# Sign of the future: On ISRO's PSLV C58 mission

The PSLV C58 mission is a symbol of the demands being made of ISRO

Two missions the Indian Space Research Organisation (ISRO) has launched in the five months since its success with Chandrayaan-3 have both been scientific in nature: the Aditya L-1 space probe to study the sun and the X-ray Polarimeter Satellite (XPoSat) to study polarised X-rays emitted in astrophysical phenomena. ISRO launched the XPoSat, in a two-part mission, onboard a Polar Satellite Launch Vehicle (PSLV) on its C58 flight on January 1. The relative timing of these launches may be a coincidence but it is heartening because the ratio of scientific to technological missions ISRO has launched is skewed in favour of the latter, at the expense of research in the sense of discovery. Those science-oriented missions have all been exceptional in their own right. For example, XPoSat is only the second space-based experiment to study X-ray polarisation, and at higher x-ray energies than the other, NASA's Imaging X-ray Polarimetry Explorer. Its POLIX payload, realised by the Raman Research Institute, will track X-rays in the 8-30 kilo-electron-volt (keV) energy range and observe emissions from around 50 sources in five years. The XSPECT payload, by ISRO's U.R. Rao Satellite Centre, will study X-rays of energy 0.8-15 keV and changes in continuous X-ray emissions. Together, they are expected to shed light on intense X-ray sources such as pulsars and black holes.

Then again, the science-technology skew is a reminder that ISRO among the world's spacefaring organisations has unique needs and priorities. This is exemplified by the second part of the C58 mission. After launching XPoSat in a 650-km circular orbit around the earth, the fourth stage of the rocket lowered itself into a 350-km-high orbit and unfurled solar panels, becoming a rudimentary satellite and orbital testbed for the 10 payloads it carried. These are a radio payload by the K.J. Somaiya Institute of Technology and a device to measure ultraviolet radiation from L.B.S. Institute of Technology for Women; a 'green' cubesat propulsion unit, a 'green' monopropellant thruster, a tantalum-based radiation shield, a heater-less hollow cathode, and a nanosatellite platform, all from private entities; and an interplanetary dust counter, a fuel-cell power system, and a high-energy cell from ISRO centres. This is only the third time ISRO has operated the PSLV fourth stage in this way. As such, the C58 mission represents a union of the aspirations of professional scientists, aspiring students of science, and India's private spaceflight sector. This again is a vignette of the demands of ISRO itself as it navigates an era in which a permanent lunar station seems inevitable, drawing as much on technological capabilities as — based on scientific missions — humankind's knowledge of the universe. [Practice Exercise]

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

# **Vocabulary**

- Probe (noun) Investigation, inquiry, examination, study, research जांच
- 2. **Polarised** (adjective) Divided, split, opposed, conflicting, diametric ध्वीकृत
- 3. **Emit** (verb) Discharge, release, exude, radiate, expel उत्सर्जित करना
- 4. **Astrophysical** (adjective) Astronomical, cosmic, celestial, extraterrestrial, space-related खगोल भौतिकी संबंधी
- 5. **Phenomena** (noun) Occurrences, events, happenings, incidents, facts घटनाएं
- Onboard (verb) Embark, load, bring aboard, take on, admit; to become familiar with how something works, especially a piece of technology or software सवार करना; से परिचित होना
- 7. **Coincidence** (noun) Accidental, chance, serendipity, simultaneity, concurrence संयोग
- Heartening (adjective) Encouraging, uplifting, cheering, reassuring, positive उत्साहजनक
- 9. **Skewed** (adjective) Distorted, biased, slanted, unbalanced, asymmetrical विकृत
- 10. **The latter** (noun) Here it refers to 'XPoSat'
- 11. In their own right (phrase) Independently, in their own capacity, by

