

## A shot for science: On budget allocation for Ministry of Science & Technology

More funding for research must be **met** with **easing** of **bureaucratic** procedures

**The Budget speech** in the year preceding a general election **is** usually one that **seeks** to **appease** as **wide** a **swathe** of society as possible. It follows that **ministries** that fund the bulk of research and development (R&D) too **would** see a healthy jump in allocation. The Ministry of Science & Technology has received an allocation of ₹16,361.42 crore this year, on paper an impressive 15% increase from the previous estimate. However, between 2021-22 and 2022-23, the Ministry had seen a 3.9% decrease. The **bulk** of the **hike** **has** gone to the Department of Science and Technology (DST) — ₹7,931.05 crore, up 32.1% from last year. It was ₹2,683.86 crore for the Department of Biotechnology, or DBT (a **nominal** hike of 3.9%), and ₹5,746.51 crore (1.9%) for the Department of Scientific and Industrial Research (DSIR). The Deep Ocean mission — which includes among other components developing a **deep-submersible** vehicle — and the National Research Foundation have got **substantially** higher hikes than in previous years, a sign that they are the Centre's immediate focus.

There were multiple references in the Budget speech for investing in dedicated centres for excellence in 'Artificial intelligence' research, initiatives to **scale up** technology to produce laboratory-made diamonds and a centre for research in **sickle cell anaemia**. While all of these efforts could be spread out across multiple **arms** of government, none of the **budgetary** allocations suggests a significant scale up of basic research. As with previous governments, this government too has not **succeeded in** increasing the percentage of spend on research and development to beyond 1% of GDP. While different countries define R&D spends variously, **a rule of thumb** suggests that developed and technologically advanced countries spend over 2% of their GDP on R&D, and **India**, according to a 2022 estimate by the Global Innovation Index, **continues** to **hover** around 0.7% despite being among the world's largest producers of scientific literature. While funds are not the only challenge to research and development in India, the lack of significant raises across departments shows that the **absorptive capacity** of scientific institutions in the country **is** limited. A major challenge continues to be research scholars not getting promised funds on time and the wait for the quality equipment required by researchers, continuing to be **mired in a maze** of bureaucratic **whimsy**. The **bulk** of research continues to be funded by government and the participation of the private sector **has** grown only **incrementally**. In the next few years, the government must not only increase the size of the funding **pie** but also **ease** the procedures to make the most efficient use of it. **[Practice Exercise]**

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

## Vocabulary

1. **Shot** (noun) – Impetus, encouragement, stimulus, प्रोत्साहन
2. **Allocation** (noun) – Distribution, provision, apportionment, sharing, division आवंटन
3. **Meet** (verb) – fulfil, satisfy, fill, measure up to, match पूरा करना
4. **Easing** (noun) – Reduction, lessening, slackening, moderation कमी /नरमी
5. **Bureaucratic** (adjective) – Administrative, official, governmental नौकरशाही
6. **Seek** (verb) – try, attempt, endeavour, strive प्रयास करना
7. **Appease** (verb) – satisfy, fulfil, assuage, relieve खुश करना
8. **Wide** (adjective) – extensive, prevalent, general, common, pervasive व्यापक रूप से
9. **Swathe** (noun) – a large number of people, or a large amount of something बड़ी संख्या में
10. **Hike** (noun) – Increase बढ़ोतरी
11. **Nominal** (adjective) – Insignificant, trifling, token, minimal, small मामूली /नाममात्र
12. **Deep-submersible vehicle** (noun) – a deep-diving crewed submersible that is self-propelled. Several navies operate vehicles that can be accurately described as DSVs.
13. **Substantially** (adverb) – considerably, significantly, greatly, largely काफी
14. **Artificial intelligence** (noun) – AI refers to the simulation of human intelligence in machines that are programmed to think and act like humans.
15. **Scale up** (phrasal verb) – increase, go up, mount बढ़ाना
16. **Sickle cell anaemia** (noun) – a group of inherited disorders in which the hemoglobin is damaged and can't carry oxygen to the tissues. रक्त की लाल कोशिकाओं की कमी
17. **Arms** (noun) – branch, department, division शाखा
18. **Budgetary** (adjective) – relating to a budget or to planning a budget बजटीय
19. **Succeed in** (phrasal verb) – Attain success or reach a desired goal सफल होना
20. **A rule of thumb** (phrase) – an approximate method for doing something, based on practical experience rather than theory.
21. **Hover** (around) (verb) – Remain at or near a particular level. मंडराना /रहना
22. **Absorptive capacity** (noun) – Absorptive capacity is an organisation's ability to identify, assimilate, transform, and use external knowledge, research and practice. अवशोषण क्षमता

