option to fill in blank number 4.**
    A. have advised
    B. advised
    C. advise
    D. did advised

25. **Select the most appropriate option to fill in blank number 5.**
    A. Can
    B. May
    C. Might
    D. Could

Answers

1. B   2. B   3. D   4. B   5. B   6. A   7. D   8. A   9. A   10. D   11. A   12. A

13. D   14. A   15. B   16. C   17. A   18. C   19. D   20. C   21. B   22. C   23. D   24. B

25. D   **[Practice Exercise]**

Explanations

1. **B) Optimistic**
   The tone of the passage is optimistic. It highlights the government's ambitious plans for semiconductor projects, the approval of significant investments, and the positive impact these initiatives are expected to have on various industries and the country's technological capabilities.

2. **B) Government incentives for the semiconductor sector**
   The main theme of the passage is the government's incentives for the semiconductor sector. It discusses the approval of semiconductor projects, the financial support provided by the government, the expected benefits for various industries, and the overall goal of developing a strong domestic semiconductor ecosystem.

3. **D) The estimated cost of the project is Rs 91,000 crore, and it involves setting up India's first semiconductor fabrication plant.**
   The passage mentions that the Tata Group is setting up India's first semiconductor fabrication plant in Dholera, Gujarat, in partnership with the Taiwan-based Powerchip Semiconductor Manufacturing Corporation (PSMC), and the estimated cost of the project is Rs 91,000 crore.

4. **B) To serve industries such as high-performance computing, electric vehicles, and defence.**
   According to the passage, the Tata-PSMC plant in Gujarat is expected to serve industries such as high-performance computing, electric vehicles, defence, and others. The chips will be primarily 28 nanometre, along with 50 nm and 55 nm.

5. **B) On packaging units, assembly and testing projects, and full-scale foundries**
   The passage mentions that India's incentive schemes are focused on all three parts of the semiconductor ecosystem, which includes packaging units (ATMP facilities), assembly and testing projects (OSAT plants), and full-scale foundries that can manufacture chips. This indicates a comprehensive approach to developing the semiconductor industry in India.

6. A) **Predicament** (noun) – A difficult, unpleasant, or embarrassing situation. संकट

   Synonym: **Dilemma** (noun) – A situation in which a difficult choice has to be made between two or more alternatives, especially ones that are equally undesirable. दुविधा

   - **Success** (noun) – The accomplishment of an aim or purpose. सफलता

   - **Offer** (noun) – A proposal or expression of willingness to do or give something. प्रस्ताव

   - **Advantage** (noun) – A condition or circumstance that puts one in a favorable position. लाभ

7. D) **Regicide** (noun) – The act of killing a king. राजा की हत्या

- Sacrilege (noun) – The act of treating a holy place or object with disrespect. **पवित्र चीज का अपमान**

- **Rebel** (noun) – A person who rises in opposition or armed resistance against an established government or leader. **विद्रोही**

- **Reticule** (noun) – A woman's small handbag, originally netted and typically having a drawstring and decorated with embroidery or beading. **छोटी हैंडबैग**

8. A) **'unusual wave of violence' के** बदले 'an unusual wave of violence' होना चाहिए क्योंकि 'wave' countable noun है, जिसे अधिकांश समय indefinite article 'an' के साथ प्रयोग किया जाता है।

- 'an unusual wave of violence' should be used instead of 'wave of violence' because 'wave' is a countable noun and is mostly used with the indefinite article 'an'.

9. A) With reference of your letter' में 'of' के बदले 'to' का प्रयोग होगा क्योंकि सही phrase 'With reference to' होता है।

- 'to' will be used instead of 'of' in 'With reference of your letter' because the correct phrase is 'With reference to'.

10. D) The correct spelling of '(**Incidently**)' is 'Incidentally' which means "by chance" or "as a minor or subordinate matter." यादृच्छिक रूप से, अकस्मात.

11. A) The coffee will be brought by the boy.

12. A) The correct spelling is 'Recommend' which is option A. The word 'Recommend' means "to present as worthy of confidence, acceptance, use, etc.; commend; mention favorably" सिफारिश करना, प्रशंसा करना.