- themselves, individually, personally अपने आप में
- 12. **Polarisation** (noun) Division, separation, dichotomy, contrast, differentiation ध्रुवीकरण
- 13. **Payload** (noun) Cargo, freight, load, shipment, burden भार
- 14. **Shed** (verb) Discard, drop, cast off, release, dispel छोड़ना
- 15. **Skew** (noun) Bias, slant, angle, distortion, twist तिरछापन
- 16. **Spacefaring** (adjective) Space-traveling, interstellar, astronautical, extraterrestrial, cosmic अंतरिक्ष यात्रा संबंधी
- 17. **Exemplify** (verb) Illustrate, demonstrate, epitomize, represent, symbolize उदाहरण प्रस्तुत करना
- 18. **Unfurled** (adjective) Unrolled, unfolded, spread out, extended, opened खोला ह्आ
- 19. **Rudimentary** (adjective) Basic, elementary, fundamental, primitive, simple आदिम/ प्रारम्भिक
- 20. **Testbed** (noun) Experimental setup, trial area, proving ground, research environment, test area परीक्षण क्षेत्र

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- 21. **Interplanetary** (adjective) Between planets, extraterrestrial, interstellar, outer space, space ग्रहों के मध्य
- 22. **Aspiring** (adjective) Ambitious, hopeful, eager, desirous, wishful आकांक्षी
- 23. **Vignette** (noun) a brief evocative description, account, or episode. विवरण
- 24. **Navigate** (verb) Steer, pilot, guide, maneuver, direct नेविगेट करना
- 25. **Era** (noun) Period, age, epoch, time, era युग

- 26. **Lunar** (adjective) Moon-related, selenic, moony, moonlike, of the moon चंद्रमा संबंधी
- 27. **Inevitable** (adjective) Unavoidable, certain, sure, inescapable, unavoidable अवश्यंभावी
- 28. **Draw** (verb) Attract, pull, lure, entice, engage आकर्षित करना
- 29. **Humankind** (noun) Humanity, mankind, people, human race, the human species ਸਮਰਕਤਮੀਨੀ

# **Summary of the Editorial**

- 1. **ISRO's Recent Focus**: Since Chandrayaan-3, ISRO has launched two science-focused missions: Aditya L-1 and XPoSat.
- 2. **Nature of Missions**: These missions, unlike many previous ISRO projects, are primarily scientific rather than technological.
- 3. Aditya L-1 Mission: Aimed to study the Sun.
- 4. **XPoSat Mission Details**: Launched on PSLV C58, it's designed to study polarized X-rays from astrophysical phenomena.
- 5. **XPoSat's Uniqueness**: It's the second experiment to study X-ray polarization in space, observing higher energy levels than NASA's Imaging X-ray Polarimetry Explorer.
- 6. **XPoSat's Instruments**: The POLIX and XSPECT payloads will study X-rays across a wide energy spectrum, focusing on pulsars and black holes.
- 7. **Science vs. Technology Missions**: Historically, ISRO has favored technological missions over scientific discovery.
- 8. **ISRO's Unique Position**: Unlike other space organizations, ISRO has distinct needs and priorities.
- 9. **Innovative Use of PSLV's Fourth Stage**: After deploying XPoSat, the fourth stage of PSLV transformed into a testbed satellite for various payloads.
- 10. **Payloads in the Fourth Stage**: Included experiments from academic institutions and private entities, covering a wide range of space technologies.
- 11. **Collaboration with Private Sector**: This mission showcases collaboration between professional scientists, students, and India's private spaceflight sector.
- 12. **Third Operation of PSLV's Fourth Stage**: This innovative use of the rocket stage demonstrates ISRO's evolving capabilities.
- 13. **Mission Significance**: Represents a blend of scientific exploration and technological advancement.
- 14. **ISRO's Future Direction**: Indicates ISRO's balancing act between technological development and scientific discovery.
- 15. **Broader Implications**: Reflects on the demands and aspirations shaping ISRO as it navigates a future with prospects like a permanent lunar station.

## **Practice Exercise: SSC Pattern Based**

- 1. What is the primary scientific objective of the XPoSat launched by ISRO in the PSLV C58 mission? [Editorial Page]
  - A. To study solar flares and solar winds.
  - B. To study polarised X-rays emitted in astrophysical phenomena.
  - C. To explore the surface of the moon.
  - D. To observe earth's atmospheric changes.
- 2. What signifies the dual nature of ISRO's PSLV C58 mission, involving both scientific and technological elements?
  - A. The launch of Chandrayaan-3 and Aditya L-1 space probe.
  - B. The simultaneous launch of two different satellites for separate missions.
  - C. The operation of the PSLV's fourth stage as a rudimentary satellite and orbital testbed after launching XPoSat.
  - D. The deployment of a fuel-cell power system and a high-energy cell in orbit.
- 3. What is the tone of the passage?
  - A. Critical
  - B. Optimistic
  - C. Pessimistic
  - D. Neutral

7.