23. **Mire in** (phrasal verb) – involve, entangle, tangle up (a difficult situation). फंसना

24. **Maze** (noun) – Confusion, muddle, mess, jumble, intricacy चक्रव्यूह/ घालमेल

25. **Whimsy** (noun) – unusual, capriciousness, and pleasant ideas or qualities सनक

26. **Incrementally** (adverb) – in regular increases, additions, or stages. वृद्धिशील रूप से

27. **Pie** (noun) – portion, part हिस्सा

28. **Ease** (verb) – alleviate, relieve, comfort, mitigate, soothe; reduce, lessen कम करना

## Practice Exercise

**Direction (Q1 – Q3):** Select the best express synonym of the given words

[Editorial page]

1. **WHIMSY**

- A. Prospective
- B. Grave
- C. Indelible
- D. Capriciousness

2. **MIRE IN**

- A. Grievous
- B. Entangle
- C. Pocket
- D. Upheaval

3. **APPEASE**

- A. Kneejerk
- B. Shambolic
- C. Assuage
- D. Rankle

4. **Idioms & Phrase**

The president has **leveled a charge of treason against his** former advisor.

- A. To take further action connected with it
- B. To speak about a particular topic
- C. Make an accusation against someone
- D. To leave an indelible impression upon one's memory or psyche for the rest of one's life

5. **Direction: Two statements are given below, which are jumbled in any random order. These statements will form a coherent and meaningful paragraph, when arranged in the correct sequence. Arrange the sentences in the right order and answer the questions that follow.**

- (i) Banks are reportedly exploring (A)/ the possibility of setting up an expert (B)/ committee to advise them on the restructuring of loans.(C)/
  - (ii) lending agencies,(D)/ Adding another layer of bureaucracy, (E)/ to ostensibly provide comfort to (F)/ will further delay decision-making.(G)/
- A. ABC, EFDG
  - B. DGFE, BAC
  - C. BAC, FDEG
  - D. FDGE, CBA
  - E. None of the above

**Direction (Q6 – Q9):** Read the given sentences to find out whether there is any grammatical error in them

- 6. Mr. Mehra insisted (A)/ that he was (B)/ fully prepare (C)/ to prevent the proposal. (D)/ No error(E)
- 7. All the documents (A)/ have been destroyed (B)/ in the fire (C)/ which occurred last month. (D)/ No error(E)

8. On his next (A)/ official visit to Delhi (B)/ he plans to (C)/ visit his old colleagues. (D)/ No error(E)
9. Abhinav refused to admit that (A)/ he did not know (B)/ what to operate(C)/ the new machine. (D)/ No error(E)
10. **Find out the misspelt word**
  - A. Hazardous
  - B. Concesion
  - C. Convergence
  - D. Fathom

**Direction: Read the passage given below and answer the following questions.**

**(The Hindu Editorial: An energy conundrum – Dec 16, 2022)**

At the core of India's energy transformation is its bet on solar power. **(1)**/ Based on a commitment to address the global climate crisis, India has promised to source nearly half its energy from non-fossil fuel sources by 2030 and, in the shorter term, source at least 60% of its renewable energy from solar power. **(2)**/ However, a disclosure in Parliament by the Minister for Power, New and Renewable Energy suggests that India faces significant headwind in this quest. **(3)**/ A key central policy to source solar power is facilitating the establishment of large solar parks; small solar power projects usually translate to higher per-unit production costs. **(4)**/ And so, in 2014, the Centre announced the 'Solar Parks and Ultra-Mega Solar Power Projects' policy to facilitate the creation of large parks. The initial plan was to set up 25 parks capable of generating at least 20,000 MW by 2019. In 2017, the Government scaled this to 61 parks with a target of 40,000 MW. It emerges, however, as of 2022, that only a fourth of the capacity has been achieved, that is, projects worth 10,000 MW have been commissioned. Four projects have been cancelled, by the Centre's own admission, due to \_\_\_\_\_**(a)**\_\_\_\_\_ progress. The \_\_\_\_\_**(b)**\_\_\_\_\_, in the Centre's estimate, have been challenges in acquiring land with a clear title, setting up infrastructure necessary to transmit power produced at these parks to the grid and, in an unusual disclosure, "environmental issues" in Rajasthan and Gujarat, where projects have been halted because their transmission lines encroach \_\_\_\_\_**(c)**\_\_\_\_\_ the habitat of the critically endangered Great Indian Bustard.