13. D) A truck ran over the dog

14. A) **Rapidly** (adverb) – At a fast pace, swiftly, quickly, speedily. **तेजी से**

Synonym: **Promptly** (adverb) – Without delay, immediately, at once, right away. **तुरंत**

- **Luxuriously** (adverb) – In a lavish and extravagant manner, opulently. **विलासिता से**

- **Leisurely** (adverb) – Without hurry, unhurriedly, at a relaxed pace. **आराम से**

- **Hopefully** (adverb) – With an optimistic attitude, expectantly, with hope. **आशावादी रूप से**

15. B) **C, B, D, A**
The principal difference between Indian and Other types of feudalism was the relation Between lord and vassal, established in this case By conquest, rather than by economic contract

16. C) **United we stand, divided we fall** (idiom) – We should be together to fight any danger. Otherwise, separately, we won't be able to fight. साथ में होते हुए हम किसी भी खतरे का मुकाबला कर सकते हैं। अलग होते हुए, हम मुकाबला नहीं कर पाएंगे।

- **Nothing ventured, nothing gained** (idiom) – One has to take risks to achieve something.
- **A full purse makes the mouth speak** (idiom) – People tend to be more confident or boastful when they have money.
- **Well begun is half done** (idiom) – A good start to a task leads to easier completion.

17. A) **Novice** (noun) – a person who is new to the circumstances, work, etc., in which they are placed; beginner. नौसिखिया

- **Philistine** (noun) – a person who is hostile or indifferent to culture and the arts. **अशिक्षित मनुष्य**
- **Martyr** (noun) – a person who is killed or suffers greatly for a religion, cause, etc. **शहीद**
- **Omnipresent** (adjective) – present everywhere at the same time. **सर्वत्र विद्यमान**

18. C) **CADB**
Our country gave birth to a mighty soul and he shone like a beacon not only for India but also for the whole world

19. D) **Promote** (verb) – To support, encourage, boost, further, stimulate **प्रोत्साहित करना**

Synonym: **Boost** (verb) – Lift, raise, bolster, strengthen. बढ़ावा देना

- **Conceal** (verb) – To hide, cover, keep secret. **छुपाना**
- **Holistic** (adjective) – Comprehensive, all-encompassing, integrated. **समग्र**
- **Growl** (verb) – A low, guttural sound made by an animal (like a dog). घुर्राना

20. C) **hitting the windows hard'** के बदले 'pounding against the windows' का प्रयोग होगा क्योंकि यह वाक्य में बारिश के जोरदार प्रहार को दर्शाता है।

- 'pounding against the windows' will be used instead of 'hitting the windows hard' because it conveys the forceful impact of the rain.

21. B) **Had'** का प्रयोग होगा क्योंकि पैसेज में भूतकाल की घटनाओं का वर्णन हो रहा है। 'Has' और 'Have' वर्तमानकाल के लिए होते हैं जबकि 'Will have' भविष्यकाल के लिए होता है, जो इस संदर्भ में सही नहीं है।

- **'Had'** should be used because the passage describes events in the past tense. 'Has' and 'Have' are for the present tense, while 'Will have' is for the future tense, which doesn't fit in this context.

22. C) '**Pieces** of' का प्रयोग होगा क्योंकि "pieces of" का अर्थ होता है किसी चीज के विभिन्न भाग। जब बात किसी उपदेश, सलाह, या अन्य अभिवादन की होती है, तो 'pieces of' अधिक उपयुक्त है। 'Digit of' का अर्थ

होता है किसी संख्या का अंश, 'Number of' का अर्थ है किसी चीज की मात्रा, और 'Quantity of' का अर्थ है परिमाण, जो इस संदर्भ में सही नहीं है।

- **Pieces** of' should be used because it refers to various parts or segments of something. When referring to advice, guidance, or other instructions, 'pieces of' is more appropriate. Whereas, 'Digit of' refers to a part of a number, 'Number of' indicates a count of something, and 'Quantity of' signifies volume or amount, which don't fit in this context.