- 4. What is the main theme of the passage?
  - A. The challenges faced by ISRO
  - B. The scientific and technological advancements of ISRO
  - C. Comparison of ISRO with other space organizations
  - D. The environmental impact of space missions
- 5. From the passage, it can be inferred that all of the following are true about the XPoSat mission EXCEPT that:
  - A. XPoSat is a mission primarily focused on studying polarised X-rays emitted in astrophysical phenomena.
  - B. The XPoSat carried payloads like POLIX and XSPECT, designed to observe emissions from intense X-ray sources.
  - C. It is the first space-based experiment ever conducted to study X-ray polarisation.
  - D. XPoSat was part of the PSLV C58 mission and aims to observe emissions from around 50 sources in five years.
- 6. Select the most appropriate option to fill in the blank.

She reminds me always that I _	to be a little more careful	
A. had		
B. have		
C. must		
D. has		
Select the most appropriate <b>ANTONYM</b> of the word given in brackets to fill in the blank.		
Mr. Khanna is quite	(callous) towards the victims of earthquake	

- A. rationalistic
- B. unsympathetic
- C. sympathetic
- D. nondiplomatic
- 8. Sentences of a paragraph are given below. While the first and the last sentences (\$1 and \$6) are in the correct order, the sentences in between are jumbled up and named P, Q, R, S. Arrange the sentences in the correct order to form a meaningful and coherent paragraph (\$1) Newspapers, especially of the popular variety, aim to do two things: to inform and to entertain.
  - (P) Entertainment may be principally found in the centre pages of the newspaper in some of the feature articles and in some local news stories.
  - (Q) The principal aim of the short news report on the front pages is to inform.
  - (R) Most newspapers are published daily, and the news reporters must make sure that they have up-to-the minute news.
  - (S) In their news reports they will aim to create a sense of immediacy, to convey the impression that they have 'rushed' the news to the reader and 'that the information contained is the very latest.'
  - (S6) Reporters also wish to create a sense of authenticity, that is, that their news is accurate and genuine
  - A. Q, S, R, P
  - B. R, P, S, Q
  - C. S, R, P, Q
  - D. P, Q, R, S
- 9. Select the most appropriate synonym of the given word from the sentence Ready

She was preparing dinner in an organised manner using well-equipped tools while listening to the radio.

- A. Preparing
- B. Listening
- C. Organised
- D. Equipped
- 10. Identify how you will ask everyone if the children were not reading the books in passive voice
  - A. Were the books being read by the children?
  - B. Were the books not being read by the children?
  - C. Were the book not being read by the children?
  - D. Were the children reading the books?
- 11. Select the most appropriate synonym of the given word.

#### Hostile

- A. Pleasant
- B. Hospitable
- C. Empathetic

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- D. Unfriendly
- 12. Select the most appropriate option that can substitute the underlined segment in the given sentence.

The fact that God created man in his **personal view** by giving him an intellectual spirit elevates him above the beasts of the field.

- A. own glory
- B. own capacity
- C. own image
- D. own idea
- 13. Sentences of a paragraph are given below in jumbled order. Arrange the sentences in the correct order to form a meaningful and coherent paragraph
  - **A.** During the summer, I noticed that the leaves of the tree were beginning to wither.
  - B. I am especially proud of it, not only because it has survived several winters, but because it occasionally produces luscious peaches.
  - **C.** The tree had grown against a warm wall on a sheltered side of the house.
  - **D.** Last summer, I spent many days in the garden watching thousands of ants crawling up the trunk of my prize peach tree.
  - A. DCBA
  - B. ABCD
  - C. CDBA
  - D. BDAC
- 14. Select the option that expresses the given sentence in active voice.

Was the bag packed by Mary?