Notwithstanding its claims on international podium that it is on track to meeting renewable energy targets, it is no secret that India is lagging behind. By the end of 2022, India had committed to having in place 1,75,000 MW of renewable energy capacity, with 1,00,000 MW from solar power. However, only around 61,000 MW of such capacity has actually been installed. For a few years now, there has been considerable \_\_\_\_\_**(d)**\_\_\_\_\_ around solar power achieving grid parity in India — meaning power companies are able to sell it**(A)**/ at a price lower or as much as conventional sources**(B)**/ — but this does not account to the subsidies or concessions**(C)**/ front-loaded by the Government.**(D)**/ While India should continue to **expand(A)** its economy on the **back(B)** of renewable energy, the Government must take a hard **look(C)** at whether renewable power, solar, wind or nuclear, meets **standards(D)** of economic viability and environmental sustainability. Solar power may be a valuable tool in India's energy transformation story, but it cannot be the **panacea** for every need.

**Fill in the blanks with the most appropriate combinations of words**

11. Four projects have been cancelled, by the Centre's own admission, due to \_\_\_\_ (a) \_\_\_\_ progress.

**Fill the most appropriate option in (a)**

- (i) Tardy
- (ii) Rich
- (iii) Questionable
- (iv) Improper

A. Only (i)    B. Only (ii)    C. Only (iii)    D. Both (ii) and (iv)    E. None of the above

12. The \_\_\_\_ (b) \_\_\_\_, in the Centre's estimate, have been challenges in acquiring land with a clear title, setting up infrastructure necessary to transmit power produced at these parks to the grid and, in an unusual disclosure, "environmental issues" in Rajasthan and Gujarat

**Fill the most appropriate option in (b)**

- (i) Summation
- (ii) Roadblocks
- (iii) Impartiality
- (iv) Revelation

A. Only (i)    B. Only (ii)    C. Only (iv)    D. Both (ii) and (iv)    E. None of the above

13. Where projects have been halted because their transmission lines encroach \_\_\_\_ (c) \_\_\_\_ the habitat of the critically endangered Great Indian Bustard.

**Fill the most appropriate option in (c)**

- (i) To
- (ii) Upon
- (iii) For
- (iv) By

A. Only (i)    B. Only (ii)    C. Only (iii)    D. Both (i) and (ii)    E. None of the above

14. For a few years now, there has been considerable \_\_\_\_ (d) \_\_\_\_ around solar power achieving grid parity in India — meaning power companies are able to sell it at a price lower or as much as conventional sources

**Fill the most appropriate option in (d)**

- (i) Bane
- (ii) Callousness
- (iii) Hype
- (iv) Dissemination

A. Only (i)    B. Only (iv)    C. Only (iii)    D. Both (iii) and (ii)    E. None of the above

15. The following sentence may or may not contain an error in one of its parts. Identify the part containing the error. If the sentence is correct, select 'No error' as your answers.

Meaning power companies are able to sell it **(A)**/ at a price lower or as much as conventional sources **(B)**/ — but this does not account to the subsidies or concessions**(C)**/ front-loaded by the Government. **(D)**/

- A. (A)
- B. (B)
- C. (C)
- D. (D)
- E. No Error

16. **Rearrange the sentence to form a meaningful sentence.**

At the core of India's energy transformation is its bet on solar power. **(1)**/ Based on a commitment to address the global climate crisis, India has promised to source nearly half its energy from non-fossil fuel sources by 2030 and, in the shorter term, source at least 60% of its renewable energy from solar power. **(2)**/ However, a disclosure in Parliament by the Minister for Power, New and Renewable Energy suggests that India faces significant headwind in this quest. **(3)**/ A key central policy to source solar power is facilitating the establishment of large solar parks; small solar power projects usually translate to higher per-unit production costs. **(4)**/

- A. 2341
- B. 1234
- C. 2134
- D. 2143
- E. 4321

17. Given below is a word, followed by three sentence that consist of that word. Identify the sentence (S) that best express (es) the meaning of the word. Choose option 5 'None of the above' if the word is not suitable in any of the sentence

**PANACEA**

- (i) Technology is not a **panacea** for all our problems
- (ii) The years pass in parade like **panacea** in a dream.
- (iii) However, social anthropology can offer no general **panacea** for our present ills and discontents.

