

## The ascent begins: On the progress of India's human spaceflight mission

The Indian Space Research Organisation has started a **crucial** phase of its human spaceflight mission

At 10 a.m. on October 21, the Indian Space Research Organisation (ISRO) **commenced** the first **uncrewed** developmental flight of its 'Gaganyaan' human spaceflight mission from Sriharikota, **designated** TV-D1. **The launch vehicle**, a single-stage rocket, **carried** a **crew** module fit with a **crew-escape system** (CES) to an **altitude** of 12 km. There, the CES **detached** itself with the crew module from the rocket and **climbed up** to 17 km. In response to a command, the CES separated from the crew module, leaving the module to **reorient** itself before dropping over the Bay of Bengal. Its **descent** was slowed first by **drogue parachutes** and then by the main parachutes. Finally, the module **splashed** into the Bay a short distance from Sriharikota, where the Indian Navy **hailed it out**. The CES also splashed down **farther** down range. The flight tested the CES's ability to protect the crew in case the rocket **malfunctioned**, and collected data via sensors to inform future tests. The test's value will be based on this data. According to ISRO chairman S. Somanath, ISRO has many tests planned to develop confidence that the organisation can safely launch humans to orbit. Even the parachutes used for TV-D1 **underwent** 16 tests. Such **fastidiousness** is **non-negotiable**. TV-D1 was supposed to have been conducted at 8 a.m., when unfavourable weather pushed it to 8.45 a.m. Then, however, the automatic launch sequence **held back** the launch with a few seconds on the clock. Mr. Somanath subsequently announced that TV-D1 would be postponed. But ISRO personnel were able to quickly identify and **resolve** the problem, and the launch was rescheduled for 10 a.m.

These **checks and balances** are expensive, but are **in place** to prevent greater costs later. **Plans** for the programme **were** first readied in 2009 at an estimated ₹12,400 crore. The Union Cabinet **granted** its approval in December 2018 at ₹9,023 crore assuming first flight by 2022. But the COVID-19 pandemic and other **commitments** have caused delays such that the earliest the first crewed flight can happen is currently 2025. Last week, Prime Minister Narendra Modi called on ISRO to launch humans to the moon by 2040. Even with the **requisite** financial support, this would be a very tight **deadline**, but as with fastidiousness, **contemporary geopolitics** has also **rendered** returning to the moon non-negotiable. Fortunately, with 'Gaganyaan', ISRO has indicated how a **balance can be struck**: plan ahead, boost local manufacturing, test **exhaustively**, launch when ready. The deadline may be missed, but the mission can be **undertaken** with confidence while also improving local capabilities. **[Practice]**

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

## Vocabulary

1. **Ascent** (noun) – Rise, climb, uplift, elevation, upsurge चढ़ाव, चढ़ाई
2. **Crucial** (adjective) – Vital, critical, pivotal, essential, imperative महत्वपूर्ण
3. **Commence** (verb) – Start, begin, initiate, launch, embark प्रारंभ करना
4. **Uncrewed** (adjective) – Pertaining to a vehicle, especially a spacecraft, that operates without humans aboard. बिना मानव कर्मी वाला
5. **Designate** (verb) – Appoint, assign, name, tag, earmark नामित करना
6. **Crew** (noun) – Team, staff, workforce, personnel, brigade कर्मी दल
7. **Crew-escape system** (CES) (noun) – A system designed to safely evacuate astronauts from a spacecraft in case of emergency. अपातकाल में अंतरिक्ष यात्रियों को सुरक्षित रूप से निकालने के लिए डिज़ाइन किया गया प्रणाली
8. **Altitude** (noun) – Height, elevation, level, stature ऊंचाई
9. **Detach** (verb) – Separate, unfasten, remove, disengage अलग करना
10. **Climb up** (phrasal verb) – Ascend, mount, scale, elevate चढ़ना
11. **Reorient** (verb) – Readjust, realign, redirect, reshape पुनः समायोजित करना
12. **Descent** (noun) – Decline, fall, drop, downhill उतरान
13. **Drogue parachute** (noun) – A parachute designed to deploy and stabilize a vehicle in fast-moving air before the main parachute is opened
14. **Splash** (verb) – to move in water so that drops of it go in all directions में जा गिरना
15. **Haul out** (phrasal verb) – Extract, pull out, retrieve, remove बाहर खींचना
16. **Farther** (adverb) – Further, more distant, beyond दूर
17. **Malfunction** (verb) – Fail, break down, not work, go wrong खराब हो जाना
18. **Undergo** (verb) – Experience, endure, face, suffer से गुज़रना
19. **Fastidiousness** (noun) – Meticulousness, precision, particularity, fussiness सूक्ष्मता/सावधानी बरतना
20. **Non-negotiable** (adjective) – Unalterable, fixed, unchangeable, absolute से कोई समझौता नहीं
21. **Hold back** (phrasal verb) – Restrain, curb, inhibit, suppress, withhold रोकना