- A. Was Mary pack the bag?
- B. Is Mary packing the bag?
- C. Do Mary pack the bag?
- D. Did Mary pack the bag?
- 15. Select the most appropriate **ANTONYM** of the word '**Optimistic'** from the given sentence.

After the incident, Radha prepared herself to stay positive even in gloomy days

- A. stay
- B. incident
- C. positive
- D. gloomy
- 16. The following sentence has been divided into parts. One of them may contain an error. Select the part that contains the error from the given options. If you don't find any error, mark 'No error' as your answer

After knowing truth, / the jury took the right decision / in the case.

- A. The jury took the right decision
- B. In the case
- C. After knowing truth
- D. No error

17. In the following sentence, four words are underlined, out of which one word is incorrectly spelt. Identify the **INCORRECTLY** spelt word.

A lot of **spontanity** is required from the speaker in an **extempore** speech. The speaker is expected to **brainstorm** ideas and give speech **instantaneously** 

- A. instantaneously
- B. extempore
- C. brainstorm
- D. spontanity
- 18. Select the option that can be used as a one-word substitute for the given group of words.

A person who believes that laws and governments are not necessary.

- A. Antagonist
- B. Antichrist
- C. Anarchist
- D. Adversary
- 19. Select the most appropriate meaning of the given idiom.

Miss the boat

- A. Missing a good opportunity
- B. Missing your medium of travel
- C. Missing good moments of your life
- D. Being too late
- 20. Sentences of a paragraph are given below in jumbled order. Arrange the sentences in the correct order to form a meaningful and coherent paragraph.
  - A. The outcome is much more likely to be favourable if there is substantial international aid than if there is not.
  - **B.** Many of the underdeveloped countries will promote the growth of their economies in one way or the other, no matter whether they receive substantial outside aid in the process or not.
  - C. By substantial aid I mean not only large amounts of technical assistance but also of capital.
  - **D**. The character of that development, however, is likely to be strongly influenced by the types of and amounts of aid available.
  - A. BDAC
  - B. ABDC
  - C. DABC
  - D. DBCA

### 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.

The Sun is the star at the center of (1)	Solar System. It is a nearly perfect ball of
hot plasma. The Sun has inspired us since anci	ent times. It's central to mythology and religion
in (2) around the world. It keep	s our planet warm enough for living things to
grow. It gives us light so we can see. It is by far	the most important (3)of energy for
life on Earth. It is about a hundred times as wi	de (4) the Earth. If there were no sun,

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		any things wouldn't occur like photosynthesis or the presence of oxygen, which would have
	cau	used no (5) of life.
21.	Sel	lect the most appropriate option to fill in blank number 1.
	A.	typical
	В.	huge
	C.	the
	D.	a
22.	Sel	ect the most appropriate option to fill in blank number 2.
	A.	cultures
	В.	processes
	C.	scenes
	D.	types
23.	Sel	ect the most appropriate option to fill in blank number 3.
	A.	gesture
	В.	source
	C.	control
	D.	symbol
24.	Sel	ect the most appropriate option to fill in blank number 4.
	A.	about
	В.	as
	C.	like
	D.	than
25.	Sel	ect the most appropriate option to fill in blank number 5.
	A.	skill
	R	end

C. enhancementD. existence

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## **Answers**

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

# **Explanations**

1. B) To study polarised X-rays emitted in astrophysical phenomena.

The passage clearly states that the XPoSat's mission is to study polarised X-rays emitted in astrophysical phenomena. It is a part of the scientific endeavors of ISRO, distinct from its technological missions, and aims to enhance understanding of intense X-ray sources such as pulsars and black holes

2. C) The operation of the PSLV's fourth stage as a rudimentary satellite and orbital testbed after launching XPoSat.

The passage describes how, after the deployment of XPoSat, the fourth stage of the PSLV rocket transformed into a rudimentary satellite and orbital testbed. This action showcases the dual nature of the mission, combining scientific objectives (like the study of polarised X-rays) with technological experiments (like testing new payloads from various institutes and private entities). This aspect of the mission exemplifies ISRO's unique approach to space exploration, balancing scientific inquiry with technological advancement.