23. D) '**More**' का प्रयोग होगा क्योंकि यहाँ पर राजा को पैसों से प्यार अधिक था, इसलिए 'More' सही शब्द है जिसे यहाँ प्रयोग किया जाना चाहिए। 'Most' का अर्थ है सबसे ज्यादा, 'Better' का अर्थ है अधिक अच्छा, और 'Extra' का अर्थ है अतिरिक्त, जो इस संदर्भ में सही नहीं है।
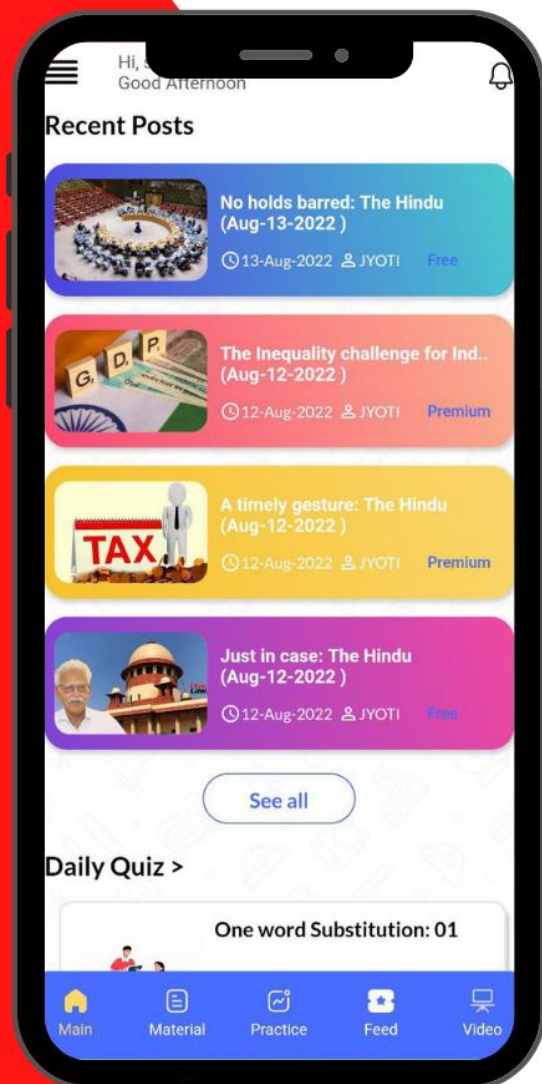
- **More'** should be used because the king loved money more than the parrot, making 'More' the appropriate word to use in this context. 'Most' means the greatest amount or extent, 'Better' implies superior, and 'Extra' means additional or beyond the usual, which don't fit in this context.

24. B) '**Advised**' का प्रयोग होगा क्योंकि यह अतीत काल में किसी कार्य को सूचित करता है और इस वाक्य में तोता अब जो कुछ भी कह रहा है वह पहले ही सलाह देने का संदर्भ है। 'Have advised' का प्रयोग अतीत सम्पूर्ण काल में होता है, 'Advise' वर्तमान काल में सलाह देने का संदर्भ है, और 'Did advised' वाक्यात्मक रूप में गलत है।

- **'Advised'** should be used because it indicates an action that took place in the past and in this sentence, the parrot is referring to advice he previously gave. 'Have advised' is used in the perfect past tense, 'Advise' is in the present tense for giving advice, and 'Did advised' is grammatically incorrect in this context.

25. D) '**Could**' का प्रयोग होगा क्योंकि "could" का अर्थ होता है संभावना या क्षमता होना। पत्ता आवेदन करते हुए पूछता है कि क्या वह सचमुच में अपने पेट में दो मूल्यवान रत्न रखकर जीवित रह सकता था, इस संदर्भ में "could" उपयुक्त विकल्प है। जबकि 'Can' का अर्थ है सक्षम होना, 'May' का अर्थ है संभावना होना, और 'Might' भी संभावना दर्शाता है, लेकिन यहाँ पर 'Could' सबसे उपयुक्त है।

- **'Could'** should be used because it indicates possibility or capability. The parrot is questioning whether it could have actually lived with two precious gems in its stomach, making "could" the suitable choice in this context. Whereas, 'Can' means being capable, 'May' implies a possibility, and 'Might' also indicates a possibility, but 'Could' is the most fitting here.

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