22. **Resolve** (verb) – Settle, solve, sort out, fix, determine सुलझाना
23. **Checks and balances** (phrase) – Control systems, restrictions, regulations, safeguards, oversight
24. **In place** (phrase) – Established, set up, arranged, organized, instituted स्थापित
25. **Grant** (verb) – Allow, give, award, accord, confer प्रदान करना
26. **Commitment** (noun) – Obligation, duty, responsibility, pledge, promise प्रतिबद्धता
27. **Requisite** (adjective) – Necessary, required, essential, needed, obligatory आवश्यक
28. **Deadline** (noun) – Time limit, due date, cut-off, end date समय सीम
29. **Contemporary** (adjective) – Modern, current, present-day, up-to-date, recent समकालीन
30. **Geopolitics** (noun) – The study of the effects of Earth's geography (human and physical) on politics and international relations. भूराजनीति
31. **Render** (verb) – Make, cause to be, turn into, convert बनाना
32. **Strike a balance** (phrase) – To achieve a compromise or middle ground between two extremes. संतुलन बनाए रखना
33. **Exhaustively** (adverb) – Thoroughly, completely, fully, in detail, in depth पूरी तरह से

## Summary of the Editorial

1. **Launch Details:** ISRO initiated the first uncrewed developmental flight of its 'Gaganyaan' human spaceflight mission, TV-D1, on October 21.
2. **Mission Objective:** The mission aimed to test the Crew Escape System (CES) and collect data for future tests.
3. **Launch Sequence:** The launch vehicle carried a crew module with CES to 12 km altitude, where CES and the crew module separated and ascended to 17 km.
4. **Separation and Descent:** CES separated, and the crew module reoriented, descended, and splashed into the Bay of Bengal, slowed by parachutes.
5. **Navy's Role:** The Indian Navy retrieved the module from the Bay of Bengal; CES also splashed down at a different location.
6. **Data Collection:** The primary goal was testing CES's effectiveness and collecting data via sensors for future enhancements and safety improvements.
7. **Safety Precautions:** ISRO is committed to rigorous testing to ensure the safe orbital launch of humans, with multiple tests planned.
8. **Parachute Testing:** The parachutes used in the TV-D1 mission underwent 16 tests to ensure reliability and safety.
9. **Launch Delay:** Originally scheduled for 8 a.m., the mission was postponed due to weather and a hold in the automatic launch sequence.
10. **Budget and Funding:** The programme, costing ₹9,023 crore, received approval in December 2018, delayed from the original 2009 proposal of ₹12,400 crore.
11. **Pandemic Impact:** COVID-19 and other commitments delayed the programme, pushing the earliest crewed flight to 2025.
12. **Moon Mission:** PM Narendra Modi has challenged ISRO to launch humans to the moon by 2040, a tight deadline amidst contemporary geopolitics.
13. **Mission Strategy:** ISRO focuses on exhaustive testing, local manufacturing boosting, and launching only when confident to balance speed and safety.
14. **Local Capabilities:** The Gaganyaan mission aims not just to achieve spaceflight but also to enhance local technological and manufacturing capabilities.
15. **Future Outlook:** Despite potential deadline misses, the focus remains on ensuring mission success and safety, indicating a meticulous and balanced approach to India's human spaceflight endeavors.