3. B) Optimistic

The tone of the passage is optimistic. This is evident from the positive language used to describe ISRO's achievements and future prospects. Words like "heartening," "exceptional," and phrases like "shed light on intense X-ray sources" and "represents a union of the aspirations" suggest a positive outlook towards ISRO's scientific and technological advancements.

4. B) The scientific and technological advancements of ISRO

The main theme of the passage is the scientific and technological advancements of ISRO. The passage discusses various missions like Chandrayaan-3, Aditya L-1, and XPoSat, highlighting the scientific research and technological progress these missions represent. It also touches upon the unique needs and priorities of ISRO in balancing scientific inquiry with technological development, indicating the theme revolves around ISRO's advancements in these areas.

- 5. **C)** It is the first space-based experiment ever conducted to study X-ray polarisation. The passage mentions that XPoSat is only the second space-based experiment to study X-ray polarisation, with NASA's Imaging X-ray Polarimetry Explorer being the other. This implies that it is not the first such experiment, making option C the only statement that is not true as per the passage.
- 6. B) Option 'B 'have' का प्रयोग होगा, क्योंकि वाक्य में mentioned व्यक्ति के लिए ध्यान दिलाने की जरूरत है कि वह थोड़ा और सावधान होना चाहिए। इसलिए, "have" सबसे उपयुक्त विकल्प होगा।

- 'Have' should be used because the sentence is reminding the person addressed that they need to be a little more careful. Thus, "have" would be the most appropriate choice.
- 7. C) The word "callous" (adjective) it refers to being emotionally insensitive, hard-hearted, or unfeeling कठोर, निर्दयी. Therefore, we need to find the antonym, which would be the opposite of this meaning.

Antonym: Sympathetic (adjective) — Feeling, showing, or expressing compassion, understanding, or empathy. संवेदनशील

- Rationalistic (adjective) Based on reason or logic, not emotional or practical. तार्किक
- Unsympathetic (adjective) Lacking in sympathy, uncompassionate, unfeeling.
   असंवेदनशील
- Non-diplomatic (adjective) Not skilled in dealing with sensitive matters or people; tactless. अक्टनीतिपूर्ण
- 8. D) P, Q, R, S
  - Newspapers, especially of the popular variety, aim to do two things: to inform and to entertain. Entertainment may be principally found in the centre pages of the newspaper in some of the feature articles and in some local news stories. The principal aim of the short news report on the front pages is to inform. Most newspapers are published daily, and the news reporters must make sure that they have up-to-the minute news. In their news reports they will aim to create a sense of immediacy, to convey the impression that they have 'rushed' the news to the reader and 'that the information contained is the very latest.' Reporters also wish to create a sense of authenticity, that is, that their news is accurate and genuine.
- 9. A) **Prepare** (verb) Making ready, setting up, arranging, organizing तैयार करना
  The word "Ready" in the context of the sentence refers to getting something prepared or set up, hence the synonym that best fits is "Preparing." The other options are not related to the meaning of "Ready" as used in this context. Therefore, the correct answer is option A, "Preparing."
- 10. B) Were the books not being read by the children?
- 11. D) **Hostile** (adjective) Unfriendly, unreceptive, unsympathetic, argumentative शत्रुतापूर्ण **Synonym: Unfriendly** (adjective) Inimical, antagonistic, opposed, unsympathetic, hostile
  - **Pleasant** (adjective) Agreeable, enjoyable, satisfying, charming, delightful सुखमय
  - **Hospitable** (adjective) Welcoming, warm-hearted, accommodating, gracious, friendly ਸੇहमान नवाज
  - **Empathetic** (adjective) Compassionate, understanding, sympathetic, considerate सहान्भृतिपूर्ण

The most appropriate synonym for "Hostile" is "Unfriendly," as both words convey a sense of antagonism or opposition.

- 12. C) The correct option to substitute the underlined segment in the given sentence is C. 'own image'. यहाँ 'own image' का प्रयोग होगा क्योंकि यह बाइबल की शिक्षा के अनुसार एक प्रसिद्ध वाक्यांश है, जिसमें कहा गया है कि ईश्वर ने मानव को अपनी छवि में बनाया है। बाकी options इस वाक्य के संदर्भ में सही अर्थ नहीं देते हैं; जैसे— The fact that God created man in his own image elevates him above the beasts of the field.
- 13. A) **DCBA**

Last summer, I spent many days in the garden watching thousands of ants crawling up the trunk of my prize peach tree. The tree had grown against a warm wall on a sheltered side of the house. I am especially proud of it, not only because it has survived several winters, but because it occasionally produces luscious peaches. During the summer, I noticed that the leaves of the tree were beginning to wither.