- A. Only (i)
- B. Only (ii)
- C. Only (iii)
- D. (i), (ii)
- E. (i), (iii)

18. **In the following question, a sentence is given with four words marked as (A), (B), (C), and (D). These words may or may not be placed in the correct order. Four options with different arrangements of these have been provided. Mark the option with the correct arrangement as the answer. If no rearrangement is required, mark option (5) as your answer.**

While India should continue to **expand(A)** its economy on the **back(B)** of renewable energy, the Government must take a hard **look(C)** at whether renewable power, solar, wind or nuclear, meets **standards(D)** of economic viability and environmental sustainability.

- A. A – D
- B. B – A
- C. C – D
- D. A – C
- E. No arrangement

19. In the following question, two statements and five connectors are given. Only one of the connectors from those given can be used to combine the given two statements into one sentence without changing the meaning. Choose that connector as your answer.

- (i) The beekeeper checks his hives to see how his bees are doing
- (ii) The bees continue to do their work

- A. Even if
- B. Meanwhile
- C. Besides
- D. Otherwise
- E. None of these

20. Fill the appropriate preposition in the given blanks

Sara acquiesced \_\_\_\_\_ his decision.

- A. Of
- B. In
- C. Upon
- D. To



## Answers

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

## Explanations

- Whimsy** (noun) – unusual, capriciousness, and pleasant ideas or qualities सनक
  - Prospective** (adjective) – Potential, possible, probable, likely, future, eventual भावी, प्रत्याशित
  - Grave** (adjective) – serious, important, all-important, गंभीर
  - Indelible** (adjective) – Impossible to remove, erase, or wash away; permanent अमिट
- Mire in** (phrasal verb) – involve, entangle, tangle up (a difficult situation). फंसना
  - Grievous** (adjective) – grave, severe, painful, sad, serious गंभीर
  - Pocket** (noun) – a small, isolated group or area क्षेत्र, इलाका
  - Upheaval** (noun) – turmoil, disturbance, turbulence, disorder, convulsion उथल-पुथल
- Appease** (verb) – satisfy, fulfil, assuage, relieve खुश करना
  - Kneejerk** (adjective) – automatic and unthinking; hasty, immediate, imprudent, thoughtless, unconsidered विचारहीन
  - Shambolic** (adjective) – chaotic, disorganized, confused, cluttered, disordered बेतरतीब, अस्त-व्यस्त
  - Rankle** (verb) – irritate, annoy, fester, irk, gnaw, gall, needle, rile, infuriate क्रुद्ध करना, सताना
- Level a charge against someone**(Phrase) – make an accusation against someone किसी पर कुछ आरोप लगाना
- ABC, EFDG**  
 Banks are reportedly exploring the possibility of setting up an expert committee to advise them on the restructuring of loans. Adding another layer of bureaucracy, to ostensibly provide comfort to lending agencies, will further delay decision-making.
- (C)'prepare' के बदले 'prepared' का प्रयोग होगा क्योंकि 'he' की विशेषता बताने के लिए 'Be' क्रिया 'was' के बाद 'prepare' का past participle रूप 'prepared' adjective का काम करेगा जिसकी विशेषता adverb 'fully' बताएगा।
  - 'prepared' will be used instead of 'prepaired' because 'be' to describe 'he', after the verb 'was', the past participle form of 'prepared' will act as a 'prepared' adjective characterized by 'adverb' fully' will tell.