### Practice Exercise: SSC Pattern Based

1. **Which of the following statements accurately describe the events that took place during the TV-D1 test flight conducted by the Indian Space Research Organisation (ISRO)?** [Editorial Page]
  - (i) The launch vehicle carried a crew module to an altitude of 12 km before the crew-escape system (CES) detached and climbed to 17 km.
  - (ii) The crew module splashed into the Arabian Sea near Mumbai.
  - (iii) The primary purpose of the flight was to test the CES's ability to protect the crew in case of a rocket malfunction.
  - (iv) TV-D1 was originally scheduled to be conducted at 6 a.m.
  - A. i and iii
  - B. ii and iv
  - C. ii and iii
  - D. i and ii
2. **Which of the following statements best describes the importance of the tests conducted by the Indian Space Research Organisation (ISRO) for the Gaganyaan human spaceflight mission?**
  - A. The tests ensure that the crew-escape system can function properly in case the rocket malfunctions and gather essential data for future tests.
  - B. The primary purpose of these tests is to evaluate the ability of the rocket to reach higher altitudes.
  - C. ISRO is conducting these tests to challenge other space organizations in a competitive manner.
  - D. The tests are mainly performed to showcase India's technological advancements to the world.
3. **Based on the passage, which of the following can be inferred regarding the Indian Space Research Organisation's (ISRO) approach to the human spaceflight mission?**
  - (i) ISRO is hasty in its decision-making.
  - (ii) Safety and thorough testing are prioritized by ISRO even if they result in delays.
  - (iii) Financial constraints are the sole reason for the delay in the mission.
  - A. Only i
  - B. Only ii
  - C. ii and iii
  - D. i and iii
4. **What is a primary reason, as mentioned in the passage, for the delay in India's human spaceflight mission?**
  - A. The Union Cabinet's decision to decrease the initial funding.
  - B. The COVID-19 pandemic and other commitments causing setbacks.
  - C. Prime Minister Narendra Modi's call for ISRO to launch humans to the moon by 2040.
  - D. The checks and balances that were implemented to prevent greater costs.
5. **Which of the following best describes the tone of the passage?**
  - A. Critical and doubtful
  - B. Optimistic and hopeful
  - C. Informative and appreciative
  - D. Sarcastic and dismissive

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

The winter and spring months /and mostly available in /till two decades or so,/ tomatoes were a luxury during May-July.

- A. Tomatoes were a luxury during May-July till two decades or so, and mostly available in the winter and spring months  
 B. Till two decades or so, tomatoes were a luxury during May-July and mostly available in the winter and spring months  
 C. Mostly available in the winter till two decades or so, tomatoes were a luxury during May-July and and spring months.  
 D. May-July till two decades or so, tomatoes were a luxury during and mostly available in the winter and spring months

7. Select the most appropriate meaning of the given idiom

She donated \$100 to the charity, but given the vast requirements, it was just **a drop in the ocean**

- A. To exaggerate something  
 B. To add significant value  
 C. To have a little effect  
 D. To remove something valuable
8. **Some sentences are given below. While the first and the last sentences (1 and 2) are in the correct order, the sentences in between are jumbled up. Arrange the sentences in the correct order to form a meaningful and coherent paragraph.**

1. Manual scavenging is banned in the country, but the practice prevails in many forms.

- A. Government agencies have been instructed to collaborate to prevent such tragic incidents.  
 B. Taking a grim view of the situation, the Supreme Court has called for the complete eradication of manual scavenging.  
 C. As many as 347 people have died while cleaning sewers and septic tanks in the last five years.  
 D. That has to be the goal. The battle is about human dignity, the apex court has reminded the Centre and states. The high courts have been empowered to oversee cases related to fatalities.

2. Seeing the ground reality, that's a tough ask. Apart from a massive infrastructure push, it requires a change in mindset.

- A. ABCD                      B. CBDA                      C. ACBD                      D. CADB

9. **Arrange the following sentences to form a coherent paragraph.**

- A. The flagoff of the Namo Bharat RapidX train connecting Sahibabad to Duhai Depot, a section of the proposed 17-km Delhi-Ghaziabad-Meerut Corridor, marks the launch of the Regional Rapid Transit System in India  
 B. Vision of creating world-class transport infrastructure as well as the Railways' Mission Raftaar  
 C. Designed for a maximum speed of 180 kmph, it is in line with the Modi government's  
 D. It is a joint venture between the Centre and the governments of Delhi, Haryana, Rajasthan and Uttar Pradesh

- A. CBDA                      B. ACBD                      C. CADB                      D. ADBC

10. Arrange the following sentences to form a coherent paragraph.

- P. The announcement of the regime — citing security reasons and the need to promote domestic manufacturing — had caused ripples in the Indian IT industry,  
Q. Which is heavily dependent on imports, particularly from China  
R. Two months after hastily announcing a strict licensing regime for the import of laptops, tablets and other types of computers, the Union Government has introduced a potentially hassle-free import management system aimed at monitoring shipments of IT hardware  
S. Rattled by the adverse reaction, the government had quickly deferred implementation of the licensing system to November; it has now done away with most of the curbs till September next year

A. RPQS                      B.RSPQ                      C.SRQP                      D.SPRQ

11. Select the **INCORRECTLY** spelt word.

- A. Conjure  
B. Foreiner  
C. Intrigue  
D. Summon

12. Select the option that expresses the given sentence in reported speech.

Mother said to her, "Paint the river blue."