- 14. D) Did Mary pack the bag?
- 15. D) **Optimistic** (adjective) Hopeful, positive, bright, cheerful, sanguine, enthusiastic आशान्वित

Antonym: Gloomy (adjective) – Dark, dim, dreary, bleak, pessimistic उदासीन

- 16. C) sentence के part 'C' में error है। "After knowing truth" अध्रा है क्योंकि 'truth' एक indefinite noun है और इसका विशेष प्रयोग किया जा रहा है। हमें "the" का उपयोग करना होगा,, जैसे कि "After knowing the truth". 'The' का प्रयोग होता है जब हम किसी विशेष या विशिष्ट noun की बात करते हैं। यहां 'truth' का उपयोग विशेष संदर्भ में किया गया है, इसलिए इसके साथ 'the' का उपयोग होना चाहिए।
  - There is an error in part 'C' of the sentence. "After knowing truth" is incomplete as 'truth' is an indefinite noun and it is being used in a specific manner. We should use "the", as in "After knowing the truth". 'The' is used when we are referring to a specific or particular noun. Here, 'truth' is used in a specific context, therefore, 'the' should be used with it.
- 17. D) The incorrect spelling in the given sentence is 'spontanity'. The correct spelling is 'spontaneity', which means "the condition of being spontaneous; spontaneous behavior or action." स्वाभाविकता, सहजता
- 18. C) **Anarchist** (noun) A person who believes that laws and governments are not necessary. अराजकतावादी
  - Antagonist (noun) a person who actively opposes or is hostile to someone or something; an adversary. विरोधी
  - Antichrist (noun) a person or force seen as opposing Christ or the Christian Church. ईसा का विरोधी

- Adversary (noun) one's opponent in a contest, conflict, or dispute. प्रतिद्वंद्वी
- 19. A) Miss the boat (idiom) Missing a good opportunity अच्छा अवसर गवा देना

## 20. A) **BDAC**

Many of the underdeveloped countries will promote the growth of their economies in one way or the other, no matter whether they receive substantial outside aid in the process or not. The character of that development, however, is likely to be strongly influenced by the types of and amounts of aid available. The outcome is much more likely to be favourable if there is substantial international aid than if there is not. By substantial aid I mean not only large amounts of technical assistance but also of capital.

- 21. C) the' का उपयोग होगा क्योंकि 'the Solar System' एक specific solar system को दर्शाता है, जो हमारा अपना है। यहाँ 'the' का इस्तेमाल उस विशेष Solar System को संदर्भित करता है जिसके केंद्र में सूर्य है। 'Typical', 'huge', और 'a' इस संदर्भ में सही नहीं हैं क्योंकि वे Solar System की विशेषता नहीं दर्शाते हैं। 'Typical' और 'huge' adjectives हैं जो सामान्य या बड़े Solar Systems का वर्णन कर सकते हैं, जबिक 'a' एक अनिश्चित लेख है जो यहां उपयुक्त नहीं है। the' should be used because 'the Solar System' refers to a specific solar system, which is our own. Here, 'the' is used to refer to that particular Solar System of which the Sun is the center. 'Typical', 'huge', and 'a' are not correct in this context as they do not specify the Solar System. 'Typical' and 'huge' are adjectives that could describe general or large Solar Systems, while 'a' is an indefinite article, which is not appropriate here.
- 22. A.) 'Cultures' का उपयोग किया जाएगा क्योंकि यहाँ पर बात की जा रही है विभिन्न समाजों या संस्कृतियों की जिनमें सूर्य को महत्वपूर्ण माना गया है। 'Cultures' शब्द इस संदर्भ में सही बैठता है क्योंकि यह विविध समाजों के धार्मिक और मिथकीय मान्यताओं को दर्शाता है। 'Processes', 'Scenes', और 'Types' यहाँ सही नहीं हैं क्योंकि ये शब्द संदर्भ के अनुसार नहीं बैठते। 'Processes' का अर्थ प्रक्रियाओं से है, जो यहाँ उपयुक्त नहीं है। 'Scenes' और 'Types' भी इस संदर्भ में उपयुक्त नहीं हैं।