7. (B) 'have been' के बदले 'were' का प्रयोग होगा क्योंकि घटना 'last month' अर्थात् past की है और past की घटना के लिए simple past का प्रयोग होता है।
- 'were' will be used instead of 'have been' because the event is of 'last month' i.e. past and simple past is used for past event.
8. (C) 'Plans' के बदले 'is planning' या 'has planned' का प्रयोग होगा क्योंकि 'योजना' बनाने का काम present में है जबकि Delhi visit करने का काम future में।
- 'Is planning' or 'has planned' will be used instead of 'Plans' because the work of 'planning' is in the present while the work of visiting Delhi in future.
9. (C) 'what' के बदले 'how' का प्रयोग होगा क्योंकि 'how to operate' कैसे चलाना अर्थात् 'मशीन के चलाने का तरीका' ।
- 'how' will be used instead of 'what' because 'how to operate' means 'how to operate the machine'.
10. **Concession** (noun) – allowance, discount, rebate रियायत
11. **Tardy** (adjective) – sluggish, slow, leisurely, late सुस्त/धीमा
- **Rich** (adjective) – Ironic, outrageous, unreasonable, preposterous, ludicrous असंगत, विडंबनात्मक
  - **Questionable** (adjective) – controversial, contentious, open to question संदिग्ध
  - **Improper** (adjective) – inappropriate, unsuitable, unfitting, wrong, incorrect अनुचित
12. **Roadblock** (noun) – a hindrance or obstruction. अवरोध, बाधा
- **Summation** (noun) – summary, synopsis, outline, precise संकलन
  - **Impartiality** (noun) – fairness, equity, justice, disinterest, objectivity निष्पक्षता
  - **Revelation** (noun) – Expose, disclosure, divulgence, declaration, utterance, रहस्योद्घाटन
13. **Encroach** (on/upon) (verb) – to intrude upon, impinge, infringe, invade, trespass अतिक्रमण करना
14. **Hype** (noun) – Publicity, advertising प्रचार
- **Bane** (noun) – something that causes trouble and makes somebody unhappy परेशानी का कारण, दुःख का कारण
  - **Callousness** (noun) – insensitive and cruel disregard for others. निष्ठुरता
  - **Dissemination** (noun) – Distribution, broadcasting, diffusion, propagation, spreading प्रसार
15. 'account to' के बदले 'account for' का प्रयोग होगा क्योंकि 'be responsible for something' के लिये उत्तरदयी होना' के अर्थ में प्रयोग होता है
16. (B) **1234**

At the core of India's energy transformation is its bet on solar power. Based on a commitment to address the global climate crisis, India has promised to source nearly half its energy from non-fossil fuel sources by 2030 and, in the shorter term, source at least 60% of its renewable energy from solar power. However, a disclosure in Parliament by the Minister for Power, New and Renewable Energy suggests that India faces significant headwind in this quest. A key central policy to source solar power is facilitating the establishment of large solar parks; small solar power projects usually translate to higher per-unit production costs.

17. **Panacea** (noun) – Solution, answer, remedy, cure-all, cure, magic bullet राम-बाण

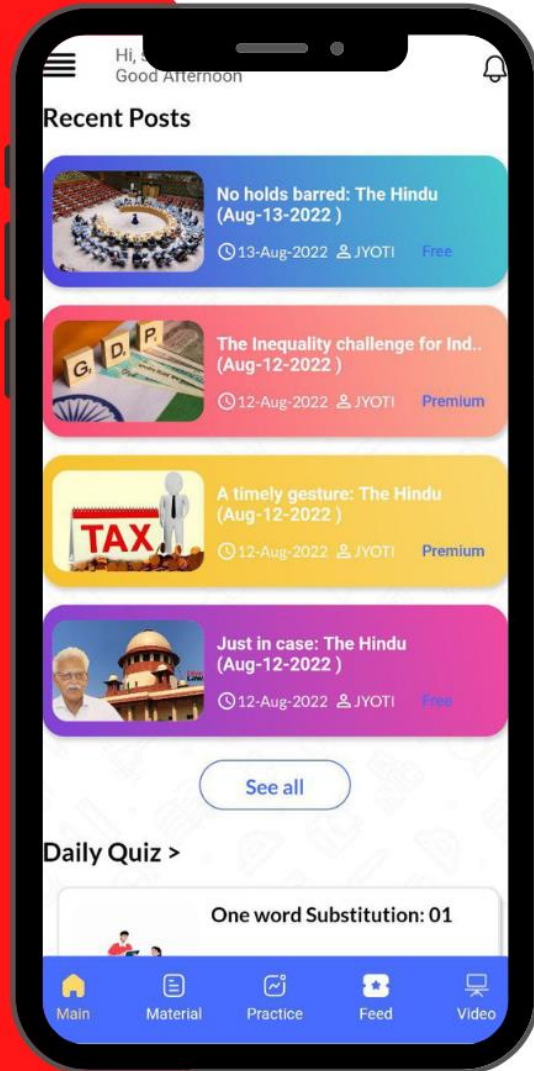
According to the given options only (i) AND (iii) are contextually correct.

Because the (ii) sentence is not giving any meaning and correct sentences should be like

The years pass in parade like **pageants** in a dream.

18. While India should continue to expand its economy on the back of renewable energy, the Government must take a hard look at whether renewable power, solar, wind or nuclear, meets standards of economic viability and environmental sustainability.

19. The beekeeper checks his hives to see how his bees are doing; **meanwhile**, the bees continue to do their work



# Learn Vocabulary Through Reading Articles

English Madhyam