- A. Mother said her to paint the river blue.  
B. Mother told her to paint the river blue.  
C. Mother told to her paint the river blue.  
D. Mother asked her paint the river blue.

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

The catch should not be dropped.

- A. Let the catch not be dropped.  
B. Have you dropped the catch?  
C. Don't drop the catch.  
D. You would not drop the catch.

14. Select the option that expresses the given sentence in passive/active voice.

Only home-cooked food is eaten by us.

- A. We are eating only home-cooked food.  
B. We ate only home-cooked food.  
C. We eat only home-cooked food.  
D. We have eaten only home-cooked food.

15. 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'.

What exactly is your problem with me?

- A. definitely is your  
B. entirely is your  
C. finally is your  
D. No substitution required

16. Select the most appropriate **ANTONYM** of the underlined word.

***Gradually***, she realized that he wasn't telling her the truth.

- A. Abruptly
- B. Constantly
- C. Steadily
- D. Readily

### Comprehension

The National Conference of Food Ministers failed to resolve the issue of the \_\_\_\_1\_\_\_\_ of rice and wheat sales to States under the Open Market Sale Scheme (OMSS) \_\_\_\_2\_\_\_\_ the Centre's restrictions. The meet was to discuss topics such as an action plan for the \_\_\_\_3\_\_\_\_ of coarse grains and a strengthened focus on food and nutritional security. However, \_\_\_\_4\_\_\_\_ the row in Karnataka over the Centre's stringent restrictions on the OMSS, it was expected that there would be a solution.

Fill in the blanks with the most appropriate combinations of words

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

- A. Discontinue
- B. Discontinuance
- C. Circumstance
- D. Acquiescence

18. **Select the most appropriate option to fill in blank 2.**

- A. in the domain of
- B. in view of
- C. In face of
- D. In the presence of

19. **Select the most appropriate option to fill in blank 3.**

- A. Procurement
- B. Implement
- C. Refinement
- D. Statement

20. **Select the most appropriate option to fill in blank 4.**

- A. Driven
- B. Give rise to
- C. Result in
- D. Given



## Answers

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

[Practice Exercise]

## Explanations

1. **A) i and iii.**

The passage mentions that the crew module was taken to an altitude of 12 km before the CES detached and climbed to 17 km, making statement i correct. The purpose of the flight was also to test the CES's protective capability, making statement iii accurate. The crew module splashed into the Bay of Bengal, not the Arabian Sea, making statement ii incorrect. The initial time mentioned for TV-D1 was 8 a.m., not 6 a.m., making statement iv incorrect.

2. **A) The passage highlights the importance of testing the crew-escape system's ability to protect the crew if the rocket malfunctions and emphasizes the collection of data for future tests. The other options are not directly supported by the passage.**

3. **B) The passage does not suggest that ISRO is hasty in its decision-making. Instead, the text mentions the importance of checks and balances and suggests that ISRO believes in planning ahead, testing exhaustively, and launching when ready. Thus, option i is not inferred from the passage. Option ii is supported by the passage, which emphasizes the importance of testing and preparedness even if it results in delays. Option iii is not completely accurate, as the passage mentions the COVID-19 pandemic, other commitments, and financial reasons as causes for delays, not solely financial constraints.**

4. **B) The COVID-19 pandemic and other commitments causing setbacks.**

The passage mentions that "But the COVID-19 pandemic and other commitments have caused delays such that the earliest the first crewed flight can happen is currently 2025." This directly points to the reason for the delay in the mission.

5. **C) Informative and appreciative**

The passage provides detailed information about ISRO's human spaceflight mission and the measures they've taken to ensure its success. There is a clear acknowledgment of the care, meticulousness, and dedication that ISRO has invested in this project. The use of words such as "fastidiousness is non-negotiable" and mentions of the many tests and checks and balances highlight an appreciative tone.