'Cultures' should be used because the sentence refers to different societies or cultures where the Sun is considered important. The word 'cultures' fits this context as it represents the religious and mythological beliefs of diverse societies. 'Processes', 'Scenes', and 'Types' are not correct here as they do not fit the context. 'Processes' means methods or procedures, which is not suitable here. 'Scenes' and 'Types' are also not appropriate in this context.

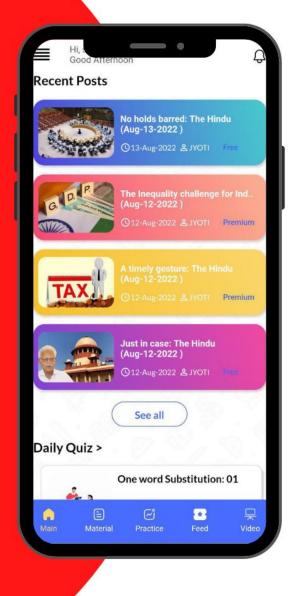
23. B.) source' का उपयोग होगा क्योंकि sentence में बताया गया है कि सूर्य पृथ्वी पर जीवन के लिए सबसे महत्वपूर्ण ऊर्जा का स्रोत है। 'Source' का अर्थ है 'उत्पत्ति स्थल' या 'मूल', जो यहाँ ऊर्जा के स्रोत के रूप में सूर्य के महत्व को दर्शाता है। 'Gesture' (इशारा), 'Control' (नियंत्रण),

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और 'Symbol' (प्रतीक) इस संदर्भ में उपयुक्त नहीं हैं, क्योंकि वे ऊर्जा के स्रोत का वर्णन नहीं करते।

Source' should be used because the sentence describes the Sun as the most important source of energy for life on Earth. 'Source' refers to the point of origin or beginning, which here signifies the Sun's role as the originator of energy. 'Gesture', 'Control', and 'Symbol' do not appropriately describe the Sun in terms of being an energy source, as they do not convey the idea of an origin or beginning of energy.

- 24. B.) 'As' का उपयोग होगा क्योंकि 'It is about a hundred times as wide' में comparison की बात की गई है, और 'as...as' एक common comparative structure है जो समानता दर्शाता है। इसलिए यहाँ 'as' सही है। 'About' आकार या मात्रा में अनिश्चितता दर्शाता है, 'like' असमान तुलना के लिए उपयोग होता है, और 'than' असमान तुलना के लिए प्रयोग होता है। 'As' should be used because the phrase 'It is about a hundred times as wide' indicates a comparison, and 'as...as' is a common comparative structure indicating similarity. Thus, 'as' is the correct choice here. 'About' indicates uncertainty in size or quantity, 'like' is used for dissimilar comparisons, and 'than' is used for unequal comparisons.
- 25. D) 'Existence' का प्रयोग होगा क्योंकि 'if there were no sun, many things wouldn't occur like photosynthesis or the presence of oxygen, which would have caused no \_\_\_\_\_\_ of life' के अनुसार,जीवन की अनुपस्थिति या न होने की स्थिति को दर्शाता है। 'Existence' का अर्थ है अस्तित्व या वजूद, जो इस संदर्भ में सही बैठता है। 'Skill' का अर्थ कौशल या निपुणता होता है, 'End' का मतलब अंत होता है, और 'Enhancement' का मतलब वृद्धि या सुधार होता है, जो कि इस संदर्भ में उपयुक्त नहीं हैं।
- 'Existence' should be used because, as per 'if there were no sun, many things wouldn't occur like photosynthesis or the presence of oxygen, which would have caused no \_\_\_\_\_\_ of life', the appropriate word here is one that reflects the absence or non-existence of life. 'Existence' means the state of existing or being, which fits this context perfectly. 'Skill' means ability or proficiency, 'End' means conclusion or termination, and 'Enhancement' means improvement or increase, which are not suitable in this context.



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