6. **B) Till two decades or so, tomatoes were a luxury during May-July and mostly available in the winter and spring months.**

7. **C) A drop in the ocean** (phrase) – To have a little effect: किसी बड़े समस्या या जरूरत के सामने बहुत छोटा प्रदान करना

8. **B) CBDA**

The first sentence (1) is fixed in parajumbles.

**C:** The placement of C after 1 can be deduced through the 'Time Sequence'. Sentence 1 states the problem (manual scavenging exists), and C provides the severity of the problem over a specific time period

**B:** C presents a problem (deaths from manual scavenging), and B mentions the Supreme Court's reaction to "the situation" - which clearly refers to the tragic deaths stated in C

**D:** "That" in D refers to the "complete eradication of manual scavenging" mentioned in B. The sentence elaborates on the Supreme Court's viewpoint about the eradication, reinforcing the urgency of the matter.

**A:** After the apex court's views are discussed in D, A naturally follows by discussing the action plan - instructing government agencies to work together.

9. **B) ACBD**

**A:** "marks the launch" suggests the initiation or beginning of something. It sets the stage for the narrative, making A a potential opening sentence. Sentence A talks about the "Namo Bharat RapidX train" and its significance

**C:** Sentence C starts with "Designed for a maximum speed of 180 kmph..." - It is logical to assume that "it" refers to the "Namo Bharat RapidX train" introduced in Sentence A. This establishes the noun-pronoun relationship, so C naturally follows A

**B:** The mention of a vision and a specific mission (Mission Raftaar) aligns with the broader goal of the "Modi government" as stated in Sentence C. So, B elaborates on the vision of the government introduced in C.

**D:** Sentence D provides specific details about the collaborative effort: "It is a joint....." After introducing the broad vision in B, the specific nature of the collaboration and its stakeholders is mentioned in D

10. **A) RPQS**

**R-P:** Sentence R talks about "a strict licensing regime for the import of laptops, tablets, and other types of computers," and sentence P starts with "The announcement of the regime." Clearly, "The announcement" in P refers back to the licensing regime mentioned in R. The flow is natural from introducing the licensing regime in R to explaining its repercussions in P

**Q:** Sentence P mentions the "Indian IT industry," and sentence Q begins with "Which," a relative pronoun that refers back to "Indian IT industry." Thus, Q is a continuation of P, providing further details about the Indian IT industry's dependence on imports.

**S:** Sentence S speaks of the government's reaction and the subsequent decisions related to the licensing system, indicating the sequence of events after the initial announcement and the industry's reaction.

11. B) The correct spelling of 'foreiner' is 'foreigner'.

12. B) Mother told her to paint the river blue.

13. C) Don't drop the catch.

14. C) We eat only home-cooked food.

15. D) No substitution Required

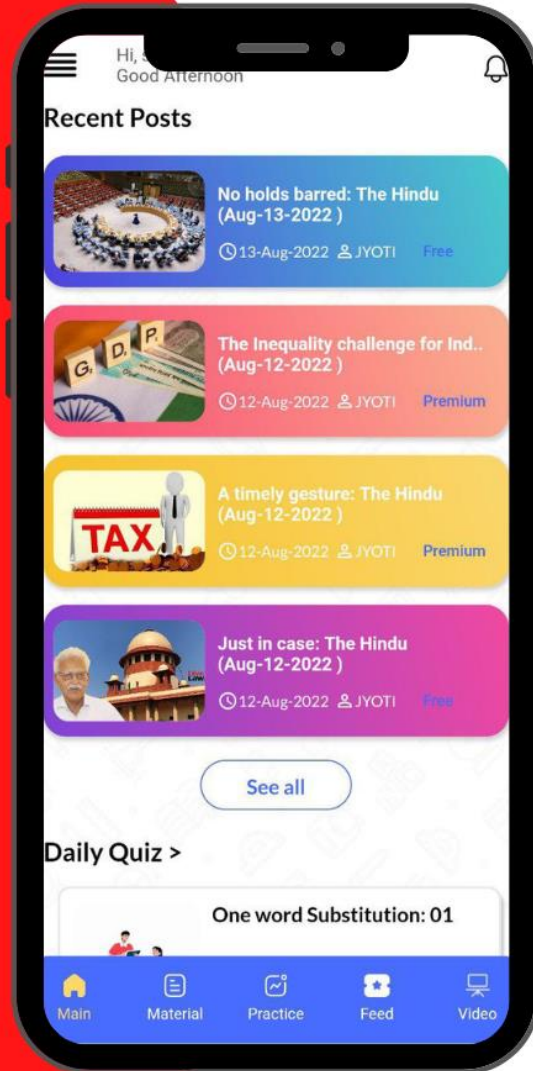
16. A) **Gradually** (adverb) – Slowly, progressively, steadily, step by step, धीरे-धीरे

- **Abruptly** (adverb) – Suddenly, swiftly, immediately, unexpectedly, तत्परता से

- **Constantly** (adverb) – Continuously, incessantly, perpetually, unceasingly, निरंतर रूप से
  - **Steadily** (adverb) – Constantly, continuously, persistently, unswervingly, लगातार
  - **Readily** (adverb) – Easily, willingly, freely, without hesitation, आसानी से
17. B) 'Discontinuance' का use होगा क्योंकि "discontinuance" का अर्थ होता है समाप्ति या रोक देना। Sentence में इसे rice और wheat की sales के context में use किया गया है, जिससे पता चलता है कि States तक बिक्री को रोक दिया गया होगा। जबकि 'Discontinue' का अर्थ होता है बंद कर देना, 'Circumstance' का अर्थ होता है परिस्थिति और 'Acquiescence' का अर्थ होता है मान्यता या सहमति, जो इस context में सही नहीं है।
- 'Discontinuance' should be used because it refers to the cessation or stopping of something. In the context of the sentence, it is referring to the sales of rice and wheat to States, suggesting that such sales might have been stopped. Whereas, 'Discontinue' means to stop doing or providing something, 'Circumstance' refers to a situation, and 'Acquiescence' means acceptance or agreement, which are not apt in this context.
18. B) 'In view of' का use होगा क्योंकि "in view of" का अर्थ होता है किसी विशेष कारण या स्थिति को ध्यान में रखते हुए। Sentence में mention किया गया है कि चरणबद्ध प्रतिबंधों के मद्देनजर Centre के restrictions को देखते हुए यह समस्या हल नहीं हुई है, इसलिए 'in view of' यहाँ सही है। 'In the domain of' का अर्थ होता है किसी विशेष क्षेत्र में, 'In face of' और 'In the presence of' का use इस context में अनुपयुक्त है।
- 'In view of' should be used because it means considering a particular fact or situation. The sentence mentions that the issue was not resolved considering the Centre's restrictions, making 'in view of' fitting here. On the other hand, 'In the domain of' means in a particular area or field, while 'In face of' and 'In the presence of' are not suitable in this context.
19. A) 'Procurement' का use होगा क्योंकि "procurement" का अर्थ होता है खरीददारी या संचय। Sentence में mention किया गया है कि topics जैसे की coarse grains की और खाद्य और पोषण सुरक्षा पर मजबूती पर चर्चा होनी थी, इसलिए 'procurement' यहाँ सही है। 'Implement' का अर्थ होता है लागू करना, 'Refinement' का अर्थ है सुधारना और 'Statement' का अर्थ है बयान, जो इस context में सही नहीं है।
- 'Procurement' should be used because it refers to the act of obtaining or buying goods. The sentence mentions topics like the coarse grains and a focus on food and nutritional security, making 'procurement' the correct choice here. Whereas, 'Implement' means to put into effect, 'Refinement' means improvement or polishing, and 'Statement' means a declaration, which don't fit in this context.
20. D) 'Given' का use होगा क्योंकि "given" यहाँ पर "को ध्यान में रखते हुए" या "इस बात को देखते हुए" का संदर्भ में use होता है। Sentence में mention किया गया है कि Karnataka में

OMSS पर Centre की सख्त पाबंदियों के विवाद को देखते हुए, उम्मीद थी कि समाधान होगा। इसलिए 'Given' यहाँ सही है। जबकि 'Driven' का अर्थ होता है प्रेरित होना, 'Give rise to' का अर्थ होता है किसी चीज़ को पैदा करना, और 'Result in' का अर्थ है किसी परिणाम में आना, जो इस context में सही नहीं है।

- 'Given' should be used because here it means "considering" or "taking into account." The sentence mentions that considering the row in Karnataka over the Centre's stringent restrictions on the OMSS, a solution was expected, making 'Given' fitting here. Whereas, 'Driven' implies being motivated by, 'Give rise to' means to cause something to happen, and 'Result in' means to lead to a particular result, which don't fit in this context.



# Learn Vocabulary Through Reading Articles

English Madhyam

